



03/29/2019

**Jackie M. Scholar**  
Regulatory Reporting Coordinator

**CERTIFIED MAIL: 7016 0000 4903 5839**

December 12, 2018

WV DEP  
Office of Oil and Gas  
601 – 57<sup>th</sup> Street  
Charleston, WV 25304

RE: Well Operator's Report of Well Work WR-35  
**Hart 3H**

Dear Sir/Madam,

Enclosed here within please find one (1) Well Operator's Report of Well Work WR-35, one (1) copy of the Plat on Mylar, one (1) copy of the FracFocus report, and one (1) copy of the Directional Survey for **Hart 3H, (API 47-051-01749)**.

If you have any questions, please contact me at (412) 865-3422. Thank you.

Sincerely,  
Chevron Appalachia, LLC

Jackie M. Scholar

Enclosures

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WV Department of  
Environmental Protection

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

API 47-051-01749 County Marshall District Washington  
Quad Moundsville Pad Name Hart Field/Pool Name \_\_\_\_\_  
Farm name John Hart Well Number Hart 3H  
Operator (as registered with the OOG) Chevron Appalachia, LLC  
Address 700 Cherrington Parkway City Coraopolis State PA Zip 15108

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 516953.02 Easting 1644567.00  
Landing Point of Curve Northing 517944.76 Easting 1646488.91  
Bottom Hole Northing 511652.70 Easting 1651843.45

Elevation (ft) 1329' 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 - fluid loss control, emulsifier, shale stabilizer

Date permit issued 6/16/14 Date drilling commenced 10/1/14 Date drilling ceased 8/12/15  
Date completion activities began 6/7/18 Date completion activities ceased 12/11/18  
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 254' MD from GL Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1997' MD from GL Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 859' MD from GL Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

**Reviewed** Reviewed by: J. [Signature]  
3/28/18

WR-35  
Rev. 8/23/13

API 47-051 - 01749 Farm name John Hart Well number Hart 3H

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'	New			Y
Surface	26"	20"	332'	New	J-55; 94		Y
Coal	17 1/2"	13 3/8"	894'	New	J-55; 54.50		Y
Intermediate 1	12 1/4"	9 5/8"	2199'	New	L-80; 40		Y
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	16027'	New	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 <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Bulk Cement	Bulk Cement				Surface	8
Surface	Class A	596	15.6	1.20	715	Surface	8
Coal	Class A	840	15.6	1.20	1008	Surface	8
Intermediate 1	Class A	749	15.6	1.20	898	Surface	8
Intermediate 2							
Intermediate 3							
Production	Class A	Lead: 1386; Tail: 1739	Lead: 15.2; Tail: 15.2	Lead: 1.26; Tail: 1.26	Lead: 1746; Tail: 2191	500' below 9 5/8" shoe as planned	8
Tubing							

Drillers TD (ft) <sup>16041'</sup> \_\_\_\_\_ Loggers TD (ft) <sup>16041'</sup> \_\_\_\_\_  
 Deepest formation penetrated Marcellus Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) <sup>4548'</sup> \_\_\_\_\_

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 there is a bow spring centralizer every two joints on the water, coal, and intermediate strings. Production string has two centralizers every joint in the lateral and curve, then one every joint from KOP to surface.

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS SEE ATTACHED PERFORATION / STIMULATION REPORT

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

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









API: 47-051-01749	Farm Name: John Hart	Well Number: Hart 3H
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PERFORATION RECORD					
Stage No.	Perforation Date	Perforated From TMD Ft.	Perforated To TMD Ft.	Number of Perforations	Formation(s)
1	7/16/18	15820	15980	47	Marcellus
2	7/17/18	15620	15780	47	Marcellus
3	7/17/18	15420	15580	47	Marcellus
4	7/18/18	15220	15380	47	Marcellus
5	7/18/18	15020	15180	47	Marcellus
6	7/18/18	14820	14980	47	Marcellus
7	7/19/18	14620	14780	47	Marcellus
8	7/19/18	14420	14580	47	Marcellus
9	7/19/18	14220	14380	47	Marcellus
10	7/19/18	14020	14180	47	Marcellus
11	7/20/18	13820	13980	47	Marcellus
12	7/20/18	13620	13780	47	Marcellus
13	7/21/18	13420	13580	47	Marcellus
14	7/21/18	13220	13380	47	Marcellus
15	7/21/18	13020	13180	47	Marcellus
16	7/22/18	12820	12980	47	Marcellus
17	7/22/18	12620	12780	47	Marcellus
18	7/22/18	12420	12580	47	Marcellus
19	7/23/18	12220	12380	47	Marcellus
20	7/23/18	12020	12180	47	Marcellus
21	7/23/18	11820	11980	47	Marcellus
22	7/24/18	11620	11780	47	Marcellus
23	7/24/18	11420	11580	47	Marcellus
24	7/24/18	11220	11380	47	Marcellus
25	7/25/18	11020	11180	47	Marcellus
26	7/25/18	10820	10980	47	Marcellus
27	7/25/18	10620	10780	47	Marcellus
28	7/26/18	10420	10580	47	Marcellus
29	7/26/18	10220	10380	47	Marcellus
30	7/26/18	10020	10180	47	Marcellus
31	7/27/18	9820	9980	47	Marcellus
32	7/28/18	9620	9870	47	Marcellus
33	7/28/18	9420	9580	47	Marcellus
34	7/28/18	9220	9380	47	Marcellus
35	7/28/18	9020	9180	47	Marcellus
36	7/29/18	8820	8980	47	Marcellus
37	7/29/18	8620	8780	47	Marcellus
38	7/29/18	8420	8580	47	Marcellus
39	7/30/18	8232	8380	47	Marcellus
40	7/30/18	8044	8192	47	Marcellus
41	8/1/18	7856	8004	47	Marcellus

Please insert additional copies of this page if additional rows/stages are needed.

