

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

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Office Of Oil and Gas

JUN 27 2023

WV Department of
Environmental Protection

API 47-033-05985 County Harrison District Grant Union
Quad West Milford Pad Name Antonio 1206 Field/Pool Name Lost Creek
Farm name Antonio Well Number 1206 S8H
Operator (as registered with the OOG) HG Energy LLC
Address 5260 Dupont Rd. City Parkersburg State WV Zip 26101

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 14220499.95 Easting 1815543.84
Landing Point of Curve Northing 14220473.21 Easting 1816186.27
Bottom Hole Northing 14202838.34 Easting 1822694.64

Elevation (ft) 1350 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)

Air/ OBM

KCL, Barite, Lime, CaCL, base oil, clay, sulfatone, safevert FLG, safevert WA

Date permit issued 3/06/2020 Date drilling commenced 10/11/2020 Date drilling ceased 7/3/2021
Date completion activities began _____ Date completion activities ceased _____
Verbal plugging (Y/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 838, 851, 1102 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 60, 544, 850, 1102, 1106 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed
approved

Reviewed by:

Guy Purpitt
8-13-2023

API 47-033 - 05985 Farm name Antonio Well number 1206 S8H

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	30"	30"	125	New	154.5 lbs/ft		N
Surface	26"	20"	1140	New	94 lbs/ft J-55		Yes
Coal							
Intermediate 1	17.5"	13.375"	2167	New	68 lbs/ft		Yes
Intermediate 2	12.25"	9.625"	2979	New	40 lbs/ft J-55		Yes
Intermediate 3							
Production	8.5	5.5	26329	New	23 lbs/ft P-11		Yes
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	Not Cemented						
Surface	Class A	2298	15.6	1.18	2712	Surface	8
Coal							
Intermediate 1	Class A	1953/531	16.0/16.4	1.16/1.12	2265/595	Surface	24
Intermediate 2	Class A	1064	15.6	1.19	1266	Surface	8
Intermediate 3							
Production	Class A	505/379/4009	13.5/13.5/14.8	1.67/1.48/1.34	843/561/5372	Surface	8
Tubing							

Drillers TD (ft) 26329 Loggers TD (ft) _____
 Deepest formation penetrated Marcellus Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) 6265 _____

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 _____
 20" casing: Centralizer placed on the shoe joint and every other joint to surface
 13.375" casing: centralizer run every joint to 20" casing then placed every 3 joints to surface
 9.625" casing: Centralizers run every other joint to 13.375" casing then placed every 3 joints to surface
 5.5" casing: Centralizer run every joint to top of curve (KOP) then centralizers placed every 3 joints to surface

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ☒ No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ☒ No DETAILS _____

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

API 47- 033 - 05985 Farm name Antonio Well number 1206 S8H

PRODUCING FORMATION(S)	DEPTHS
Marcellus	7201-7229 TVD 7509-26329 MD

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ☒ Open Flow OIL TEST ☐ Flow ☐ Pump

SHUT-IN PRESSURE Surface 1469 psi Bottom Hole _____ psi DURATION OF TEST 1077 hrs

OPEN FLOW Gas 19560 mcfpd Oil _____ bpd NGL _____ bpd Water 912 bpd GAS MEASURED BY ☐ Estimated ☐ Orifice ☐ Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
			See Attached		

Please insert additional pages as applicable.

Drilling Contractor Precision Drilling
Address 2640 Reach road City Williamsport State PA Zip 17701

Logging Company Renegade Wireline Services
Address 191 Earnhardt Rd. City Hunker State PA Zip 15639

Cementing Company Schlumberger
Address 300 Schlumberger Dr. City Sugar Land State TX Zip 77478

Stimulating Company NexTier
Address 8300 Route 19 North City Black Lick State PA Zip 15716

Please insert additional pages as applicable.

