

WR-35
Rev (9-11)

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

DATE: 11/18/2013
API #: 47-085-09961

Farm name: Andrew Williamson, et al Operator Well No.: Nicholson Unit 1H

LOCATION: Elevation: 1,142' Quadrangle: Pullman 7.5'

District: Union County: Ritchie
Latitude: 2.865' Feet South of 39 Deg. 12 Min. 30 Sec.
Longitude 4.705' Feet West of 80 Deg. 52 Min. 30 Sec.

Company: Antero Resources Corporation

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
1625 17th Street Denver, CO 80202	20" 94#	53'	53'	51 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	339'	339'	471 Cu. Ft. Class A
Inspector: David Cowan	9 5/8" 36#	2,565'	2,565'	1044 Cu. Ft. Class A
Date Permit Issued: 8/10/2012	5 1/2" 20#	14,263'	14,263'	3498 Cu. Ft. Class H
Date Well Work Commenced: 11/20/2012				
Date Well Work Completed: 4/23/2013	2 3/8" 4.7#	6,686'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 6625' TVD (Deepest Point Drilled)				
Total Measured Depth (ft): 14,263' MD, 6610' TVD (BHL)				
Fresh Water Depth (ft.): 127'				
Salt Water Depth (ft.): 1690'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): None Available				
Void(s) encountered (N/Y) Depth(s) None				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6580' (TOP)

Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d

Final open flow 2755 MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests --- Hours

Static rock Pressure 3000 psig (surface pressure) after --- Hours

Second producing formation --- Pay zone depth (ft) ---

Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d

Final open flow --- MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests --- Hours

Static rock Pressure --- psig (surface pressure) after --- Hours

Checked and Approved
11/18/2013
Office of Oil and Gas
Department of Environmental Protection

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.

Kailler Buck
Signature

11/18/2013
Date

01/10/2014

85.09961



Antero Resources
 Nicholson Unit 1H
 Ritchie County WV
 Northing: 14233109.57
 Easting: 1673166.80
 Original Wellpath

PROJECT DETAILS: Ritchie County WV
 Geologic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1983 (NAD83 CONUS)
 Zone: Zone 17N (64 W to 78 W)
 System Datum: Mean Sea Level

WELL DETAILS: Nicholson Unit 1H
 Ground Level: 1142.0
 Easting: 1673166.8039° 11' 43.468 N 80° 53' 3.857 W
 Longitude: 80° 53' 3.857 W
 Slot