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API: 47-051-01749	Well Name: John Hart	Well Number: Hart 3H
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STIMULATION INFORMATION / STAGE								
Complete a separate record for each stimulation stage. (Please insert additional lines for additional stages or additional pages as applicable).								
Stg No.	Stimulation 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)
1	7/16/18	87.1	8520	n/a	4349	400257	9318	n/a
2	7/17/18	99.2	8917	n/a	4614	401556	10062	n/a
3	7/17/18	99.5	8727	n/a	4557	400371	10452	n/a
4	7/18/18	98.1	8702	6873	4649	399946	9545	n/a
5	7/18/18	99.3	8639	6825	4880	401143	9691	n/a
6	7/18/18	98.7	8588	6589	4839	399622	9852	n/a
7	7/19/18	99.2	8562	6136	4721	399241	9440	n/a
8	7/19/18	100.3	8724	6397	4886	402015	9700	n/a
9	7/19/18	99.8	8906	5816	4740	402237	9761	n/a
10	7/19/18	97.8	8681	6355	4726	400311	9478	n/a
11	7/20/18	100	8822	5561	5022	401410	9730	n/a
12	7/20/18	98.2	8401	6363	4777	399478	9637	n/a
13	7/21/18	99.2	8524	5581	4710	400532	9769	n/a
14	7/21/18	100.6	8366	n/a	4965	399514	9680	n/a
15	7/21/18	99	8535	5996	4973	399497	9606	n/a
16	7/22/18	99.9	8521	6541	4657	400479	9527	n/a
17	7/22/18	99.4	8393	6041	4746	399475	9653	n/a
18	7/22/18	99.7	8208	5346	4906	399482	11011	n/a
19	7/23/18	98.8	8584	7024	4563	399571	9513	n/a
20	7/23/18	99.7	8648	6339	4686	399294	9513	n/a
21	7/23/18	100.4	8537	6184	4627	399198	9489	n/a
22	7/24/18	99.4	8375	6612	4770	399453	9466	n/a
23	7/24/18	99.6	8582	6533	4361	399859	9537	n/a
24	7/24/18	99.3	8498	6516	4976	400209	9243	n/a
25	7/25/18	99.5	8208	6972	4887	399608	9268	n/a
26	7/25/18	91	8189	6088	4603	401116	10669	n/a
27	7/25/18	99.2	7987	6489	4605	399344	9417	n/a
28	7/26/18	99.4	8080	6980	4734	399792	9390	n/a
29	7/26/18	99	8116	7255	4679	400317	9621	n/a
30	7/26/18	93.6	8034	7140	4920	400794	9171	n/a
31	7/27/18	75.6	9034	7526	4576	9238	3880	n/a
32	7/28/18	97.4	8092	6744	4386	399670	9395	n/a
33	7/28/18	98.6	7386	5344	4426	335658	8745	n/a
34	7/28/18	99.2	7533	6566	4678	398554	9352	n/a
35	7/28/18	95.2	7523	5954	4865	400975	9277	n/a
36	7/29/18	98.1	7738	7248	4720	404342	9504	n/a
37	7/29/18	97.7	7543	7691	4673	399759	9423	n/a
38	7/29/18	100.5	7444	7214	4796	400442	9288	n/a
39	7/30/18	99.9	7416	7254	4630	400971	9139	n/a
40	7/30/18	100.4	7616	7357	4696	404099	9110	n/a
41	8/1/18	99.3	8170	6630	4526	399448	9292	n/a

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API: 47-051-01749	Farm Name: John Hart	Well Number: Hart 3H
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	TVD	Base TVD	MD	Base MD
Pittsburgh Coal			503	
Greenbrier			1793.56	1842.56
Burgoon			1842.56	2273.56
Weir			2273.56	2487.56
Berea			2487.56	2797.56
Gordon			2797.56	3078.32
U. Bayard			3078.32	6226.32
Sycamore Grit			6226.32	6318.32
Middlesex			6318.32	7,399
BRKT	6,434	6,449	7,399	7,428
TTY	6,449	6,479	7,428	7,502
S5	6,479	6,575	7,502	7,783
S3	6,575	6,592	7,783	7,845
STFD*	6,592	6,594	7,845	7,855
S2.B	6,594	6,607	7,855	7,946
S2.A	6,607		7,946	

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API: 47-051-01749	Farm Name: John Hart	Well Number: Hart 3H
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DRILLING CONTRACTORS		
Driller	Driller	Driller
Name Rocky Mountain Drilling	Name Highlands Drilling LLC	Name Nabors Drilling USA
Address 185 North Vernal Avenue, Suite 2	Address 900 Virginia Street East	Address 10100 NW 10th Street
City - State - Zip Vernal, UT 84078	City - State - Zip Charlestown, WV 25301	City - State - Zip Oklahoma City, OK 73127

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

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Job Start Date:	7/16/2018
Job End Date:	8/1/2018
State:	West Virginia
County:	Marshall
API Number:	47-051-01749-00-00
Operator Name:	Chevron USA Inc.
Well Name and Number:	Hart 3H
Latitude:	39.91357300
Longitude:	-80.65486100
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,738
Total Base Water Volume (gal):	16,237,788
Total Base Non Water Volume:	



## 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
Scale Inhibitor E	Universal Pressure Pumping	Scale Inhibitor					
				Listed Below			
Sand (Proppant)	Universal Pressure Pumping	Proppant					

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				Listed Below		
K-Bac 1020	Universal Pressure Pumping	Biocide				
				Listed Below		
Unihib G	Universal Pressure Pumping	Acid Inhibitor				
				Listed Below		
Hydrochloric Acid (7.5%)	Universal Pressure Pumping	Acidizing				
				Listed Below		
Water	Chevron Appalachia, LLC	Carrier/Base Fluid				
				Listed Below		
Unislick ST50	Universal Pressure Pumping	Friction Reducer				
				Listed Below		
Iron Control A	Universal Pressure Pumping	Iron Control Agent				
				Listed Below		

Items above are Trade Names with the exception of Base Water. Items below are the individual ingredients.

