

APPROVED

WR-35
Rev. 8/23/13

NAME: Dee Ann Page ___ of ___

State of West Virginia DATE 1/3/18 RECEIVED
Department of Environmental Protection - Office of Oil and Gas Office of Oil and Gas
Well Operator's Report of Well Work

NOV 30 2017

WV Department of Environmental Protection
API 47-017-06749 County Doddridge District Cent
Quad Oxford 7.5' Pad Name James Webb Pad Field/Pool Name ----
Farm name James E. Webb Well Number King Unit 2H
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 4343265m Easting 510937m
Landing Point of Curve Northing 4343401.700m Easting 510675.987m
Bottom Hole Northing 4346227m Easting 509339m

Elevation (ft) 991' 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 08/07/2015 Date drilling commenced 09/04/2015 Date drilling ceased 08/24/2016
Date completion activities began 12/23/2016 Date completion activities ceased 08/11/2017
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 62', 173' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1145' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 1552', 1632' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

01/05/2018

API 47-017 - 06749 Farm name James E. Webb Well number King Unit 2H

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"	65'	New	106.5#, J-55	N/A	Y
Surface	17-1/2"	13-3/8"	452'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2490'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	17351'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6708'		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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	60 sx	15.6	1.18	71	0'	8 Hrs.
Surface	Class A	519 sx	15.6	1.18	612	0'	8 Hrs.
Coal							
Intermediate 1	Class A	965 sx	15.6	1.19	1148	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	810 sx (Lead) 1537 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)	4041	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 17351' MD, 8360' TVD (BHL) & 6516' TVD (Deepest Point Drilled) Loggers TD (ft) 17334' MD

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

Plug back procedure N/A

Kick off depth (ft) 6069'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Mahogany Unit 2H API #47-017-06702). Please reference the wireline logs submitted with Form WR-35 for Mahogany Unit 2H. A Cement Bond Log has been included with this submittal.

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

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS NOV 30 2017

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS WV Department of Environmental Protection

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

API 47- 017 - 06749 Farm name James E. Webb Well number King Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6467' (TOP)</u>	<u>TVD</u>	<u>6769' (TOP)</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 3000 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 11619 mcfpd Oil 80 bpd NGL --- bpd Water 1231 bpd GAS MEASURED BY Estimated Orifice Pilot

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

***PLEASE SEE ATTACHED EXHIBIT 3**

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Please insert additional pages as applicable.


Drilling Contractor Patterson - UTI Drilling Company LLC
 Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company Allied Horizontal Wireline Services
 Address 381 Colonial Manor Rd. City North Huntingdon State PA Zip 15642

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

Stimulating Company CalFrac Well Services
 Address 717 17th St City Denver State CO Zip 80202

Please insert additional pages as applicable.

Completed by Samantha Klaas Telephone 303-357-6759
 Signature  Title Permitting Agent Date 11/29/2017