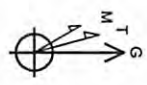
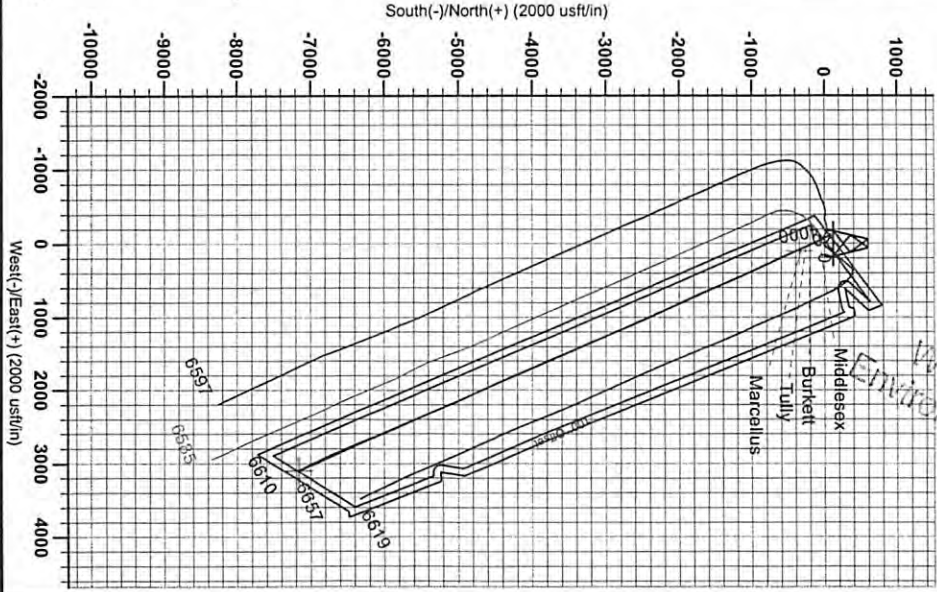
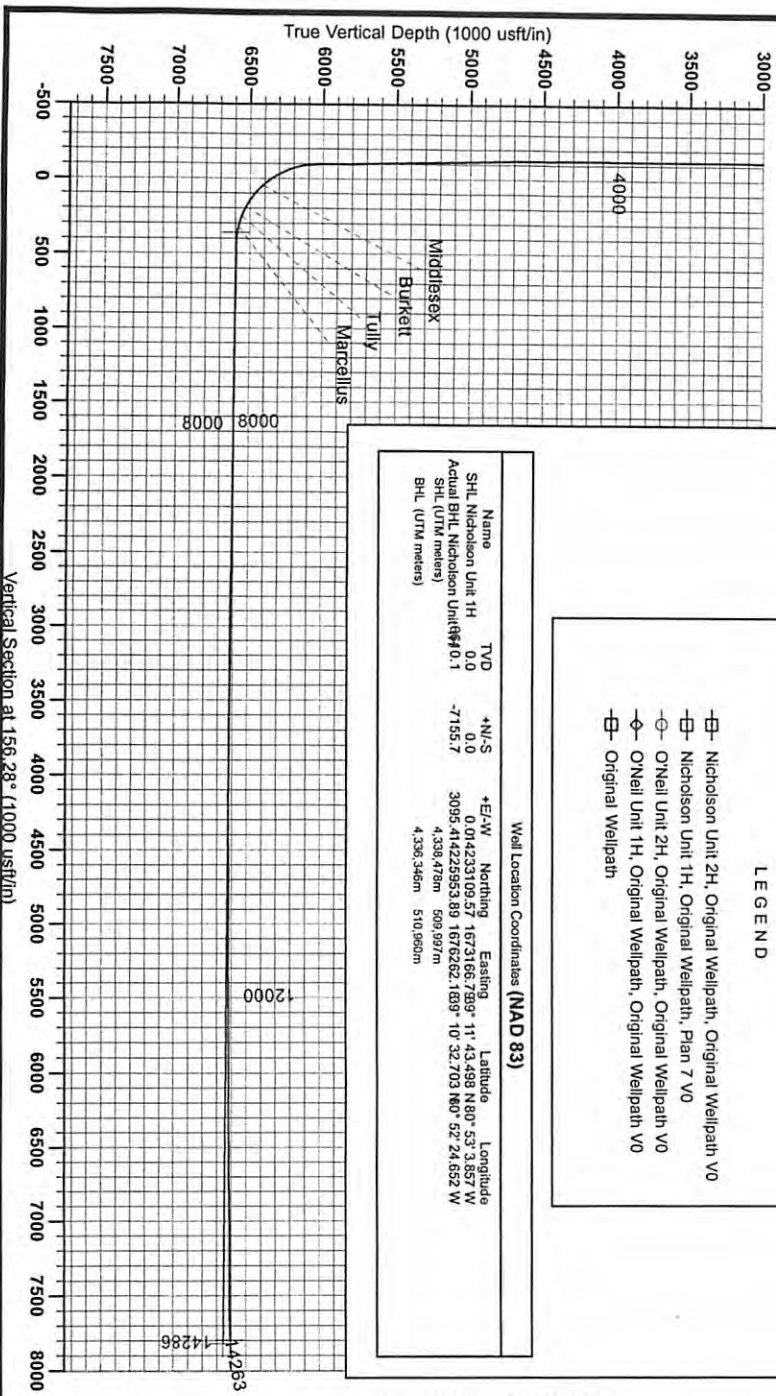
Scientific Drilling
 421 South Eagle Lane
 Oklahoma City Oklahoma
 405-787-3663

LEGEND

- ▣ Nicholson Unit 2H, Original Wellpath, Original Wellpath V0
- ▣ Nicholson Unit 1H, Original Wellpath, Plan 7 V0
- ONeill Unit 2H, Original Wellpath, Original Wellpath V0
- ◇ ONeill Unit 1H, Original Wellpath, Original Wellpath V0
- ▣ Original Wellpath

Well Location Coordinates (NAD 83)