Completed by Diane White Telephone 304-420-1119
Signature Diane White Title _____ Date 6/23/2023

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

HG Energy II Appalachia, LLC

Antonio 1206 S-8H

Lithology Report

Formation	Top Depth TMD	Top Depth TVD	Bottom Depth TMD	Bottom Depth TVD
Coal	70	70	72	72
Coal	554	554	556	556
Big Dunkard	610	610	700	700
Coal	838	838	851	851
1st Salt Sand	904	904	1004	1004
2nd Salt Sand	1119	1119	1179	1179
Deepest coal	1102	1102	1108	1108
3rd Salt Sand	1212	1212	1262	1262
Upper Maxton	1352	1352	1367	1367
Little Lime	1580	1580	1600	1600
Big Lime	1622	1622	1684	1684
Big Injun	1683	1683	1795	1795
Gantz	2010	2010	2088	2088
50' Sand	2120	2120	2114	2182
30 foot Sand	2207	2207	2230	2226
Gordon Strat	2257	2257	2302	2298
Gordon	2294	2293	2418	2414
4th Sand	2414	2412	2463	2459
4th sand "A"	2473	2470	2495	2491
5th Sand	2544	2540	2559	2554
Upper Speed	3129	3121	3160	3151
Lower Speed	3241	3231	3260	3250
Benson	4653	4533	4580	4548
Rhinestreet	6071	5795	6654	6591
Cashaqua	6654	6591	6898	6818
Middlesex	6898	6818	7018	6919
West River	7018	6919	7167	7032
Burket	7167	7032	7223	7071
Tully	7223	7071	7366	7159
Hamilton	7366	7159	7509	7229
Marcellus	7509	7229	26329	7201

Well number 1206 S8H[illegible]

Please insert additional pages as applicable.

Complete a separate record for each stimulation stage.

[illegible]

Please insert additional pages as applicable.

HG Energy II Appalachia, LLC**Antonio 1206 S-8H****Perforation Record**

Stage #	Perforation Date	Perforation from Depth	Perforations to Depth	Number of Perforations	Formation
Sleeve/1	10/14/2021	26250	26224	2	Marcellus
2	10/14/2021	26189	26021	28	Marcellus
3	10/25/2021	25991	25823	28	Marcellus
4	10/26/2021	25793	25625	28	Marcellus
5	10/28/2021	25595	25427	28	Marcellus
6	10/29/2021	25397	25229	28	Marcellus
7	10/29/2021	25199	25031	28	Marcellus
8	10/29/2021	25001	24833	28	Marcellus
9	10/29/2021	24803	24635	28	Marcellus
10	10/30/2021	24605	24437	28	Marcellus
11	10/30/2021	24407	24239	28	Marcellus
12	10/30/2021	24209	24041	28	Marcellus
13	10/31/2021	24011	23843	28	Marcellus
14	10/31/2021	23813	23645	28	Marcellus
15	11/1/2021	23615	23447	28	Marcellus
16	11/1/2021	23417	23249	28	Marcellus
17	11/1/2021	23219	23051	28	Marcellus
18	11/2/2021	23021	22853	28	Marcellus
19	11/2/2021	22823	22655	28	Marcellus
20	11/2/2021	22625	22457	28	Marcellus
21	11/3/2021	22427	22259	28	Marcellus
22	11/3/2021	22229	22061	28	Marcellus
23	11/3/2021	22032	21864	28	Marcellus
24	11/3/2021	21836	21668	28	Marcellus
25	11/4/2021	21640	21472	28	Marcellus
26	11/4/2021	21444	21276	28	Marcellus
27	11/4/2021	21248	21080	28	Marcellus
28	11/11/2021	21052	20884	28	Marcellus
29	11/12/2021	20856	20688	28	Marcellus
30	11/12/2021	20660	20492	28	Marcellus
31	11/12/2021	20464	20296	28	Marcellus
32	11/12/2021	20268	20100	28	Marcellus
33	11/13/2021	20072	19904	28	Marcellus
34	11/13/2021	19876	19708	28	Marcellus
35	11/13/2021	19680	19512	28	Marcellus
36	11/13/2021	19484	19316	28	Marcellus
37	11/14/2021	19288	19120	28	Marcellus
38	11/14/2021	19092	18924	28	Marcellus
39	11/14/2021	18896	18728	28	Marcellus
40	11/14/2021	18700	18532	28	Marcellus
41	11/15/2021	18504	18336	28	Marcellus
42	11/15/2021	18308	18140	28	Marcellus
43	11/15/2021	18112	17944	28	Marcellus
44	11/16/2021	17916	17748	28	Marcellus
45	11/16/2021	17720	17552	28	Marcellus
46	11/16/2021	17524	17356	28	Marcellus
47	11/17/2021	17328	17160	28	Marcellus