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

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	12/23/2016	17045	17214	60	Marcellus
2	1/14/2017	16844	17013	60	Marcellus
3	1/14/2017	16643	16812	60	Marcellus
4	1/14/2017	16442	16612	60	Marcellus
5	1/14/2017	16242	16411	60	Marcellus
6	1/15/2017	16041	16210	60	Marcellus
7	1/15/2017	15840	16009	60	Marcellus
8	1/15/2017	15639	15808	60	Marcellus
9	1/16/2017	15438	15608	60	Marcellus
10	1/17/2017	15238	15407	60	Marcellus
11	1/17/2017	15037	15206	60	Marcellus
12	1/17/2017	14836	15005	60	Marcellus
13	1/18/2017	14635	14805	60	Marcellus
14	1/18/2017	14434	14604	60	Marcellus
15	1/18/2017	14234	14403	60	Marcellus
16	1/19/2017	14033	14202	60	Marcellus
17	1/19/2017	13832	14001	60	Marcellus
18	1/19/2017	13631	13801	60	Marcellus
19	1/19/2017	13430	13600	60	Marcellus
20	1/20/2017	13230	13399	60	Marcellus
21	1/20/2017	13029	13198	60	Marcellus
22	1/20/2017	12828	12997	60	Marcellus
23	1/20/2017	12627	12797	60	Marcellus
24	1/21/2017	12427	12596	60	Marcellus
25	1/21/2017	12226	12395	60	Marcellus
26	1/21/2017	12025	12194	60	Marcellus
27	1/21/2017	11824	11993	60	Marcellus
28	1/22/2017	11623	11793	60	Marcellus
29	1/22/2017	11423	11592	60	Marcellus
30	1/22/2017	11222	11391	60	Marcellus
31	1/22/2017	11021	11190	60	Marcellus
32	1/23/2017	10820	10990	60	Marcellus
33	1/23/2017	10619	10789	60	Marcellus
34	1/23/2017	10419	10588	60	Marcellus
35	1/23/2017	10218	10387	60	Marcellus
36	1/23/2017	10017	10186	60	Marcellus
37	1/24/2017	9816	9986	60	Marcellus
38	1/24/2017	9615	9785	60	Marcellus
39	1/24/2017	9415	9584	60	Marcellus
40	1/24/2017	9214	9383	60	Marcellus
41	1/25/2017	9013	9182	60	Marcellus
42	1/25/2017	8812	8982	60	Marcellus
43	1/25/2017	8611	8781	60	Marcellus
44	1/25/2017	8411	8580	60	Marcellus
45	1/26/2017	8210	8379	60	Marcellus
46	1/26/2017	8009	8178	60	Marcellus
47	1/26/2017	7808	7978	60	Marcellus
48	1/26/2017	7608	7777	60	Marcellus
49	1/27/2017	7407	7576	60	Marcellus
50	1/27/2017	7206	7375	60	Marcellus
51	1/27/2017	7005	7174	60	Marcellus
52	1/27/2017	6804	6974	60	Marcellus

