

04/05/2019



Antero Resources  
1615 Wynkoop Street  
Denver, CO 80202  
Office 303.357.7310  
Fax 303.357.7315

April 3, 2019

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
601 57<sup>th</sup> Street  
Charleston, WV 25304

To Whom It May Concern:

Please find enclosed the Well Operator's Report of Well Work, Form WR-35 (including As-Drilled Survey Plat, Directional Survey and FracFocus report), Discharge Monitoring Report Form WR-34 and corresponding logs for the following wells:

- Penny Unit 1H (API # 47-085-10298)—Mulvay Pad
- Penny Unit 2H (API # 47-085-10299)—Mulvay Pad
- Penny Unit 3H (API # 47-085-10300)—Mulvay Pad
- Stronsnider Unit 1H (API # 47-085-10201)—Mulvay Pad
- Stronsnider Unit 2H (API # 47-085-10202)—Mulvay Pad
- Stronsnider Unit 3H (API # 47-085-10203)—Mulvay Pad
- Trust Unit 1H (API # 47-085-10301)—Mulvay Pad
- Trust Unit 2H (API # 47-085-10302)—Mulvay Pad
- Niley Unit 1H (API # 47-085-10250)—Mulvay Pad
- Niley Unit 2H (API # 47-085-10251)—Mulvay Pad
- Niley Unit 3H (API # 47-085-10252)—Mulvay Pad

If you have any questions please feel free to contact me at (303) 357-7223.

Sincerely,

A handwritten signature in black ink, appearing to read "MGriffith", written over a light blue horizontal line.

Megan Griffith  
Permitting Agent  
Antero Resources Corporation

Enclosures

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

API 47 - 085 - 10201 County Ritchie District Clay  
 Quad Pennsboro 7.5' Pad Name Mulvay Pad Field/Pool Name -----  
 Farm name Edwin D. Mulvay et al Well Number Stronsnider Unit 1H  
 Operator (as registered with the OOG) Antero Resources Corporation  
 Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
 Top hole Northing 4352581m Easting 508710m  
 Landing Point of Curve Northing 4352608.52m Easting 508360.27m  
 Bottom Hole Northing 4355079m Easting 507577m

Elevation (ft) 1029' 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 - Foam & 4% KCL  
Mud - Polymer

Date permit issued 9/29/2015 Date drilling commenced 12/23/2016 Date drilling ceased 6/25/2017  
 Date completion activities began 1/18/2018 Date completion activities ceased 8/3/2018  
 Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 24', 76', 124', 422' Open mine(s) (Y/N) depths No  
 Salt water depth(s) ft 1522', 1949' Void(s) encountered (Y/N) depths No  
 Coal depth(s) ft 653', 664' Cavern(s) encountered (Y/N) depths No  
 Is coal being mined in area (Y/N) No

Reviewed by: \_\_\_\_\_

WR-35  
Rev. 8/23/13

API 47-085 - 10201 Farm name Edwin D. Mulvay et al Well number Stronsnider Unit 1H

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	24"	20"	95'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	556'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2524'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	15672'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6609'		4.7#, N-80		
Packer type and depth set		N/A					

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	Class A	205 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	511 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	880 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	759 sx (Lead) 1200 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.53 (Lead), 1.83 (Tail)	3774	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 15672' MD, 6399' TVD (BHL), 6401' (Deepest Point Drilled) Loggers TD (ft) 15672' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 5900'

Check all wireline logs run  caliper  density  deviated/directional  induction  
 neutron  resistivity  gamma ray  temperature  sonic

Well cored  Yes  No Conventional Sidewall Were cuttings collected  Yes  No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING \_\_\_\_\_

Conductor - 0

Surface - 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface

Intermediate - 1 above float joint, 1 above float collar, 1 every 4th joint to surface

Production - 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

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 N/A

API 47-085 - 10201 Farm name Edwin D. Mulvay et al Well number Stronsnider Unit 1H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
<b>*PLEASE SEE ATTACHED EXHIBIT 1</b>					

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)
<b>*PLEASE SEE ATTACHED EXHIBIT 2</b>								

Please insert additional pages as applicable.

