

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

April 30, 2020

West Virginia Department of Environmental Protection Office of Oil and Gas 601 57th 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 off of the **Oxford 97 Pad**:

- ➢ Oxford 97 AHS
- Oxford 97 BHS
- ➢ Oxford 97 CHS
- Oxford 97 DHS
- ➤ Oxford 97 EHS
- Oxford 97 FHS
- Oxford 97 GHS
- Oxford 97 HHS

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

Sincerely,

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 47 017 06585	County Doddric	lge Dis	strict West Union	
Quad Oxford 7.5'	Pad Name Oxfor	rd 97 Pad Fie	eld/Pool Name	
Farm name Haessly Land & Timbe	r LLC	W	ell Number Oxford 9	97 GHS
Operator (as registered with the OOG)	Antero Resources			-
Address 1615 Wynkoop Street	City De	nver	State CO	_ _{Zip} <u>80202</u>
Landing Point of Curve N	Attach an as-drille Northing 4342652m Northing 4342790.44m Northing 4346535m	Easting	eviation survey 5 516947m 517080.86m 515307m	
Elevation (ft) 1333' GL	Type of Well	New □ Existing	Type of Report □In	terim @Final
Permit Type Deviated Ho	orizontal 🚇 Horizon	ntal 6A 🛛 Vertical	Depth Type	Deep Shallow
Type of Operation □ Convert □ D	eepen 🖣 Drill 🏻 🗈	□ Plug Back □ Redrillin	g 🗅 Rework 💄 S	Stimulate
Well Type □ Brine Disposal □ CBM	Gas ■Oil □ See	condary Recovery	ion Mining	Other
Type of Completion ■ Single □ Mul Drilled with □ Cable ■ Rotary	tiple Fluids Produ	aced □ Brine ■Gas	⊐NGL BOil □C	Other
Drilling Media Surface hole Air	□ Mud □Fresh Wa	ater Intermediate hole	e ■ Air □ Mud □	Fresh Water Brine
Production hole □ Air ■ Mud □	Fresh Water Brin	e		
Mud Type(s) and Additive(s) Air - Foam & 4% KCL				
Mud - Polymer				
Date permit issued 3/15/2019	Date drilling com	menced 3/26/2019	Date drilling cease	ed 6/10/2019
Date completion activities began	10/5/2019	Date completion activiti	es ceased11/1	9/2019
Verbal plugging (Y/N) N/A	Date permission grante	dN/A	Granted by	N/A
Please note: Operator is required to su	bmit a plugging applic	ation within 5 days of verb	al permission to plug	
Freshwater depth(s) ft10	08', 505'	Open mine(s) (Y/N) dept	hs	No
Salt water depth(s) ft1378	', 1544'	Void(s) encountered (Y/I	N) depths	No
Coal depth(s) ft None lo	lentified	Cavern(s) encountered ((/N) depths	No
Is coal being mined in area (Y/N)	No			Reviewed by:

WAS WELL COMPLETED OPEN HOLE?