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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	1/13/2017	64.3	6993	6476	3596	409900	11107	N/A
2	1/14/2017	71.6	7722	5644	4086	409950	9448	N/A
3	1/14/2017	69.8	7735	5881	3968	413880	11334	N/A
4	1/14/2017	70.3	7787	5773	5364	411550	9360	N/A
5	1/14/2017	68.3	7271	5672	5548	410700	9599	N/A
6	1/15/2017	70.7	7372	5545	5613	410400	9321	N/A
7	1/15/2017	69.3	7463	5400	5114	410750	9342	N/A
8	1/15/2017	74.1	7467	5348	5335	410450	9464	N/A
9	1/16/2017	75.0	7546	5455	5289	409950	9338	N/A
10	1/17/2017	69.4	7373	5401	5303	410650	9176	N/A
11	1/17/2017	72.7	7425	5556	5272	410650	9265	N/A
12	1/17/2017	70.9	7349	5571	5015	410950	9207	N/A
13	1/18/2017	75.2	7506	5446	5029	410300	9137	N/A
14	1/18/2017	74.5	7509	5295	5259	410450	9776	N/A
15	1/18/2017	74.5	7500	5379	4880	410050	10409	N/A
16	1/19/2017	76.9	7439	5345	4309	409950	9245	N/A
17	1/19/2017	75.2	7463	5418	4994	410750	10437	N/A
18	1/19/2017	77.6	7662	5309	5652	410900	9328	N/A
19	1/19/2017	73.9	7317	5594	4806	410850	9916	N/A
20	1/20/2017	76.4	7380	5526	5169	410450	9092	N/A
21	1/20/2017	77.2	7408	5678	5215	411200	9113	N/A
22	1/20/2017	76.2	7362	5464	5420	411100	9107	N/A
23	1/20/2017	79.4	7369	5372	4213	411050	9219	N/A
24	1/21/2017	78.4	7614	5291	3745	410000	9929	N/A
25	1/21/2017	78.1	7633	5540	5337	412100	10223	N/A
26	1/21/2017	77.4	7561	5387	5440	410800	9280	N/A
27	1/21/2017	78.0	7269	5162	3935	410650	9509	N/A
28	1/22/2017	77.8	7419	5186	4241	411100	9334	N/A
29	1/22/2017	78.4	7421	5693	4408	411300	9333	N/A
30	1/22/2017	79.1	7254	5988	5486	412200	9318	N/A
31	1/22/2017	78.2	7147	6364	5564	413750	9283	N/A
32	1/23/2017	78.1	7351	5662	4675	410700	8956	N/A
33	1/23/2017	77.9	7370	5556	4486	411550	9374	N/A
34	1/23/2017	79.6	7262	5693	5504	411100	9447	N/A
35	1/23/2017	79.0	7291	5617	5426	418530	9055	N/A
36	1/23/2017	79.9	7496	5420	5411	411150	11879	N/A
37	1/24/2017	79.6	7108	5755	4585	360150	10457	N/A
38	1/24/2017	78.6	7214	5510	4066	410600	12352	N/A
39	1/24/2017	76.3	7303	5510	4788	411050	12049	N/A
40	1/24/2017	76.4	7191	5250	4356	362050	12287	N/A
41	1/25/2017	77.9	6933	5327	5362	410650	10600	N/A
42	1/25/2017	78.2	6967	5540	3933	410450	10979	N/A
43	1/25/2017	79.5	7146	5514	4018	409800	10918	N/A
44	1/25/2017	79.6	7069	5840	5411	410500	9689	N/A
45	1/26/2017	79.1	6920	5569	5707	410800	9279	N/A
46	1/26/2017	75.6	6950	6168	4562	379400	12609	N/A
47	1/26/2017	77.3	7013	5508	4317	410950	9441	N/A
48	1/26/2017	78.6	6808	5668	5259	399800	9033	N/A
49	1/27/2017	79.3	6660	5256	4053	409800	9222	N/A
50	1/27/2017	79.2	6646	5350	4021	410750	9559	N/A
51	1/27/2017	75.6	6421	5071	3786	411200	8848	N/A
52	1/27/2017	77.1	6187	4974	3143	410650	8686	N/A
AVG=		76.0	7,270	5,537	4,798	21,230,360	511,668	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Fresh Water	62'	N/A	62'	N/A
Fresh Water	173'	N/A	173'	N/A
Siltstone	est. 0	177	est. 0	177
Sandstone	est. 177	237	est. 177	237
Siltstone	est. 237	567	est. 237	567
Sandstone	est. 567	1552	est. 567	1552
Coal	est. 1552	1557	est. 1552	1557
Shale	est. 1557	1587	est. 1557	1587
Sandstone	est. 1587	1632	est. 1587	1632
Coal	est. 1632	1634	est. 1632	1634
Sandstone	est. 1634	2045	est. 1634	2046
Big Lime	2045	2131	2046	2132
Big Injun	2131	2440	2132	2441
Gantz Sand	2440	2686	2441	2687
Fifty Foot Sandstone	2686	2763	2687	2764
Gordon	2763	3080	2764	3081
Fifth Sandstone	3080	3105	3081	3107
Bayard	3105	3433	3107	3434
Warren	3433	3797	3434	3798
Speechley	3797	4541	3798	4542
Bradford	4541	4933	4542	4935
Benson	4933	5199	4935	5200
Alexander	5199	5354	5200	5356
Elk	5354	5804	5356	5806
Rhinestreet	5804	6128	5806	6206
Sycamore	6127	6293	6206	6421
Middlesex	6293	6411	6421	6624
Burkett	6411	6440	6624	6686
Tully	6440	6467	6686	6769
Marcellus	6467	NA	6769	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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Hydraulic Fracturing Fluid Product Component Information Disclosure

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Job Start Date:	1/13/2017
Job End Date:	1/27/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06749-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	King 2H
Latitude:	39.23853889
Longitude:	-80.87333333
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,518
Total Base Water Volume (gal):	22,098,018
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	89.48438	
DWP-975	CWS	Breaker					
				Listed Below			