Name	TVD	+N/-S	+E/W	Northing	Easting	Latitude	Longitude
SHL Nicholson Unit 1H	0.0	0.0		0.014233109.57	1673166.799°	11° 43.498 N 80° 53' 3.857 W	
Actual BHL Nicholson Unit#10.1		-7155.7		3095.414229593.89	1676262.189°	10° 32.703 N 80° 52' 24.652 W	
SHL (UTM meters)				4,338.478m	509.697m		
BHL (UTM meters)				4,336.346m	510.960m		



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Adjusted to Grid North
 True North -0.07°
 Magnetic North -8.37°
 Magnetic Field
 Strength: 52403.3acT
 Dip Angle: 66.65°
 Date: 7/15/2012
 Model: IGRF2010

01/10/2014

85-09961

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/16/2013
Job End Date:	4/23/2013
State:	West Virginia
County:	Ritchie
API Number:	47-085-09961-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Nicholson Unit 1H
Longitude:	-80.88440470
Latitude:	39.19541610
Datum:	NAD27
Federal/Tribal Well:	NO
Total Base Water Volume (gal):	7,265,202
Total Base Non Water Volume:	279,065

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	Operator	Carrier	Water	7732-18-5	100.00000	91.20542	
Sand, White, 40/70	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00000	4.45595	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00000	2.67823	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00000	1.19470	
GW-3LDF	Baker Hughes	Gelling Agent	Guar Gum	9000-30-0	60.00000	0.07629	SmartCare Product
			Paraffinic Petroleum Distillate	64742-55-8	30.00000	0.03814	SmartCare Product
			Petroleum Distillates	64742-47-8	30.00000	0.03814	SmartCare Product
			Isotridecanol, ethoxylated	9043-30-5	5.00000	0.00636	SmartCare Product
			1-Butoxy-2-Propanol	5131-66-8	5.00000	0.00636	SmartCare Product
			Crystalline Silica, Quartz (SiO2)	14808-60-7	5.00000	0.00636	SmartCare Product
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Water	7732-18-5	85.00000	0.14228	
			Hydrochloric Acid	7647-01-0	15.00000	0.02511	
Enzyme G-NE	Baker Hughes	Breaker	Water	7732-18-5	95.00000	0.01876	



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FRW-18	Baker Hughes	Friction Reducer	Hemicellulase Enzyme Concentrate	9025-56-3	5.00000	0.00099	
Alpha 1427	Baker Hughes	Bioicide	Petroleum Distillates	64742-47-8	30.00000	0.01585	SmartCare Product
			Glutaraldehyde	111-30-8	30.00000	0.00665	SmartCare Product
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	10.00000	0.00225	SmartCare Product
			Quaternary Ammonium Compound	88424-85-1	5.00000	0.00111	SmartCare Product
			Ethanol	64-17-5	5.00000	0.00111	SmartCare Product
Scaletrol 720	Baker Hughes	Scale Inhibitor	Ethylene Glycol	107-21-1	30.00000	0.00471	
			Calcium Chloride	10043-52-4	5.00000	0.00079	
Ferrotrol 300L	Baker Hughes	Iron Control	Citric Acid	77-92-9	60.00000	0.00063	SmartCare Product
CI-14	Baker Hughes	Corrosion Inhibitor	Polyoxyalkylenes	Trade Secret	30.00000	0.00007	
			Fatty Acids	Trade Secret	10.00000	0.00002	
			Olefin	Trade Secret	5.00000	0.00001	
			Propargyl Alcohol	107-19-7	5.00000	0.00001	
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.							
		Other Chemicals	Water	7732-18-5		0.04801	
			Poly (acrylamide-co-acrylic acid)	Trade Secret		0.01585	
			Polyacrylate	Trade Secret		0.00314	
			Sorbitan Monooleate	Trade Secret		0.00264	
			Salt	Trade Secret		0.00264	
			Ethoxylated Alcohol	Trade Secret		0.00106	
			Methanol	67-56-1		0.00024	
			2-Butoxy-1-Propanol	15821-83-7		0.00010	
			Modified Thioera Polymer	88527-49-1		0.00002	
			Potassium Chloride	7447-40-7		0.00001	
			Sodium Chloride	7647-14-5		0.00000	
			Formaldehyde	50-00-0		0.00000	
			Hydrochloric Acid	7647-01-0		0.00000	

* 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)