WERE TRACERS USED

Yes No

Rev. 8/23/13 Well number_Oxford 97 GHS API 47-017 -Haessly Land & Timber LLC 06585 Farm name **CASING** Casing Grade Basket Did cement circulate (Y/N) Hole New or **STRINGS** wt/ft * Provide details below* Size Size Depth Used Depth(s) Conductor 24" 20" 59' New 94#, H-40 N/A Υ Surface N/A Υ 17-1/2" 13-3/8" 863' New 48#, H-40 Coal Intermediate 1 12-1/4" 2998' 36#, J-55 N/A Υ 9-5/8" New Intermediate 2 Intermediate 3 Production Υ 8-3/4"/8-1/2" 5-1/2" 20886' New 23#, P-110 N/A Tubing 6882 2-3/8" 4.7#, N-80 Packer type and depth set N/A Comment Details WOC CEMENT Class/Type Number Slurry Yield Volume Cement (ft ³/sks) (ft^3) Top (MD) DATA of Cement of Sacks wt (ppg) (hrs) Conductor 120 0' Class A 214 sx 15.6 1.18 8 Hrs. Surface 0' Class A 631 sx 15.6 1.18 826 8 Hrs. Coal Intermediate 1 0' 890 sx 15.6 1.18 1181 Class A 8 Hrs. Intermediate 2 Intermediate 3 Production Class H 675sx (Lead) 2448sx (Tail) 14.5 (Lead), 15.2 (Tail) 1.40 (Lead), 1.26 (Tail) ~500' into Intermediate Casing 8 Hrs. Tubing Drillers TD (ft) 20894' MD ,6999' TVD (BHL), 7000' (Deepest Point Drilled) Loggers TD (ft) 20894' MD Deepest formation penetrated Marcellus Plug back to (ft) N/A Plug back procedure N/A Kick off depth (ft) 6100' Check all wireline logs run □ caliper □ density □ deviated/directional □ induction □ neutron □ resistivity □ gamma ray □ temperature □sonic Sidewall Were cuttings collected

Yes No Well cored 🗆 Yes 💄 No Conventional 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

DETAILS

TYPE OF TRACER(S) USED N/A

□ Yes 🚇 No

ICV. O	123113											
API 47- 017 - 06585 Farm name Haessly Land & Timber LLC Well number Oxford 97 GHS												
PERFORATION RECORD												
				. 10								
Stage No.	Perforation	date		orated from MD ft.		forated to MD ft.		Number of erforations			Formation(s)
	*PLEASE SEE ATTACHED EXHIBIT 1											
<i>r</i>	k:											
					-		-					
									_			
							- 10.					
							-					
Please	insert addition	onal pag	es as ap	plicable.								
				STIM	/ULAT	ION INFO	RMA	TION PER S	STAG	Έ		
Compl	ete a separat	e record	for each	n stimulation	stage.							
Stage	Stimulations	Ave P		Ave Treatm	ent	Max Break	down			Amount of	Amount of	Amount of
No.	Date	Rate (I	BPM)	Pressure (P	SI)	Pressure (PSI)	ISIP (PSI)	P	roppant (lbs)	Water (bbls)	Nitrogen/other (units)
			+						+			
		*PI	_E/	SE S	SEE	AT	TΑ	CHE	D	EXH	BIT 2	2
W. V	21	ě.			A				91	San Marian San San San San San San San San San S		(
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Please insert additional pages as applicable.

WR-35 Rev. 8/23/13

Nev. 6/23/13	06505		Haaaahu	Land & Ti	mhorllC		Ovford 07 GHS	
API 47- 017	_ 00000	Farm	name Haessly	Land & III	mber LLC	Well numbe	r Oxford 97 GHS	
PRODUCING	FORMATION(<u>S)</u>	DEPTHS					
Marcellus			6771' (TOP)	TVD 6	6959' (TOP)	MD		
Please insert ac	lditional pages a	s applicable.						
GAS TEST	□ Build up □	Drawdown	Open Flow	C	DIL TEST	Flow Dum	p	
SHUT-IN PRE	SSURE Surf	ace 2800	psi Botto	m Hole	psi	DURATION	OF TEST	hrs
OPEN FLOW	Gas 3942 mcf	Oil pd 23		bpd <u>1</u>		GAS MEAS		t
LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN F) RECORD QUANTITYA TER, BRINE, OIL, GAS, I	
			SEE A					
Please insert a	 ditional pages a	s annlicable						
			mnany II C					
Address 207 Ca	actor Patterson U	TT Dilling Col	City	Eighty Four		State PA	Zip_15330	
7,		Soniose						
Address 3040 F	oany KLX Energy Post Oak Boulevard	Services	City	Houston		State TX	Zip 77056	
				3				
Address 1650 H	mpany C&J Ene lackers Creek	gy dervices	City	Jane Lew		State _WV	Zip 26378	
		Juahoe						
Stimulating Co Address 837 Pt	inpuny	nugnes	City	Clarksburg		State WV	Zip 26301	
	ditional pages a	s applicable.						
Completed 1-	, Megan Griffith	ē			Tolonhone	303-357-7223		
Signature Signature	0110001	n	Title P	ermitting Agen		Date	430.20	
Submittal of H	Wraulic Fractor	ing Chemical	Disclosure Info	rmation	Attach copy of	f FRACFOCU	S Registry	