DWP-641	CWS	Friction Reducer					
				Listed Below			
DAP-103	CWS	Iron Control					
				Listed Below			
DWP-111	CWS	Gel Slurry					
				Listed Below			
DAP-902	CWS	Scale Inhibitor					
				Listed Below			
Acetic Acid	CWS	Acid					
				Listed Below			
Sand (Proppant)	CWS	Propping Agent					
				Listed Below			
DAP-925	CWS	Acid Corrosion Inhibitor					
				Listed Below			
SANIFRAC 8844	CWS	Biocide					
				Listed Below			
Other Chemical (s)	Listed Above	See Trade Name (s) List					

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				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica (Quartz)	14808-60-7	100.00000	10.25560	
			Hydrochloric acid	7647-01-0	37.00000	0.04823	
			Guar gum	9000-30-0	60.00000	0.04240	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.04240	
			Polymer	26100-47-0	45.00000	0.03133	
			Paraffinic hydrocarbon solvent	64742-47-8	30.00000	0.02089	
			Calcite	471-34-1	1.00000	0.01710	
			Ammonium chloride	12125-02-9	11.00000	0.00766	
			Polyethylene glycol mixture	25322-68-3	54.50000	0.00638	
			2-Propenoic acid, homopolymer, sodium salt	9003-04-7	40.00000	0.00630	
			Illite	12173-60-3	1.00000	0.00581	
			Goethite	1310-14-1	0.10000	0.00459	
			Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00353	
			Biotite	1302-27-8	0.10000	0.00296	
			Apatite	64476-38-6	0.10000	0.00296	
			Sorbitan monooleate	1338-43-8	4.00000	0.00278	
			2,2-Dibromo-3-Nitrilopropionamide	10222-01-2		0.00234	
			Ilmenite	98072-94-7	0.10000	0.00215	
			Polyethylene glycol monooleate	9004-96-0	3.00000	0.00209	
			1,2-Propanediol	57-55-6	10.00000	0.00158	
			Sorbitol tetraoleate	61723-83-9	2.00000	0.00139	
			Ammonium Persulfate	7727-54-0	100.00000	0.00124	

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			Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00106	
			Amines, tallow alkyl, ethoxylated	61791-26-2	1.00000	0.00070	
			Sodium bromide	7647-15-6	4.00000	0.00047	
			Citric acid	77-92-9	60.00000	0.00045	
			Dibromoacetonitrile	3252-43-5	3.00000	0.00035	
			Alcohols, C12-14, ethoxylated	84133-50-6	0.50000	0.00035	
			Vinylidene chloride-methyl acrylate copolymer	25038-72-6	30.00000	0.00027	
			Acrylamide	79-06-1	0.10000	0.00007	
			Hydrated magnesium silicate	14807-96-6	1.00000	0.00005	
			Poly(tetrafluoroethylene)	9002-84-0	1.00000	0.00003	
			Methanol	67-56-1	60.00000	0.00003	
			Alcohols, C14-15, ethoxylated	68951-67-7	30.00000	0.00002	
			Modified thiourea polymer	68527-49-1	30.00000	0.00002	
			Fatty acids, tall-oil	61790-12-3	30.00000	0.00002	
			Propargyl Alcohol	107-19-7	10.00000	0.00001	
			Sodium chloride	7647-14-5	1.00000	0.00001	
			Alkenes, C>10 a-	64743-02-8	5.00000	0.00001	
			Formaldehyde	50-00-0	0.10000	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(l) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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WELL OPERATOR: ANTERO RESOURCES CORP. DESIGNATED AGENT: DIANNA STAMPER
 ADDRESS: 1615 WYNNKOP STREET 5400 D BIG TYLER ROAD
 DENVER, CO 80202 CHARLESTON, WV 25313
 TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,380' TVD 17,351' MD
 (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION X OTHER PHYSICAL CHANGE IN WELL
 OIL & GAS ROYALTY OWNER: CHARLEY WILSON ET UX; RALPH LEGGETT ET UX; H.B. WILLIAMS ET UX; L.L. MORRIS;
 SURFACE OWNER: JAMES E. WEBB
 COUNTY NAME: PERMIT

JOB # 14-104WA DRAWING # KINGZHAD
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
 STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
 OPERATOR'S WELL # KING UNIT #2H
 DATE 11/07/17
 DOUGLAS R. ROWE P.S. 2202
 LEGEND
 Surface Owner Boundary Lines +/-
 Interior Surface Tracts +/-
 Proposed Well Path
 As Drilled Well Path