		Water	7732-18-5	100.00000	88.38310
		Silica	14808-60-7	99.90000	10.39842
		Hydrochloric Acid	7647-01-0	7.50000	0.08181
		Petroleum Distillates, Hydrotreated Light	64742-47-8	30.00000	0.02157

			Ammonium Acetate	631-61-8	13.00000	0.00935	RECEIVED Office of Chemicals DEC 18 2018 WV Department of Environmental Protection
			Polyethylene Glycol	25322-68-3	50.00000	0.00583	
			Ethylene Glycol	107-21-1	30.00000	0.00333	
			Alcohols, ethoxylated	68002-97-1	5.00000	0.00359	
			Alcohols, ethoxylated	68551-12-2	5.00000	0.00359	
			Alcohols, ethoxylated	68439-50-9	5.00000	0.00359	
			Water	7732-18-5	30.00000	0.00350	
			Copolymer of Maleic and Acrylic Acid	52255-49-9	20.00000	0.00286	
			2,2-Dibromo-3-nitrilopropionamide	10222-01-2	21.00000	0.00245	
			DETA phosphonate	15827-60-8	5.00000	0.00072	
			Hexamethylene Triamine Penta(Methylene Phosphonic Acid)	34690-00-1	5.00000	0.00072	
			Butyl diglycol	112-34-5	75.00000	0.00064	
			Alcohols, C10-16, ethoxylated	68002-97-1	50.00000	0.00043	
			Methanol	67-56-1	5.00000	0.00004	
			Thiourea	62-56-6	1.00000	0.00001	
			Formaldehyde	50-00-0	1.00000	0.00001	

\* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

\*\*\* If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)



# Hart 3H

MD (usft)	CL (usft)	Inc (°)	Azi (°)	TVD (usft)	NS (usft)	EW (usft)	Northing (usft)	Easting (usft)	V.Sec (usft)	Dogleg (°/100usft)
0		0	0	0	0	0	516953	1644567	0	0
100	100	0.18	303.58	100	0.09	-0.13	516953.1	1644567	-0.16	0.18
125	25	0.28	337.45	125	0.17	-0.19	516953.2	1644567	-0.25	0.66
150	25	0.26	344.36	150	0.28	-0.23	516953.3	1644567	-0.34	0.15
175	25	0.28	6.4	175	0.39	-0.23	516953.4	1644567	-0.42	0.42
200	25	0.24	12.01	200	0.5	-0.22	516953.5	1644567	-0.47	0.19
225	25	0.3	20.59	225	0.62	-0.18	516953.6	1644567	-0.51	0.29
250	25	0.25	28.62	250	0.72	-0.13	516953.8	1644567	-0.53	0.25
275	25	0.27	47.79	275	0.81	-0.06	516953.8	1644567	-0.52	0.36
300	25	0.27	55.21	300	0.89	0.03	516953.9	1644567	-0.49	0.14
325	25	0.27	30.13	325	0.97	0.11	516954	1644567	-0.47	0.47
350	25	0.26	10.69	350	1.08	0.15	516954.1	1644567	-0.5	0.36
375	25	0.19	16.6	375	1.17	0.17	516954.2	1644567	-0.54	0.29
400	25	0.18	10.09	400	1.25	0.19	516954.3	1644567	-0.57	0.09
425	25	0.22	38.63	425	1.33	0.22	516954.3	1644567	-0.58	0.42
450	25	0.19	58.73	450	1.39	0.29	516954.4	1644567	-0.57	0.31
475	25	0.17	60.34	475	1.43	0.36	516954.4	1644567	-0.53	0.08
500	25	0.19	38.98	500	1.48	0.42	516954.5	1644567	-0.51	0.28
525	25	0.15	61.97	525	1.52	0.47	516954.5	1644567	-0.5	0.31
550	25	0.18	74.79	550	1.55	0.54	516954.6	1644568	-0.46	0.19
575	25	0.09	103.3	575	1.56	0.59	516954.6	1644568	-0.41	0.44
600	25	0.06	164.27	600	1.54	0.62	516954.6	1644568	-0.39	0.32
625	25	0.04	130.5	625	1.52	0.63	516954.5	1644568	-0.37	0.14
650	25	0.18	34.78	650	1.55	0.66	516954.6	1644568	-0.36	0.75
675	25	0.38	27.26	675	1.65	0.72	516954.7	1644568	-0.37	0.81
700	25	0.33	18.11	700	1.79	0.78	516954.8	1644568	-0.4	0.3
725	25	0.17	351.63	724.99	1.9	0.79	516954.9	1644568	-0.45	0.77
750	25	0.09	307.35	749.99	1.95	0.77	516955	1644568	-0.5	0.49
775	25	0.14	245.05	774.99	1.95	0.73	516955	1644568	-0.53	0.51
800	25	0.14	240.81	799.99	1.92	0.68	516954.9	1644568	-0.56	0.04
824	24	0.09	292.86	823.99	1.91	0.63	516954.9	1644568	-0.59	0.46
986	162	0.21	335.74	985.99	2.23	0.39	516955.3	1644567	-0.97	0.1
1064	78	1.02	13.55	1063.99	3.04	0.5	516956.1	1644568	-1.35	1.11

