

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

API 47 - 017 - 06497 County Doddridge District Grant
Quad West Union 7.5' & Smithburgh 7.5' Pad Name Melody Pad Field/Pool Name _____
Farm name Brown, Melody et al Well Number Deano 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 4,356,592m Easting 520,753m
Landing Point of Curve Northing 4,356,536.46m Easting 520,978.45m
Bottom Hole Northing 4,354,289m Easting 521,876m

Elevation (ft) 1,135' 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 06/25/2014 Date drilling commenced 10/02/2014 Date drilling ceased 12/05/2014
Date completion activities began WOC Date completion activities ceased WOC
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 46' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 865'; 1,509' Void(s) encountered (Y/N) depths None
Coal depth(s) ft 1,821 Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) No

Reviewed by:



API 47-017 - 06497 Farm name Brown, Melody et al Well number Deano 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"	40'	New	94#; H-40	N/A	Yes
Surface	17 1/2"	13 3/8"	550'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,522'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	15,398'	New	23#; P-110	N/A	Yes
Tubing							
Packer type and depth set		N/A					

Comment Details *1st attempt to cement surface casing (655 sacks) was unsuccessful in producing returns to surface. Cement was successful after seven attempts to grout to surface (200, 300, 300, 100, 150, 150, and 150 sacks per stage, respectively).

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	200 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	2,005 sx*	15.6	1.18	382	0'	8 Hrs.
Coal							
Intermediate 1	Class A	921 sx	15.6	1.18	790	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1,010 sx (Lead); 1,340 sx (Tail)	14.5 (Lead); 15.2 (Tail)	1.58 (Lead); 1.86 (Tail)	3,064	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16,363' MD; 6,952' TVD (BHL); 6,968' TVD (Deepest Point Drilled) Loggers TD (ft) 15,398'
 Deepest formation penetrated Marcallus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 8,236'

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

**Logs will be submitted with FINAL Completion Report

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 N/A - WOC

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS N/A - WOC

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

RECEIVED
 Office of Oil and Gas
 OCT 19 2015
 WV Department of
 Environmental Protection

17-06497

API 47-017-06497 Farm Name <u>Brown, Melody et al</u> Well Number <u>Deano Unit 1H</u>				
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	46'	N/A	46'	N/A
silt	0	81	0	81
Sandstone	est. 81	281	est. 81	281
siltstone (trace coal)	est. 281	401	est. 281	401
Silty Sandstone	est. 401	581	est. 401	581
Sandy siltstone	est. 581	761	est. 581	761
Limestone	est. 761	781	est. 761	781
Sandy siltstone	est. 781	861	est. 781	861
Limey Siltstone	est. 861	961	est. 861	961
Sandy shale	est. 961	1,281	est. 961	1,281
Sandstone	est. 1281	1,401	est. 1281	1,401
Sandy shale	est. 1401	1,561	est. 1401	1,561
Silty Sandstone (trace coal)	est. 1561	1,761	est. 1561	1,761
Sandstone	est. 1761	1,821	est. 1761	1,821
Coal	est. 1821	2,001	est. 1821	2,001
Limey Siltstone	est. 2001	2,069	est. 2001	2,069
Big Lime	2,069	NA	2,069	NA
Big Injun**	NA	NA	NA	NA
Gantz Sand**	NA	NA	NA	NA
Fifty Foot Sandstone**	NA	NA	NA	NA
Gordon**	NA	NA	NA	NA
Fifth Sandstone**	NA	NA	NA	NA
Bayard**	NA	NA	NA	NA
Warren**	NA	NA	NA	NA
Spechley**	NA	NA	NA	NA
Baltown**	NA	NA	NA	NA
Bradford**	NA	NA	NA	NA
Benson**	NA	NA	NA	NA
Alexander**	NA	NA	NA	NA
Elk**	NA	NA	NA	NA
Rhinestreet**	NA	NA	NA	NA
Sycamore	6,438	6,616	6,449	6,762
Middlesex	6,616	6,754	6,762	7,025
Burkett	6,754	6,782	7,025	7,085
Tully	6,782	6,836	7,085	7,222
Marcellus	6,836	NA	7,222	NA

RECEIVED
Office of Oil and Gas
DEC 9 2015
WV Department of
Environmental Protection

*Please note Antero determines shallow 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.

**Depths for these formations are recorded with the cement bond log for each individual well. This information will be provided, along with the cement bond log, in the final report for this well.

10/30/2015