WR-35  
Rev. 8/23/13

API 47- 085 - 10201 Farm name Edwin D. Mulvay et al Well number Stronsnider Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	6350' (TOP) TVD	6645' (TOP) MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 6474 mcfpd Oil 47 bpd NGL --- bpd Water 12 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 <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

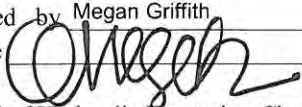
Drilling Contractor Frontier Drilling LLC  
Address 562 Spring Run Road City Pennsboro State WV Zip 26145

Logging Company Allied Horizontal Wireline Services  
Address 381 Colonial Manor Road City North Huntington State PA Zip 15642

Cementing Company C&J Energy Services  
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Baker Hughes  
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223  
Signature  Title Permitting Agent Date 4/3/2019

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

API 47-085-10201 Farm Name Edwin D. Mulvay et al Well Number Stronsnide Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	3/15/2018	15400	15570	60	Marcellus
2	3/16/2018	15202	15369	60	Marcellus
3	3/16/2018	15004	15171	60	Marcellus
4	3/17/2018	14806	14973	60	Marcellus
5	3/17/2018	14608	14775	60	Marcellus
6	3/18/2018	14410	14577	60	Marcellus
7	3/19/2018	14212	14379	60	Marcellus
8	3/19/2018	14014	14181	60	Marcellus
9	3/20/2018	13816	13983	60	Marcellus
10	3/20/2018	13618	13785	60	Marcellus
11	3/21/2018	13420	13587	60	Marcellus
12	3/21/2018	13222	13389	60	Marcellus
13	3/22/2018	13025	13191	60	Marcellus
14	3/22/2018	12827	12994	60	Marcellus
15	3/23/2018	12629	12796	60	Marcellus
16	3/23/2018	12431	12598	60	Marcellus
17	3/24/2018	12233	12400	60	Marcellus
18	3/24/2018	12035	12202	60	Marcellus
19	3/25/2018	11837	12004	60	Marcellus
20	3/25/2018	11639	11806	60	Marcellus
21	3/26/2018	11441	11608	60	Marcellus
22	3/26/2018	11243	11410	60	Marcellus
23	3/27/2018	11045	11212	60	Marcellus
24	3/27/2018	10847	11014	60	Marcellus
25	3/28/2018	10649	10816	60	Marcellus
26	3/28/2018	10451	10618	60	Marcellus
27	3/29/2018	10253	10420	60	Marcellus
28	3/30/2018	10055	10222	60	Marcellus
29	3/30/2018	9857	10024	60	Marcellus
30	3/31/2018	9659	9826	60	Marcellus
31	3/31/2018	9461	9628	60	Marcellus
32	4/1/2018	9263	9430	60	Marcellus
33	4/1/2018	9065	9232	60	Marcellus
34	4/1/2018	8867	9034	60	Marcellus
35	4/3/2018	8669	8836	60	Marcellus
36	4/3/2018	8471	8638	60	Marcellus
37	4/4/2018	8273	8440	60	Marcellus
38	4/4/2018	8075	8242	60	Marcellus
39	4/5/2018	7877	8044	60	Marcellus
40	4/7/2018	7679	7846	60	Marcellus
41	4/8/2018	7481	7648	60	Marcellus
42	4/8/2018	7283	7450	60	Marcellus
43	4/9/2018	7085	7252	60	Marcellus
44	4/9/2018	6887	7054	60	Marcellus
45	4/9/2018	6689	6856	60	Marcellus