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MD (usft)	CL (usft)	Inc (°)	Azi (°)	TVD (usft)	NS (usft)	EW (usft)	Northing (usft)	Easting (usft)	V.Sec (usft)	Dogleg (°/100usft)
1159	95	2.62	23.6	1158.94	5.85	1.56	516958.9	1644569	-2.11	1.71
1207	48	2.82	27.8	1206.88	7.9	2.55	516960.9	1644570	-2.48	0.59
1253	46	3.9	32.48	1252.8	10.22	3.92	516963.2	1644571	-2.71	2.42
1301	48	4.65	37.05	1300.67	13.15	5.97	516966.1	1644573	-2.73	1.71
1348	47	5.35	38.76	1347.49	16.38	8.49	516969.3	1644576	-2.55	1.52
1396	48	5.66	37.56	1395.27	20	11.33	516972.9	1644579	-2.32	0.69
1443	47	5.61	41.27	1442.04	23.56	14.26	516976.4	1644582	-1.99	0.78
1491	48	5.41	37.43	1489.82	27.12	17.19	516979.9	1644585	-1.67	0.87
1538	47	4.17	34.14	1536.66	30.3	19.49	516983.1	1644587	-1.62	2.7
1586	48	3.15	25.94	1584.56	32.93	21.05	516985.7	1644588	-1.87	2.38
1632	46	2.86	17.34	1630.5	35.16	21.94	516987.9	1644589	-2.43	1.16
1727	95	1.4	354.24	1725.43	38.58	22.53	516991.3	1644590	-3.93	1.75
1822	95	0.71	280.6	1820.42	39.84	21.84	516992.6	1644589	-5.23	1.45
1915	93	1.67	265.03	1913.39	39.83	19.92	516992.6	1644587	-6.78	1.08
2010	95	1.42	251.96	2008.36	39.35	17.42	516992.1	1644585	-8.54	0.45
2104	94	0.66	214.2	2102.35	38.54	16.01	516991.4	1644584	-9.23	1.05
2154	50	0.45	213.31	2152.34	38.13	15.74	516991	1644583	-9.21	0.42
2268	114	0.34	164.17	2266.34	37.44	15.59	516990.3	1644583	-8.93	0.3
2363	95	0.28	244.04	2361.34	37.06	15.46	516989.9	1644583	-8.83	0.42
2457	94	0.44	182.1	2455.34	36.6	15.24	516989.4	1644583	-8.74	0.42
2552	95	0.25	351.52	2550.34	36.44	15.19	516989.3	1644583	-8.68	0.72
2646	94	0.31	230.47	2644.34	36.48	14.97	516989.3	1644582	-8.89	0.52
2741	95	0.63	283.36	2739.33	36.44	14.26	516989.3	1644582	-9.44	0.53
2835	94	0.35	268.17	2833.33	36.55	13.47	516989.4	1644581	-10.15	0.33
2929	94	0.78	286.38	2927.33	36.72	12.57	516989.6	1644580	-10.98	0.49
3024	95	0.7	287.24	3022.32	37.08	11.39	516990	1644579	-12.15	0.09
3119	95	0.43	333.8	3117.31	37.57	10.68	516990.5	1644578	-13.01	0.54
3213	94	0.63	296.5	3211.31	38.11	10.06	516991	1644578	-13.83	0.41
3308	95	0.44	88.83	3306.31	38.36	9.96	516991.2	1644577	-14.06	1.09
3402	94	0.41	63.31	3400.31	38.51	10.62	516991.4	1644578	-13.61	0.2
3496	94	0.36	14.6	3494.3	38.95	11	516991.8	1644579	-13.55	0.34
3590	94	0.17	324.77	3588.3	39.35	10.99	516992.2	1644579	-13.79	0.3
3685	95	0.59	313.57	3683.3	39.8	10.56	516992.7	1644578	-14.41	0.45
3780	95	0.35	269.18	3778.3	40.14	9.91	516993	1644577	-15.13	0.44
3874	94	0.21	295.98	3872.3	40.21	9.47	516993.1	1644577	-15.53	0.2
3968	94	0.44	291.75	3966.29	40.42	8.98	516993.3	1644577	-16.05	0.25
4063	95	0.62	301.26	4061.29	40.82	8.2	516993.7	1644576	-16.92	0.21

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4158	95	0.71	287.88	4156.28	41.27	7.2	516994.2	1644575	-17.99	0.19
4252	94	0.78	298.86	4250.28	41.75	6.09	516994.7	1644574	-19.18	0.17
4346	94	0.62	292.47	4344.27	42.26	5.06	516995.2	1644573	-20.31	0.19
4426	80	0.73	294	4424.26	42.63	4.19	516995.6	1644572	-21.23	0.14
4532	106	0.24	273.32	4530.26	42.92	3.35	516995.9	1644571	-22.08	0.48
4627	95	8.15	34.36	4624.94	48.5	6.96	517001.4	1644575	-22.37	8.71
4721	94	13.43	30.89	4717.25	63.38	16.33	517016.2	1644584	-23.33	5.66
4816	95	17.4	43.18	4808.84	83.21	31.73	517035.8	1644600	-22.24	5.39
4911	95	22.63	44.3	4898.07	106.67	54.23	517059	1644623	-17.45	5.52
5005	94	32.68	48.28	4981.23	136.58	85.88	517088.5	1644655	-8.93	10.87
5100	95	42.15	49.81	5056.6	174.3	129.48	517125.7	1644699	4.82	10.02
5195	95	48.58	47.79	5123.32	218.85	180.27	517169.5	1644750	20.49	6.93
5289	94	52.31	42.34	5183.19	270.07	231.46	517220.1	1644802	32.64	5.98
5384	95	52.32	41.8	5241.27	325.87	281.84	517275.3	1644853	41.46	0.45
5478	94	52.3	46.91	5298.76	379.03	333.81	517327.7	1644906	53.11	4.3
5573	95	52.3	47.53	5356.86	430.08	388.98	517378.1	1644961	68.59	0.52
5667	94	52.24	49.51	5414.39	479.32	444.67	517426.6	1645018	85.55	1.67
5762	95	52.17	49.05	5472.6	528.29	501.57	517474.8	1645075	103.64	0.39
5855	93	52.35	50.99	5529.53	575.54	557.92	517521.3	1645132	122.29	1.66
5950	95	52.33	48.37	5587.58	624.2	615.25	517569.3	1645190	140.92	2.18
6044	94	52.23	44.38	5645.1	675.48	669.06	517619.8	1645245	155.16	3.36
6139	95	52.27	47.47	5703.27	727.72	723.01	517671.4	1645299	168.96	2.57
6233	94	52.36	50.89	5760.75	776.33	779.29	517719.3	1645356	186.76	2.88
6328	95	52.46	52.27	5818.7	823.11	838.27	517765.3	1645416	207.82	1.16
6422	94	52.41	51.73	5876.01	868.98	896.98	517810.4	1645475	229.19	0.46
6517	95	52.45	49.95	5933.94	916.53	955.36	517857.2	1645534	249.32	1.49
6611	94	52.34	51.79	5991.3	963.52	1013.13	517903.4	1645592	269.26	1.56
6706	95	52.39	56.24	6049.33	1007.71	1073.98	517946.8	1645654	293.35	3.71
6800	94	52.53	56.86	6106.6	1048.79	1136.17	517987.1	1645717	320.32	0.54
6895	95	53.56	63.73	6163.76	1086.34	1202.05	518023.8	1645783	352.35	5.88
6989	94	55.05	68.72	6218.63	1117.07	1271.89	518053.7	1645853	391.55	4.59
7083	94	57.6	73.26	6270.76	1142.5	1345.82	518078.1	1645927	437.17	4.85
7178	95	61.71	81.64	6318.81	1160.16	1425.75	518094.8	1646008	492.16	8.75
7272	94	64.3	90.92	6361.55	1165.51	1509.2	518099	1646091	557.14	9.21
7367	95	64.98	97.71	6402.28	1159.04	1594.73	518091.5	1646177	630.66	6.5
7462	95	64.76	104.94	6442.67	1142.17	1678.99	518073.5	1646261	709.15	6.89
7556	94	69.12	113.49	6479.53	1113.65	1760.51	518044	1646342	792.15	9.56