STATE OF WEST VIRGINIA
 OFFICE OF ENVIRONMENTAL PROTECTION, DIVISION OF ENVIRONMENTAL PROTECTION
 WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415
 I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT
 TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE
 INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND
 PERFORMED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



API WELL # 47 - 017 - 06749
 STATE COUNTY PERMIT
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ANTERO RESOURCES CORPORATION
 Well No. King Unit 2H
 A.P.I. #47-017-06749
 LONGITUDE 80°52'30" LONGITUDE 80°50'00"
 LATITUDE 39°17'30" LATITUDE 39°15'00"
 4,174' 9,622' TO BOTTOM HOLE 11,359' 4,788' TO BOTTOM HOLE

LATITUDE 39°15'00"

11,359'

4,788' TO BOTTOM HOLE
LATITUDE 39°17'30"

LONGITUDE 80°52'30"

4,174'

9,622' TO BOTTOM HOLE

LONGITUDE 80°50'00"

Antero Resources Corporation Well No. King Unit 2H A.P.I. #47-017-06749

- NOTE**
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR EQUINE LIVESTOCK ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

LINE	BEARING	DISTANCE
L1	N 72°15' E	1424.3'
L2	N 88°07' E	1508.6'
L3	S 38°12' E	1107.9'
L4	S 17°19' E	1023.9'
L5	S 01°48' W	1039.8'
L6	S 13°28' W	1389.1'
L7	S 14°41' W	1309.9'
L8	S 18°45' W	1081.0'
L9	S 19°07' W	1434.9'
L10	S 24°11' W	1332.7'
L11	S 28°13' W	1000.5'
L12	S 28°18' W	1517.4'
L13	S 32°47' W	1748.1'
L14	S 32°53' W	1605.3'
L15	S 35°35' W	1789.2'
L16	S 38°23' W	1644.9'
L17	S 42°08' W	1009.8'

AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
 N: 271,965ft E: 1,610,994ft
 LAT: 39°14'18.74" LON: 80°52'24.36"
BOTTOM HOLE INFORMATION:
 N: 281,773ft E: 1,605,912ft
 LAT: 39°15'54.91" LON: 80°53'30.88"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
 N: 4,343,265m E: 510,937m
BOTTOM HOLE INFORMATION:
 N: 4,346,227m E: 509,339m



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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 RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 14-104WA
DRAWING # KING2HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS

LEGEND

- Surface Owner Boundary Lines +/-
- Interior Surface Tracts +/-
- Proposed Well Path
- As Drilled Well Path

DOUGLAS R. ROWE P.S. 2202

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 11/07/17
OPERATOR'S WELL# KING UNIT #2H

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 991.4' WATERSHED NORTH FORK HUGHES RIVER
 QUADRANGLE OXFORD 7.5 (TOP HOLE) PENNSBORO 7.5 (BOTTOM HOLE) DISTRICT CENTRAL COUNTY DODDRIDGE

SURFACE OWNER JAMES E. WEBB ACREAGE 84.89 ACRES +/-
 OIL & GAS ROYALTY OWNER CHARLEY WILSON ET UX; RALPH LEGGETT ET UX; H.B. WILLIAMS ET UX; L.L. MORRIS; DONNA HELMICK ET AL; GERALDINE WILLARD; ETTA ORDER ET VIR; V. OLIVE ELLIFRIT LEASE ACREAGE 91 ACRES +/-; 75 ACRES +/-; 307 ACRES +/-; 40.9 ACRES +/-; 67.25 ACRES +/-; 131.5 ACRES +/-; 201 ACRES +/-; 130 ACRES +/-

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,380' TVD 17,351' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1615 WYNKOOP STREET ADDRESS CT CORPORATION SYSTEM
 FORM WW-6 DENVER, CO 80202 ADDRESS 5400 D BIG TYLER ROAD
 CHARLESTON, WV 25313

01/05/2018

COUNTY NAME PERMIT