API 47-085-10201 Farm Name Edwin D. Mulvay et al Well Number Stronsider Unit 1H								
EXHIBIT 2								
Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	3/15/2018	69.4749	7638.821	4288	4201	403800	10883	N/A
2	3/16/2018	73.5	7821.8	5516	4003	403465	10105	N/A
3	3/16/2018	71.6	7644.9	5829	3080	405145	8299	N/A
4	3/17/2018	72.9511	7537.961	5619	3520	403000	8542	N/A
5	3/17/2018	72.8	7659.1	5935	3546	402715	8280	N/A
6	3/18/2018	66.5	7635	5802	4227	370500	13475	N/A
7	3/19/2018	72.1	7430.3	5641	3459	403525	8314	N/A
8	3/19/2018	72.5	7361.2	6109	3549	402310	8287	N/A
9	3/20/2018	73.3854	7233.397	5739	3544	401450	8217	N/A
10	3/20/2018	72.5	7495.7	5370	3559	399210	8210	N/A
11	3/21/2018	78.6458	7471.381	5602	3680	400700	8175	N/A
12	3/21/2018	69	6939.8	5193	3250	395135	11557	N/A
13	3/22/2018	77.4346	7243.241	5418	3009	400350	8044	N/A
14	3/22/2018	75.4	7187.5	5582	3564	400260	8006	N/A
15	3/23/2018	78.9443	7225.603	5247	3132	402070	7968	N/A
16	3/23/2018	75.3	7141.3	5681	3357	400385	8054	N/A
17	3/24/2018	76.0186	7084.008	5306	3081	401920	7991	N/A
18	3/24/2018	73.3	7071.2	5512	3118	397740	7942	N/A
19	3/25/2018	78.2983	7161.383	5380	3359	401920	7970	N/A
20	3/25/2018	72.9	7124.4	5768	3313	405600	8034	N/A
21	3/26/2018	75.3061	7190.536	5487	3271	404225	8232	N/A
22	3/26/2018	74.2277	6849.597	5561	3309	401000	7984	N/A
23	3/27/2018	76.6723	7173.252	5822	3109	401490	7879	N/A
24	3/27/2018	77.3258	6828.264	5556	3144	402000	8007	N/A
25	3/28/2018	77.9418	6964.964	6330	3116	401220	7912	N/A
26	3/28/2018	75.0048	7279.973	5857	3261	399500	7966	N/A
27	3/29/2018	75.686	6916.173	5817	4158	372650	8366	N/A
28	3/30/2018	74.2419	7268.786	6010	3103	400900	10633	N/A
29	3/30/2018	77.5821	6927.457	6001	2992	401750	7821	N/A
30	3/31/2018	78.2496	7080.066	6269	3237	400900	7897	N/A
31	3/31/2018	77.8858	6823.318	6226	3140	401750	7830	N/A
32	4/1/2018	78.8986	6867.203	6025	3974	393500	7873	N/A
33	4/1/2018	78.5971	6671.351	6285	3264	402900	7796	N/A
34	4/1/2018	77.9552	7118.492	6228	3553	403000	8432	N/A
35	4/3/2018	71.4	7550.9	5761	4443	299590	9876	N/A
36	4/3/2018	78.1396	6556.114	6206	3116	400500	7884	N/A
37	4/4/2018	77.5	6780.1	6620	4226	394150	7791	N/A
38	4/4/2018	78.5458	6641.101	6351	3268	401500	7983	N/A
39	4/5/2018	52.8214	7772.825	6704	5539	210700	33525	N/A
40	4/7/2018	74.8726	7053.199	5527	4883	366500	8645	N/A
41	4/8/2018	77.7426	6425.395	5609	4529	404700	8194	N/A
42	4/8/2018	78.3698	6356.193	5341	3569	451700	8501	N/A
43	4/9/2018	77.2671	6287.52	5873	4884	465700	8785	N/A
44	4/9/2018	78.3174	6562.584	5846	3175	402200	7982	N/A
45	4/9/2018	71.8246	6816.417	6550	3360	456300	8653	N/A
	AVG=	<b>74.8</b>	<b>7,108</b>	<b>5,787</b>	<b>3,582</b>	<b>17,841,525</b>	<b>408,800</b>	TOTAL

API 47-085-10201 Farm Name Edwin D. Mulvay et al Well Number Stronsnider Unit 1H				
EXHIBIT 3				
LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Silty Sandstone	0	105	0	105
Sandy siltstone	105	145	105	145
Shale	145	185	145	185
Sandstone	185	305	185	305
Sandy Shale	305	545	305	545
Silty Shale	545	745	545	745
Sandy siltstone	745	885	745	885
silty shale	885	1,005	885	1,005
Sandy siltstone	1,005	1,115	1,005	1,115
Shaly Siltstone	1,115	1,345	1,115	1,345
Sandstone	1,345	1,525	1,345	1,525
Sandy siltstone	1,525	1,645	1,525	1,645
Silty Sandstone	1,645	1,868	1,645	1,884
Big Lime	1,883	2,057	1,899	2,078
Big Injun	2,057	2,426	2,078	2,458
Gantz Sand	2,426	2,680	2,458	2,718
Fifty Foot Sandstone	2,680	2,852	2,718	2,892
Gordon	2,852	3,008	2,892	3,051
Fifth Sandstone	3,008	3,292	3,051	3,340
Bayard	3,292	3,373	3,340	3,423
Warren	3,373	3,750	3,423	3,810
Speechley	3,750	4,500	3,810	4,574
Balltown	3,987	4,893	4,052	4,979
Bradford	4,500	4,893	4,574	4,979
Benson	4,893	5,125	4,979	5,217
Alexander	5,125	5,724	5,217	5,827
Rhinstreet	5,700	6,070	5,803	6,194
Sycamore	6,070	6,180	6,194	6,329
Middlesex	6,180	6,287	6,329	6,495
Burkett	6,287	6,322	6,495	6,566
Tully	6,322	6,350	6,566	6,645
Marcellus	6,350	NA	6,645	NA

\*Please note Antero determines formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.



# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/15/2018
Job End Date:	4/9/2018
State:	West Virginia
County:	Ritchie
API Number:	47-085-10201-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Stronsnider 1H
Latitude:	39.32251400
Longitude:	-80.89912500
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,401
Total Base Water Volume (gal):	17,735,106
Total Base Non Water Volume:	0



## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Abstract Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Antero Resources	Carrier/Base Fluid	Water	7732-18-5	100.00000	89.00907	
Sand	J.S. Well Services, LLC	Proppant					
HCL Acid (12.6%-17.5%)	J.S. Well Services, LLC	Bulk Acid	Crystalline Silica, quartz	14808-60-7	100.00000	10.73702	
			Water	7732-18-5	87.40000	0.12489	
			Hydrogen Chloride	7647-01-0	17.50000	0.02904	
LGC-15	J.S. Well Services, LLC	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.02401	
			Petroleum Distillates	64742-47-8	60.00000	0.02274	
			Suspending agent (solid)	14808-60-7	3.00000	0.00367	
			Surfactant	68439-51-0	3.00000	0.00144	
WFRA-405	J.S. Well Services, LLC	Friction Reducer					
			2-Propenoic acid, polymer with propenamide	29003-06-9	30.00000	0.01689	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01360	

SI-1200	U.S. Well Services, LLC	Scale Inhibitor							
			Ethylene Glycol	107-21-1	40.00000	0.00745			
			Proprietary Scale Inhibitor	Proprietary	10.00000	0.00199			
BioClear 2000	U.S. Well Services, LLC	Anti-Bacterial Agent							
			2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00472			
			Deionized Water	7732-18-5	28.00000	0.00270			
AP One	U.S. Well Services, LLC	Gel Breakers							
			Ammonium Persulfate	7727-54-0	100.00000	0.00068			
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors							
			Ethylene glycol	107-21-1	40.00000	0.00004			
			Cinnamaldehyde	104-55-2	20.00000	0.00002			
			Formic acid	64-18-6	20.00000	0.00001			
			Butyl cellosolve	111-76-2	20.00000	0.00001			
			Polyether	60828-78-6	10.00000	0.00001			
			Acetophenone, thiourea, formaldehyde polymer	68527-49-1	5.00000	0.00000			

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.

\* 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)

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State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Discharge Monitoring Report  
Oil and Gas General Permit

Company Name: Antero Resources Corporation  
 API No: 47-085-10201 County: Ritchie  
 District: Clay Well No: Stronsnider Unit 1H  
 Farm Name: Edwin D. Mulvay et al  
 Discharge Date/s From:(MMDDYY) 08/23/18 To: (MMDDYY) 09/22/18  
 Discharge Times. From: 0:00 To: 24:00  
 Total Volume to be Disposed from this facility (gallons): 761,060  
 Disposal Option(s) Utilized (write volumes in gallons):

- (1) Land Application: \_\_\_\_\_ (Include a topographical map of the Area.)  
 (2) UIC: 189,705 Permit No. 3400923821, 3416729543, 3416729464, 3416729445, 3410523619, 3416729731, 3400923761, 3405320968, 3410523268,  
 (3) Offsite Disposal: 305 Site Location: Mud Masters  
 (4) Reuse: 571,050 Alternate Permit Number: \_\_\_\_\_  
 (5) Centralized Facility: \_\_\_\_\_ Permit No. \_\_\_\_\_  
 (6) Other method: \_\_\_\_\_ (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: N/A Cl- mg/l N/A DO mg/l

1. Do you have permission to use expedited treatment from the Director or his representative?  
(Y/N) N/A If yes, who? \_\_\_\_\_ and place a four (4) on line 7.  
If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) N/A If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) N/A If yes, go to line 4  
If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) N/A If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) N/A If yes, go to line 6  
If not, enter a three (3) in line 7.
6. Is the DO level greater than 2.5 mg/l?(Y/N) N/A If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. N/A is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: N/A No pit on site.

Name of Principal Exec. Officer: Gretchen Kohler  
 Title of Officer: Senior Environmental and Regulatory Manager  
 Date Completed: 10/30/18

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

  
Signature of a Principal Exec. Officer or Authorized agent.

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Category 1  
Sampling Results

API No : \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl	5,000	_____	5,000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

\*\*\* Al is only reported if the pH is above 9.0

Category 2  
Sampling Results

API No : \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	10	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

\* Can be 25,000 with inspector's approval,

(Inspector's signature): \_\_\_\_\_

Date: \_\_\_\_\_

\*\* Include a description of your aeration technique.

Aeration Code: \_\_\_\_\_

\*\*\* Al is only reported if the pH is above 9.0

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Category 3  
Sampling Results  
API No : \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

\* Can be 25,000 with inspector's approval,

(Inspector's signature): \_\_\_\_\_

Date: \_\_\_\_\_

\*\* Include a description of your aeration technique.

Aeration Code: \_\_\_\_\_

\*\*\* Al is only reported if the pH is above 9.0.

Category 4  
Sampling Results  
API No: \_\_\_\_\_

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	1	_____	N/A	N/A	Days
Fe	Monitor	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	Monitor	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Activated Carbon (0.175)		_____	N/A	N/A	lb/Bl
Date Site Reclaimed	N/A	N/A			10 days from dis.
Disposal Area		_____	Monitor	_____	Acres

\* Can be 25,000 with inspector's approval,

(Inspector's signature): \_\_\_\_\_

Date: \_\_\_\_\_