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7651	95	70.81	123.71	6512.16	1070.96	1838.72	518000.3	1646419	880.64	10.26
7745	94	72.15	131.82	6542.06	1016.41	1909.09	517944.8	1646489	969.6	8.3
7840	95	79.63	135.22	6565.21	952.99	1975.81	517880.5	1646555	1060.71	8.6
7935	95	85.78	136.63	6577.26	885.32	2041.32	517812	1646620	1153.29	6.64
8029	94	89.45	137.67	6581.18	816.48	2105.18	517742.4	1646683	1245.2	4.06
8124	95	89.14	133.85	6582.34	748.43	2171.44	517673.5	1646748	1338.61	4.03
8219	95	89.51	133.36	6583.46	682.92	2240.23	517607.1	1646816	1432.61	0.65
8313	94	88.98	132.04	6584.7	619.18	2309.3	517542.5	1646884	1525.82	1.51
8408	95	89.11	136.33	6586.29	552.99	2377.4	517475.4	1646951	1619.66	4.52
8503	95	89.11	136.71	6587.76	484.06	2442.76	517405.6	1647016	1712.84	0.4
8597	94	88.77	132.36	6589.5	418.17	2509.74	517338.9	1647082	1805.59	4.64
8692	95	88.95	139.65	6591.39	349.88	2575.67	517269.8	1647147	1898.87	7.67
8786	94	89.26	146.92	6592.86	274.59	2631.82	517193.8	1647202	1988.22	7.74
8881	95	89.32	144.48	6594.04	196.12	2685.35	517114.6	1647255	2077.27	2.57
8975	94	89.17	140.67	6595.28	121.49	2742.46	517039.3	1647311	2167.02	4.06
9069	94	89.23	139.29	6596.59	49.51	2802.9	516966.5	1647370	2257.96	1.47
9163	94	89.2	138.84	6597.88	-21.49	2864.48	516894.7	1647431	2349.26	0.48
9258	95	89.2	139.69	6599.21	-93.47	2926.47	516821.9	1647492	2441.46	0.89
9353	95	89.2	137.97	6600.53	-164.97	2989	516749.6	1647554	2533.82	1.81
9447	94	89.2	137.49	6601.85	-234.52	3052.22	516679.3	1647616	2625.62	0.51
9542	95	89.11	136.37	6603.25	-303.91	3117.08	516609.1	1647680	2718.67	1.18
9636	94	89.17	137.21	6604.66	-372.42	3181.43	516539.7	1647743	2810.79	0.9
9731	95	89.11	138.35	6606.09	-442.76	3245.26	516468.6	1647806	2903.54	1.2
9825	94	89.23	141.11	6607.45	-514.47	3306.01	516396.1	1647866	2994.57	2.94
9920	95	89.23	141.06	6608.72	-588.38	3365.68	516321.4	1647925	3086	0.05
10015	95	89.26	140.9	6609.98	-662.18	3425.49	516246.9	1647984	3177.47	0.17
10109	94	89.2	142.78	6611.24	-736.08	3483.56	516172.2	1648041	3267.58	2
10204	95	89.17	145.03	6612.59	-812.84	3539.52	516094.8	1648096	3357.62	2.37
10299	95	89.23	147.14	6613.92	-891.66	3592.52	516015.3	1648148	3446.44	2.22
10393	94	89.23	148.28	6615.18	-971.12	3642.73	515935.2	1648197	3533.36	1.21
10488	95	89.17	146.62	6616.51	-1051.18	3693.83	515854.4	1648247	3621.35	1.75
10582	94	89.14	144.64	6617.89	-1128.76	3746.89	515776.2	1648299	3709.5	2.11
10677	95	89.26	141.39	6619.22	-1204.63	3804.03	515699.6	1648355	3800	3.42
10772	95	89.38	138.21	6620.35	-1277.17	3865.34	515626.3	1648416	3891.97	3.35
10866	94	89.14	133.42	6621.56	-1344.55	3930.83	515558.1	1648480	3984.36	5.1
10960	94	89.11	130.67	6623	-1407.49	4000.62	515494.2	1648549	4077.7	2.93
11055	95	88.98	131.09	6624.58	-1469.66	4072.44	515431.1	1648620	4172.24	0.46