48	11/17/2021	17132	16964	28	Marcellus
49	11/17/2021	16936	16768	28	Marcellus
50	11/17/2021	16740	16572	28	Marcellus
51	11/18/2021	16544	16376	28	Marcellus
52	11/18/2021	16348	16180	28	Marcellus
53	11/19/2021	16152	15984	28	Marcellus
54	11/20/2021	15956	15788	28	Marcellus
55	11/20/2021	15760	15592	28	Marcellus
56	11/21/2021	15564	15396	28	Marcellus
57	11/21/2021	15368	15200	28	Marcellus
58	11/21/2021	15172	15004	28	Marcellus
59	11/22/2021	14976	14808	28	Marcellus
60	11/22/2021	14780	14612	28	Marcellus
61	11/22/2021	14584	14416	28	Marcellus
62	11/23/2021	14388	14220	28	Marcellus
63	11/23/2021	14192	14024	28	Marcellus
64	11/23/2021	13996	13828	28	Marcellus
65	11/23/2021	13800	13632	28	Marcellus
66	11/24/2021	13604	13436	28	Marcellus
67	11/24/2021	13408	13240	28	Marcellus
68	11/24/2021	13212	13044	28	Marcellus
69	11/25/2021	13016	12848	28	Marcellus
70	11/25/2021	12820	12652	28	Marcellus
71	11/25/2021	12624	12456	28	Marcellus
72	11/26/2021	12428	12260	28	Marcellus
73	11/26/2021	12232	12064	28	Marcellus
74	11/26/2021	12036	11868	28	Marcellus
75	11/27/2021	11840	11672	28	Marcellus
76	11/27/2021	11644	11476	28	Marcellus
77	11/27/2021	11448	11280	28	Marcellus
78	11/27/2021	11252	11084	28	Marcellus
79	11/28/2021	11056	10888	28	Marcellus
80	11/28/2021	10860	10692	28	Marcellus
81	11/28/2021	10664	10496	28	Marcellus
82	11/28/2021	10468	10300	28	Marcellus
83	11/29/2021	10272	10104	28	Marcellus
84	11/29/2021	10076	9908	28	Marcellus
85	11/29/2021	9880	9712	28	Marcellus
86	11/30/2021	9684	9516	28	Marcellus
87	11/30/2021	9488	9320	28	Marcellus
88	11/30/2021	9292	9124	28	Marcellus
89	12/1/2021	9096	8928	28	Marcellus
90	12/1/2021	8900	8732	28	Marcellus
91	12/1/2021	8704	8536	28	Marcellus
92	12/1/2021	8508	8340	28	Marcellus
93	12/2/2021	8312	8144	28	Marcellus
94	12/2/2021	8116	7948	28	Marcellus
95	12/2/2021	7920	7752	28	Marcellus
96	12/3/2021	7724	7556	28	Marcellus