AP	<u>47-017-06585</u>	Farm Name Haessly La		Well Number O	xford 97 GHS			
	EXHIBIT 1							
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation			
1	11/12/2019	12373.2325	12208.2575	60	Marcellus			
2	11/13/2019	12172.8625	12007.8875	60	Marcellus			
3	11/13/2019	11972.4925	11807.5175	60	Marcellus			
4	11/14/2019	11772.1225	11607.1475	60	Marcellus			
5	11/14/2019	11571.7525	11406.7775	60	Marcellus			
6	11/15/2019	11371.3825	11206.4075	60	Marcellus			
7	11/15/2019	11171.0125	11006.0375	60	Marcellus			
8	11/16/2019	10970.6425	10805.6675	60	Marcellus			
9	11/17/2019	10770.2725	10605.2975	60	Marcellus			
10	11/17/2019	10569.9025	10404.9275	60	Marcellus			
11	11/18/2019	10369.5325	10204.5575	60	Marcellus			
12	11/18/2019	10169.1625	10004.1875	60	Marcellus			
13	11/19/2019	9968.7925	9803.8175	60	Marcellus			
14	11/19/2019	9768.4225	9603.4475	60	Marcellus			
15	11/19/2019	9568.0525	9403.0775	60	Marcellus			
16	11/20/2019	9367.6825	9202.7075	60	Marcellus			
17	11/20/2019	9167.3125	9002.3375	60	Marcellus			
18	11/20/2019	8966.9425	8801.9675	60	Marcellus			
19	11/21/2019	8766.5725	8601.5975	60	Marcellus			
20	11/21/2019	8566.2025	8401.2275	60	Marcellus			
21	11/22/2019	8365.8325	8200.8575	60	Marcellus			
22	11/22/2019	8165.4625	8000.4875	60	Marcellus			
23	11/23/2019	7965.0925	7800.1175	60	Marcellus			
24	11/23/2019	7764.7225	7599.7475	60	Marcellus			
25	11/23/2019	7564.3525	7399.3775	60	Marcellus			
26	11/24/2019	7363.9825	7199.0075	60	Marcellus			
27	11/24/2019	7163.6125	6998.6375	60	Marcellus			