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11150	95	89.17	134.63	6626.12	-1534.26	4142.05	515365.6	1648689	4266.39	3.73
11245	95	89.14	135.69	6627.52	-1601.62	4209.03	515297.4	1648755	4359.99	1.12
11339	94	88.77	137.09	6629.23	-1669.66	4273.86	515228.6	1648819	4452.23	1.54
11433	94	88.95	138.15	6631.1	-1739.09	4337.2	515158.3	1648881	4544.05	1.14
11528	95	88.99	138.2	6632.81	-1809.87	4400.54	515086.7	1648944	4636.66	0.07
11622	94	88.89	138.08	6634.55	-1879.86	4463.26	515015.9	1649006	4728.31	0.17
11717	95	88.86	138.86	6636.41	-1950.97	4526.23	514944	1649068	4820.81	0.82
11812	95	88.92	140.01	6638.25	-2023.12	4588	514871.1	1649129	4912.92	1.21
11906	94	88.92	139.86	6640.03	-2095.05	4648.49	514798.4	1649188	5003.87	0.16
12001	95	88.89	140.41	6641.84	-2167.95	4709.38	514724.7	1649248	5095.7	0.58
12096	95	88.92	141.23	6643.66	-2241.58	4769.38	514650.3	1649307	5187.24	0.86
12190	94	88.98	139.65	6645.38	-2314.03	4829.24	514577.1	1649366	5277.97	1.68
12285	95	88.86	139.97	6647.17	-2386.59	4890.53	514503.8	1649426	5369.94	0.36
12379	94	88.98	138.78	6648.94	-2457.92	4951.72	514431.7	1649487	5461.11	1.27
12474	95	88.92	137.65	6650.68	-2528.75	5015.01	514360	1649549	5553.7	1.19
12568	94	88.92	136.75	6652.45	-2597.7	5078.87	514290.2	1649612	5645.68	0.96
12663	95	88.86	136.13	6654.29	-2666.53	5144.32	514220.6	1649677	5738.88	0.66
12757	94	88.95	135.55	6656.09	-2733.96	5209.8	514152.3	1649741	5831.29	0.62
12851	94	88.83	134.88	6657.91	-2800.66	5276	514084.8	1649807	5923.87	0.72
12946	95	88.92	133.96	6659.78	-2867.14	5343.84	514017.4	1649874	6017.66	0.97
13040	94	88.89	135	6661.57	-2932.99	5410.89	513950.7	1649940	6110.45	1.11
13135	95	88.86	134.69	6663.44	-2999.97	5478.24	513882.9	1650006	6204.13	0.33
13229	94	88.95	136.09	6665.23	-3066.87	5544.24	513815.1	1650071	6296.66	1.49
13324	95	89.14	137.71	6666.82	-3136.23	5609.14	513745	1650135	6389.72	1.72
13419	95	89.11	142.78	6668.27	-3209.23	5669.86	513671.2	1650195	6481.48	5.34
13513	94	88.89	145.45	6669.91	-3285.37	5724.95	513594.3	1650249	6570.45	2.85
13608	95	88.95	146.22	6671.7	-3363.96	5778.29	513515.1	1650302	6659.42	0.81
13703	95	89.08	144.91	6673.33	-3442.3	5832	513436	1650354	6748.54	1.39
13797	94	88.95	144.32	6674.95	-3518.92	5886.43	513358.7	1650408	6837.26	0.64
13893	96	88.89	144.09	6676.76	-3596.78	5942.56	513280.2	1650463	6928.08	0.25
13987	94	89.75	143.58	6677.88	-3672.66	5998.03	513203.6	1650517	7017.21	1.06
14081	94	89.6	140.59	6678.41	-3746.81	6055.79	513128.7	1650574	7107.21	3.18
14176	95	89.54	141.8	6679.12	-3820.84	6115.32	513053.9	1650633	7198.59	1.28
14271	95	89.45	139.36	6679.96	-3894.22	6175.63	512979.7	1650692	7290.24	2.57
14366	95	89.48	137.04	6680.85	-3965.03	6238.95	512908.1	1650754	7382.84	2.44
14460	94	89.38	136.89	6681.78	-4033.73	6303.09	512838.6	1650818	7474.91	0.19
14555	95	89.42	132.03	6682.78	-4100.25	6370.88	512771.2	1650885	7568.67	5.12

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14650	95	89.54	136.21	6683.64	-4166.37	6439.06	512704.2	1650952	7662.53	4.4
14742	92	89.2	136.22	6684.65	-4232.78	6502.71	512637	1651015	7752.87	0.37
14837	95	89.11	133.5	6686.05	-4299.78	6570.04	512569.1	1651081	7846.54	2.86
14931	94	89.23	133.59	6687.41	-4364.53	6638.16	512503.5	1651149	7939.57	0.16
15026	95	89.32	136.96	6688.62	-4432.01	6705	512435.2	1651214	8033.12	3.55
15121	95	89.75	141.21	6689.39	-4503.78	6767.2	512362.6	1651276	8125.38	4.5
15215	94	88.89	144	6690.5	-4578.45	6824.28	512287.2	1651332	8215.12	3.11
15310	95	88.8	141.05	6692.42	-4653.82	6882.06	512211.1	1651389	8305.85	3.11
15405	95	88.89	138.41	6694.33	-4726.28	6943.45	512137.9	1651449	8397.84	2.78
15499	94	88.89	138.44	6696.16	-4796.59	7005.82	512066.8	1651511	8489.38	0.03
15594	95	88.83	139.8	6698.05	-4868.4	7067.98	511994.2	1651572	8581.62	1.43
15689	95	89.02	141.48	6699.83	-4941.84	7128.22	511920	1651631	8673.23	1.78
15784	95	88.98	143.41	6701.49	-5017.14	7186.11	511843.9	1651688	8764.01	2.03
15878	94	88.77	140.65	6703.33	-5091.22	7243.92	511769.1	1651745	8854.02	2.94
15973	95	88.83	138.21	6705.32	-5163.36	7305.69	511696.2	1651806	8946.13	2.57
16031	58	88.83	138.21	6706.51	-5206.6	7344.34	511652.4	1651844	9002.66	0