HG Energy II Appalachia, LLC**Antonio 1206 S-8H****Stimulation Record**

Stage #	Date	Average Pump Rate (BPM)	Average Treatment Press (PSI)	Maximum Breakdown Pressure (PSI)	ISIP (PSI)	Proppant (LBS)	Water (BBLs)
Sleeve/1	10/14/2021	73.2	9076	12500	3986	282940	8,043
2	10/14/2021	81.0	10,222	6,898	5,091	694100	15,346
3	10/25/2021	78.9	9,821	4,660	5,413	700000	14,970
4	10/26/2021	77.0	10,066	6,938	5,372	702500	12,778
5	10/28/2021	78.1	10,337	7,070	5,417	701870	14,379
6	10/29/2021	83.5	10,261	7,226	5,859	707720	12,606
7	10/29/2021	80.0	10,377	7,868	5,781	569400	10,713
8	10/29/2021	82.0	10,494	5,817	5,637	705400	11,344
9	10/29/2021	82.7	10,200	7,261	5,513	704540	12,963
10	10/30/2021	79.0	10,194	6,733	5,634	662800	13,535
11	10/30/2021	76.0	10,345	7,562	5,079	705500	11,431
12	10/30/2021	76.0	10,276	6,387	6,316	664600	9,724
13	10/31/2021	73.0	10,416	7,720	6,118	705400	9,922
14	10/31/2021	76.1	10,333	6,721	5,415	713260	12,294
15	11/1/2021	75.0	9,899	6,891	6,290	605600	10,812
16	11/1/2021	79.0	10,140	7,704	6,218	705500	9,890
17	11/1/2021	79.9	10,193	7,370	5,370	681520	9,891
18	11/2/2021	86.0	10,235	6,346	6,382	705800	10,182
19	11/2/2021	84.0	10,302	7,513	6,391	634400	9,629
20	11/2/2021	85.4	10,102	6,660	5,493	710970	10,017
21	11/3/2021	84.3	10,016	3,308	5,889	704690	10,087
22	11/3/2021	84.0	10,130	6,928	5,075	706100	11,435
23	11/3/2021	78.0	9,797	7,865	5,206	615900	9,305
24	11/3/2021	83.7	10,403	6,334	5,690	706660	9,769
25	11/4/2021	84.0	10,189	7,047	5,204	705400	9,872
26	11/4/2021	88.0	10,395	7,224	5,404	580000	9,708
27	11/4/2021	86.0	10,136	7,287	5,825	705600	9,909
28	11/11/2021	87.1	10,264	6,375	5,843	704400	9,673
29	11/12/2021	83.5	10,149	6,983	5,603	704500	9,677
30	11/12/2021	81.0	10,289	6,990	5,712	583600	9,888
31	11/12/2021	87.0	10,436	8,310	6,735	705400	9,842
32	11/12/2021	87.1	10,412	7,345	5,832	705200	9,616
33	11/13/2021	87.2	10,186	6,969	6,061	704500	9,683
34	11/13/2021	86.0	10,423	6,613	7,490	704500	11,035
35	11/13/2021	88.0	10,444	7,305	6,008	705400	9,875
36	11/13/2021	92.3	10,466	7,360	5,427	704440	9,451
37	11/14/2021	92.1	10,280	7,240	5,766	706720	9,706
38	11/14/2021	89.0	10,455	6,626	5,280	497120	9,912
39	11/14/2021	97.0	10,534	7,473	6,299	522554	8,500
40	11/14/2021	94.6	10,514	7,391	5,000	704500	10,710
41	11/15/2021	93.0	10,450	7,008	5,759	704500	11,863
42	11/15/2021	99.0	10,357	5,590	5,556	705400	10,585
43	11/15/2021	94.7	10,332	6,455	5,087	674380	9,856
44	11/16/2021	95.0	10,398	6,625	5,559	705800	11,038
45	11/16/2021	98.0	10,226	6,925	5,165	664700	9,559
46	11/16/2021	96.0	10,030	7,352	5,445	705300	11,503
47	11/17/2021	93.8	10,341	6,979	5,869	705800	11,484
48	11/17/2021	96.0	10,365	6,578	5,291	596523	10,515
49	11/17/2021	94.0	10,345	6,597	6,112	715420	11,511
50	11/17/2021	97.1	10,377	6,349	5,788	645800	11,177
51	11/18/2021	96.1	10,417	6,473	5,753	567228	9,474
52	11/18/2021	94.0	10,487	6,253	4,778	705400	11,213
53	11/19/2021	92.4	10,278	6,653	5,847	704800	9,717
54	11/20/2021	98.7	10,482	6,573	4,939	519040	9,600
55	11/20/2021	95.0	10,310	6,869	4,647	704800	13,265
56	11/21/2021	94.0	10,339	6,905	4,985	704800	11,441
57	11/21/2021	96.0	10,247	5,230	5,257	704920	11,131
58	11/21/2021	96.5	10,308	6,351	5,616	704700	11,588
59	11/22/2021	95.0	10,233	6,328	5,895	703500	11,469
60	11/22/2021	99.0	10,342	6,293	5,718	704360	11,531