API 47-017-06585 Farm Name Haessly Land & Timber LLC Well Number Oxford 97 GHS										
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	11/12/2019	85.46003	7908.091	5299	3060	400750.0201	7974.39	N/A		
2	11/13/2019	84.41052	7853.762	5521	3240	406850	7075	N/A		
3	11/13/2019	84.70223	7680.202	4628	3687	401600	6985.67	N/A		
4	11/14/2019	83.28949	7906.355	5594	3401	400950	6967.08	N/A		
5	11/14/2019	84.63967	7661.809	5258	3585	401000	6949.79	N/A		
6	11/15/2019	82.91577	7935.357	5412	3761	401000	6955.2	N/A		
7	11/15/2019	83.53031	7679.605	5567	3722	400450	6979.52	N/A		
8	11/16/2019	82.58449	7860.869	5255	3944	400800	6953.51	N/A		
9	11/17/2019	85.93484	7721.445	5209	4293	400600	7006.82	N/A		
10	11/17/2019	85.66716	7687.477	5775	4297	400900	6967.65	N/A		
11	11/18/2019	87.03978	7533.514	5462	3649	400600	7146.33	N/A		
12	11/18/2019	85.56651	7333.802	5756	4054	399750	6873.64	N/A		
13	11/19/2019	86.39424	7614.131	6032	4575	400400	6916.71	N/A		
14	11/19/2019	85.34541	7261.546	6027	4942	400850	6854.04	N/A		
15	11/19/2019	87.34331	7359.767	5791	4138	401000	6994.74	N/A		
16	11/20/2019	82.43368	7320.196	5719	4785	393550	6889.22	N/A		
17	11/20/2019	80.60111	7003.566	5860	3780	401450	6799.87	N/A		
18	11/20/2019	80.07786	6955.122	5454	4339	400100	6876.79	N/A		
19	11/21/2019	74.64979	7403.614	5730	4238	399750	7917.65	N/A		
20	11/21/2019	86.27951	7064.046	5358	3517	400900	6825.07	N/A		
21	11/22/2019	86.64468	7606.281	6230	3548	400700	6804.68	N/A		
22	11/22/2019	81.20609	7268.975	5887	3802	400700	6795.48	N/A		
23	11/23/2019	82.55695	7435.639	6350	3895	401450	6826.61	N/A		
24	11/23/2019	81.52279	6860.763	5963	3819	401000	6786	N/A		
25	11/23/2019	87.08545	7300.181	5671	4438	401700	6834.9	N/A		
26	11/24/2019	80.75024	6750.86	5423	5050	400450	6763.35	N/A		
27	11/24/2019	80.53069	7159.686	6268	4505	401000	7629.57	N/A		
	AVG	83.7	7,449	5,648	4,002	10,820,250	189,349	TOTAL		

API <u>47</u> -	017-06585 Farm Name	Haessly Timber & Land LLC_W	ell Number Oxford 97 G	<u>SHS</u>
		EXHIBIT 3		
	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD
LITHOLOGY/ FORMATION	From Surface	From Surface	From Surface	From Surface
Silty Sandstone	60	160	60	160
Sandstone	160	270	160	270
Silty sandstone tr coal	270	320	270	320
Shaly siltstone tr coal	320	530	320	530
Shaly siltstone	530	640	530	640
Silty Sandstone	640	790	640	790
Silty sandstone	790	860	790	860
Silty Sandstone	860	1,070	860	1,070
Siltstone	1,070	1,260	1,070	1,260
Siltstone tr coal	1,260	1,425	1,260	1,425
Sandstone tr coal	1,425	1,750	1,425	1,750
Shaly siltstone tr coal	1,750	1,790	1,750	1,790
Silty sandstone tr coal	1,790	1,971	1,790	N/A
Big Lime	1,971	2,675	1,972	2,675
Fifty Foot Sandstone	2,675	2,732	2,675	2,733
Gordon	2,732	3,010	2,733	3,010
Fifth Sandstone	3,010	3,079	3,010	3,079
Bayard	3,079	3,835	3,079	3,836
Speechley	3,835	4,117	3,836	4,119
Balltown	4,117	4,588	4,119	4,602
Bradford	4,588	5,012	4,602	5,043
Benson	5,012	5,279	5,043	5,320
Alexander	5,279	6,555	5,320	6,638
Sycamore	6,363	6,537	6,453	6,620
Middlesex	6,537	6,663	6,638	6,776
Burkett	6,663	6,721	6,794	6,864
Tully	6,721	6,771	6,882	6,959
Marcellus	6,771	NA	6,959	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.