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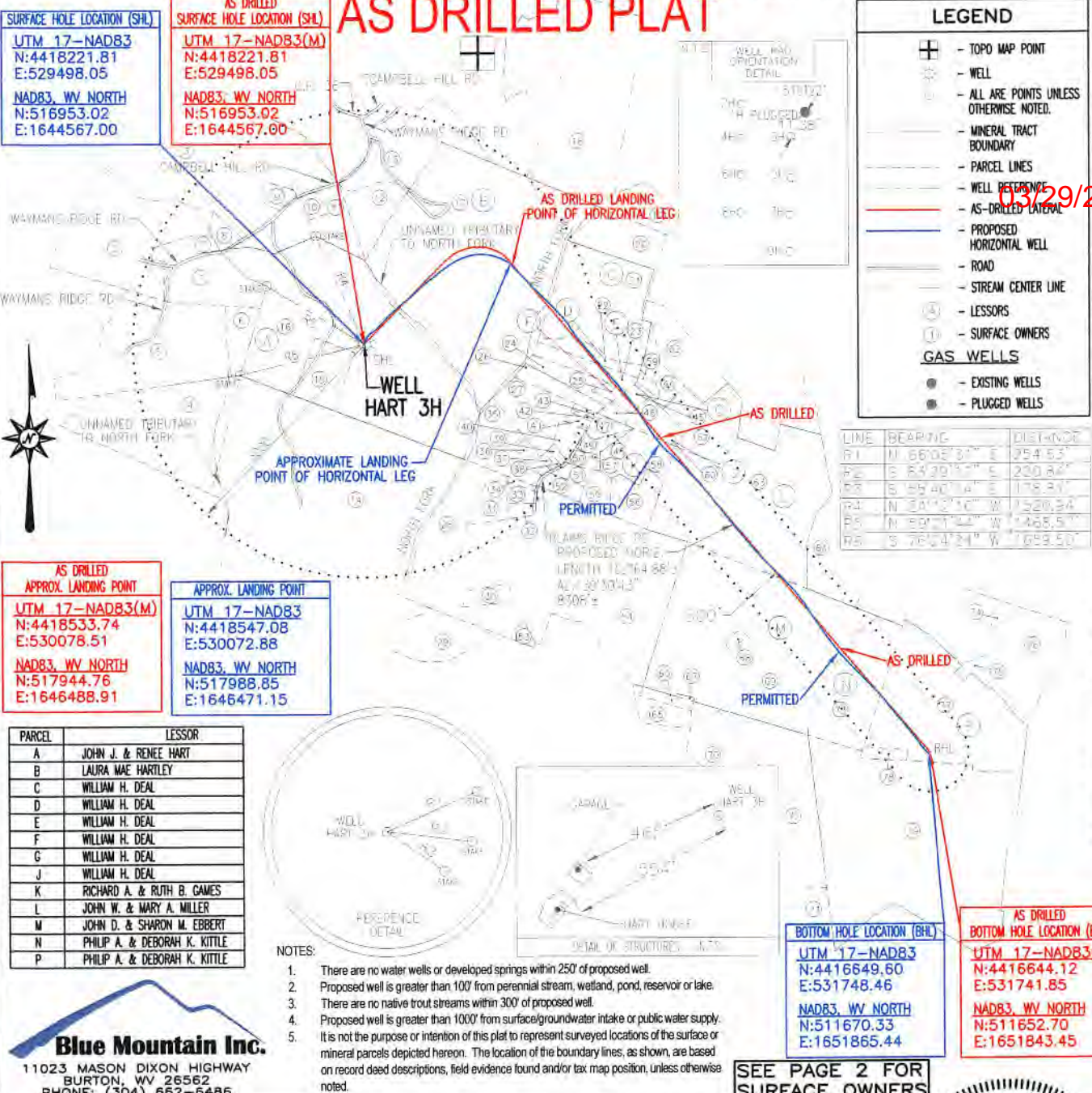
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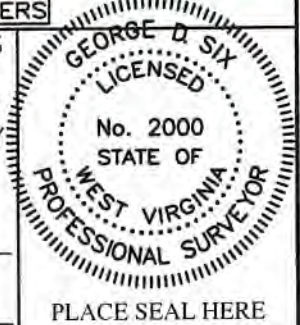
Well is located on topo map 1,133 feet south of Latitude: 39° 55' 00"

# AS DRILLED PLAT

Well is located on topo map 8,371 feet west of Longitude: 80° 37' 30"



SEE PAGE 2 FOR SURFACE OWNERS



FILE #: HART 3H AS-DRILLED  
 DRAWING #: HART 3H 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

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

DATE: APRIL 28, 2016  
 OPERATOR'S WELL #: HART 3H AS-DRILLED  
 API WELL #: 47 51 01749  
 STATE COUNTY PERMIT

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

WATERSHED: MIDDLE GRAVE CREEK - GRAVE CREEK ELEVATION: 1328.90'  
 COUNTY/DISTRICT: MARSHALL / WASHINGTON QUADRANGLE: MOUNDSVILLE, WV 7.5'  
 SURFACE OWNER: JOHN J. & RENEE HART ACREAGE: 108.550±  
 OIL & GAS ROYALTY OWNER: JOHN J. & RENEE HART ACREAGE: 703.200±

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: 6,738.51'± TMD: 16,063'±  
 WELL OPERATOR CHEVRON APPALACHIA, LLC DESIGNATED AGENT KENNETH E. TAWNEY  
 Address 800 MOUNTAIN VIEW DRIVE Address 500 LEE STREET, EAST SUITE 1600  
 City SMITHFIELD State PA Zip Code 15478 City CHARLESTON State WV Zip Code 25301-3202