61	11/22/2021	95.2	10,358	7,049	5,456	686400	11,449
62	11/23/2021	93.5	10,297	6,776	5,093	685000	9,671
63	11/23/2021	96.0	10,119	6,293	4,803	538689	10,607
64	11/23/2021	100.2	10,389	6,119	5,554	672440	11,341
65	11/23/2021	97.8	10,384	6,809	5,949	595180	12,569
66	11/24/2021	98.6	10,297	6,066	5,822	705580	11,537
67	11/24/2021	100.0	10,379	6,258	5,275	705000	11,384
68	11/24/2021	102.0	10,326	6,742	6,788	706300	12,271
69	11/25/2021	104.1	10,115	6,736	5,424	704900	12,513
70	11/25/2021	105.3	10,252	6,474	5,189	704840	11,355
71	11/25/2021	105.0	10,136	6,468	5,853	705900	11,453
72	11/26/2021	103.0	10,186	7,102	6,861	706200	11,525
73	11/26/2021	98.5	9,591	6,620	5,695	704500	11,642
74	11/26/2021	107.0	9,948	6,165	6,806	706000	11,246
75	11/27/2021	105.0	10,015	6,830	6,367	704500	11,140
76	11/27/2021	106.9	10,088	7,317	5,126	704600	11,605
77	11/27/2021	109.2	10,095	6,132	5,597	705500	11,612
78	11/27/2021	107.0	9,764	6,793	6,967	705900	11,363
79	11/28/2021	105.0	9,928	6,900	6,457	706300	10,028
80	11/28/2021	105.7	9,929	6,267	5,491	705420	10,791
81	11/28/2021	103.0	10,136	6,780	6,130	706300	10,954
82	11/28/2021	104.0	10,039	6,970	5,017	500700	9,414
83	11/29/2021	104.7	9,814	6,874	5,768	705660	12,561
84	11/29/2021	100.0	9,782	6,345	6,725	706300	11,078
85	11/29/2021	108.0	9,491	6,700	5,720	705900	10,795
86	11/30/2021	109.9	9,464	6,991	5,034	706400	10,830
87	11/30/2021	109.5	9,541	6,471	5,071	705680	10,708
88	11/30/2021	110	9257	6060	5526	705900	10859
89	12/1/2021	110	8976	6800	6357	705100	9563
90	12/1/2021	109.5	8722	5630	5366	704600	9725
91	12/1/2021	110	9389	7204	5438	625500	9265
92	12/1/2021	110	8867	7100	5821	704000	9532
93	12/2/2021	109	9612	7189	5977	705300	10038
94	12/2/2021	109.1	8940	6068	5543	704800	10911
95	12/2/2021	109	9612	6502	5977	705300	9731
96	12/3/2021	103	9571	6689	5883	348100	8018