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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 F	Resources Corporation				
API No:	47-017-	06585		County:	Doddric	dge
District:	West Union			Well No:	OXFD9	7 GHS
Farm Name:	Haessly	Land & Timber, LLC				
Discharge Date/s I	rom:(M	IMDDYY) 12/27/19		To: (MMI	DYY)	01/26/20
Discharge Times.	From:	0:00		To: 24:00)	
Total Volume to b	e Dispos	sed from this facility (galle	ons):	1,304,420		
Disposal Option(s)	Utilize	d (write volumes in gallons	s):			
(1) Land Applicat	ion:		(Include	a topograph	ical ma	p of the Area.) 3, 3400923824, 3416729731, 34105236
(2) UIC:		101,119	Permit N	3400923821, O. 34105 <u>23619,</u>	340092382 470850972	3, 3400923824, 3416729731, 34105236. 1 <u>, 3416729543, 3416729</u> 464, 34167294
(3) Offsite Dispos	sal:		Site Loca			
(4) Reuse:		1,203,301	Alternate	Permit Nu	mber:	
(5) Centralized Fa	acility:		Permit N	о.	_	
(6) Other method	6		(Include	an explanat	ion)	
Follow Instructions	s below	to determine your treatmen	•	_		
Optional Pretreati	ment tes	t; n/a Cl- mg/l	n/a	_ DO mg/l	Ĺ	
-	permiss	ion to use expedited treatm	nent from			_
(Y/N) n/a		If yes, who?		and	l place a	four (4) on line 7.
If not go to li						
	id or flo	wback put into the pit? (Y	/N) n/a	If yes	s, go to	line 5. If not, go to
line 3.		d	- h \0 (SZ/NT) n/n		If we do live 4
If not, go to li		de value pretreatment (see	above)! (1/N) II/a		If yes, go to line 4
· •		less than 5000 mg/l? (Y/N)) n/a	If ves ti	nen ente	er a one (1) on line 7.
		atment value for DO? (See		_	ion citte	If yes, go to line 6
If not, enter a	_	-	(1	<u> </u>		~ J + 0, B 0 10 11110 0
•	•	er than 2.5 mg/l?(Y/N) n/a	a	If yes, e	nter a tv	wo (2) on line 7. If
not, enter a th	ree (3)	on line 7.				
	_	ory of your pit. Use the Ap		section.		
8. Comments	on Pit c	condition: n/a No Pit on s	ite.			
_		c. Officer: Gretchen Kohler				
Title of Officer:	_	nior Environmental and Regulator	ry Manager			
Date Completed		lty of law that I have per	sonolly ex		d om fo	milian with the
•		on this document and all the				
		mediately responsible for				
		urate, and complete. I am	-			
		ation, including the possibi				
-	Di	n L O 1	0	_		
	()	want	200	band 1 1		
	Signa	ture of a Principal Exec. O	Tilcer or A	Authorized	agent.	

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rage 2 UI 3					
Category 1					
Sampling Results					
API No:					
7H1 1(0.		_			
	Predi	scharge	Disc	harge	
Parameter	Limits	Reported	Limits	Reported	Units
рН	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
C1	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 repor	ted if the pH	is above 9.0			
, , , , , , , , , , , , , , , , , , ,	1				
Category 2					
Sampling Results					
API No:					
		-			
_		scharge		harge	
Parameter	Limits	Reported	Limits	Reported	Units
pH	6-10		6-10	27/4	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	3.6 %		Monitor		mg/l
Total Mn	Monitor	22	Monitor		mg/l
Volume			Monitor		Gal
Flow			Monitor		Gal/min
Disposal Area			Monitor		Acres
* Can be 25,000 wit	th inspector's	approval,			

Date: Aeration Code:

⁽Inspector's signature):

*** Include a description of your aeration technique.

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

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Page	3	of 3

Category 3	
Sampling Results	
API No:	

	Predi	scharge	Disc	harge	
Parameter	Limits	Reported	Limits	Reported	Units
pН	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	Тгасе		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	hu	Gal/min
Disposal Area			Monitor		Acres
* Can be 25,000 v	vith inspector's	approval,			

(Inspector's signature):	Date:
** Include a description of your aeration technique.	Aeration Code:

Category 4
Sampling Results
API No:

	Predischarge		Discharge		
Parameter	Limits	Reported	Limits	Reported	Units
pН	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	n inspector's	approval,			

(Inspector's signature):	Date:

^{***} Al is only reported if the pH is above 9.0.