# HART 3H

03/29/2019

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7	JAMES E. BLAKE	14-10/11.1
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9	CARL W. YOHO ET AL	14-6/35.1
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16	JOHN J. & RENEE HART	14-10/19.1
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20	LEROY E. MEADOWS ET UX	15-8/5.10
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22	REX W. & JANET L. GARRISON	15-8/5
23	REX W. & JANET L. GARRISON	15-8/5.8
24	REX W. GARRISON	15-8/5.6
25	REX W. & JANET L. GARRISON	15-8/5.9
26	EDWARD D. & MALLORY J. FORDYCE	15-8/5.5
27	JOHN E. DRAKE ET UX	15-15/8.16
28	JOHN A. BIERCE II ET UX	15-15/3
29	VERNON KNOX JR. ET UX	15-15/2
30	KANDY J. & ANTHONY E. BLATT	15-15/9.1
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34	JOHN A. BIERCE II ET UX	15-15/7
35	HEIKKI & TRISHA YEAGER	15-15/8.6
36	LARRY D. STERN	15-15/8.14
37	JASON D. PETHTEL	15-15/8.2
38	JASON D. PETHTEL	15-15/8.17
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50	DAVID P. SCHIMMEL ET UX	15-15/8.7
51	FRANKIE D. WHITE ET UX	15-15/8.8
52	ERIC & CHRISTINA KESTNER	15-15/8.18
53	M E CHURCH	15-15/10
54	HONUS A. STOLLAR	15-15/9
55	CHRISTOPHER R. & DANIELLE KING	15-15/8.9
56	JOHN M. SKRYPEK ET UX	15-15/8.10
57	GREG R. & MELODY BURKE	15-15/8.20
58	JOHN M. & LINDA G. SKRYPEK	15-15/8.12
59	GENE A. & CHARLOTTE A. JACKLEY	15-8/5.12
60	DARRYL G. HILL ET UX	15-8/5.4
61	RONALD W. & MARY E. BREAUULT	15-8/5.11
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64	DAVID HENDERSON	15-8/20.2
65	FRANKLIN J. PIERSON ET UX	15-15/21
66	FRANKLIN PIERSON ET UX	15-15/22
67	FRANKLIN J. PIERSON ET UX	15-15/24.2
68	EVELYN J. GAMBLE	15-15/24.1
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74	ROSALIE L. CLARK	15-15/32.1
75	JOHN RUSSELL KITTLE ET AL	15-15/32.2
76	PHILIP ALAN & DEBORAH K. KITTLE	15-15/32
77	PHILIP ALAN & DEBORAH K. KITTLE	15-15/33
78	PHILIP ALAN KITTLE	15-15/34
79	PHILIP ALAN KITTLE	15-15/35

SURFACE HOLE LOCATION (SHL)  
UTM 17-NAD83  
N:4418221.81  
E:529498.05  
NAD83, WV NORTH  
N:516953.02  
E:1644567.00

AS DRILLED  
SURFACE HOLE LOCATION (SHL)  
UTM 17-NAD83(M)  
N:4418221.81  
E:529498.05  
NAD83, WV NORTH  
N:516953.02  
E:1644567.00

APPROX. LANDING POINT  
UTM 17-NAD83  
N:4418547.08  
E:530072.88  
NAD83, WV NORTH  
N:517988.85  
E:1646471.15

AS DRILLED  
APPROX. LANDING POINT  
UTM 17-NAD83(M)  
N:4418533.74  
E:530078.51  
NAD83, WV NORTH  
N:517944.76  
E:1646488.91

BOTTOM HOLE LOCATION (BHL)  
UTM 17-NAD83  
N:4416649.60  
E:531748.46  
NAD83, WV NORTH  
N:511670.33  
E:1651865.44

AS DRILLED  
BOTTOM HOLE LOCATION (BHL)  
UTM 17-NAD83(M)  
N:4416644.12  
E:531741.85  
NAD83, WV NORTH  
N:511652.70  
E:1651843.45

RECEIVED  
Office of Oil and Gas  
DEC 18 2018  
WV Department of  
Environmental Protection



Well is located on topo map 1,133 feet south of Latitude: 39° 55' 00"

# AS DRILLED PLAT

**SURFACE HOLE LOCATION (SHL)**  
 UTM 17-NAD83  
 N:4418221.81  
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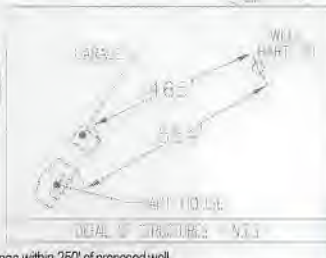
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PARCEL	LESSOR
A	JOHN J. & RENEE HART
B	LAURA MAE HARTLEY
C	WILLIAM H. DEAL
D	WILLIAM H. DEAL
E	WILLIAM H. DEAL
F	WILLIAM H. DEAL
G	WILLIAM H. DEAL
J	WILLIAM H. DEAL
K	RICHARD A. & RUTH B. GAMES
L	JOHN W. & MARY A. MILLER
M	JOHN D. & SHARON M. EBBERT
N	PHILIP A. & DEBORAH K. KITTLE
P	PHILIP A. & DEBORAH K. KITTLE



**NOTES:**

- There are no water wells or developed springs within 250' 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.

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

SEE PAGE 2 FOR SURFACE OWNERS

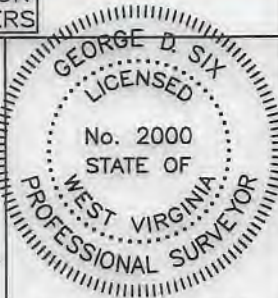
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FILE #: HART 3H AS-DRILLED  
 DRAWING #: HART 3H AS-DRILLED  
 SCALE: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/2500  
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

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



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



DATE: APRIL 28, 2016  
 OPERATOR'S WELL #: HART 3H AS-DRILLED  
 API WELL #: 47 51 01749  
 STATE COUNTY PERMIT

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

WATERSHED: MIDDLE GRAVE CREEK - GRAVE CREEK ELEVATION: 1328.90'  
 COUNTY/DISTRICT: MARSHALL / WASHINGTON QUADRANGLE: MOUNDSVILLE, WV 7.5'  
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 Address 800 MOUNTAIN VIEW DRIVE Address 500 LEE STREET, EAST SUITE 1600  
 City SMITHFIELD State PA Zip Code 15478 City CHARLESTON State WV Zip Code 25301-3202

Well is located on topo map 8,371 feet west of Longitude: 80° 37' 30"

03/09/2019



# HART

## 3H

03/29/2019

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