

# RECEIVED

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WR-35  
Rev. 8/23/13

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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

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

API 47-017-06220 County Doddridge District Grant  
Quad Smithburg 7.5' Pad Name RJ Smith Pad Field/Pool Name \_\_\_\_\_  
Farm name Smith, Robert J. Well Number Costlow 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 4,357,411m Easting 523,019m  
Landing Point of Curve Northing 4,357,101.62m Easting 522,704.89m  
Bottom Hole Northing 4,354,438m Easting 523,781m

Elevation (ft) 998' 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 05/31/2013 Date drilling commenced 09/15/2013 Date drilling ceased 11/07/2013  
Date completion activities began 06/02/2014 Date completion activities ceased 09/03/2014  
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 231' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1,398' Void(s) encountered (Y/N) depths None  
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths None  
Is coal being mined in area (Y/N) No

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

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API 47-017 - 06220 Farm name Smith, Robert J. Well number Costlow Unit 2H

Table with 8 columns: CASING STRINGS, Hole Size, Casing Size, Depth, New or Used, Grade wt/ft, Basket Depth(s), Did cement circulate (Y/N). Rows include Conductor, Surface, Coal, Intermediate 1-3, Production, Tubing, and Packer type and depth set.

Comment Details \*Surface casing (405 sacks) failed to return to surface, inspector Douglas Newton notified on 10/08/2013 at 23:00. Top job was performed (167 sacks) which was successful in bringing returns to surface.

Table with 8 columns: CEMENT DATA, Class/Type of Cement, Number of Sacks, Slurry wt (ppg), Yield (ft^3/sks), Volume (ft^3), Cement Top (MD), WOC (hrs). Rows include Conductor, Surface, Coal, Intermediate 1-3, Production, and Tubing.

Drillers TD (ft) 16,860' MD; 6,815' TVD (BHL); 6,883' TVD (Deepest Point Drilled) Loggers TD (ft) 16,810'
Deepest formation penetrated Marcellus Plug back to (ft) N/A
Plug back procedure N/A

Kick off depth (ft) 6.704'

\*\*This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Duff Unit 2H, API #47-017-06247). Please reference the wireline logs submitted with Form WR-35 for the Duff 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 [x] No Conventional [ ] Sidewall Were cuttings collected [x] 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 [x] No DETAILS

WAS WELL COMPLETED OPEN HOLE? [ ] Yes [x] No DETAILS

WERE TRACERS USED [ ] Yes [x] No TYPE OF TRACER(S) USED





API 47-017-06220 Farm Name Smith, Robert J. Well Number Costlow Unit 2H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2-Jun-14	16,605	16,773	60	Marcellus
2	15-Jun-14	16,407	16,574	60	Marcellus
3	15-Jun-14	16,208	16,375	60	Marcellus
4	16-Jun-14	16,009	16,177	60	Marcellus
5	16-Jun-14	15,810	15,978	60	Marcellus
6	17-Jun-14	15,612	15,779	60	Marcellus
7	17-Jun-14	15,413	15,581	60	Marcellus
8	17-Jun-14	15,214	15,382	60	Marcellus
9	18-Jun-14	15,016	15,183	60	Marcellus
10	18-Jun-14	14,817	14,984	60	Marcellus
11	18-Jun-14	14,618	14,786	60	Marcellus
12	19-Jun-14	14,419	14,587	60	Marcellus
13	19-Jun-14	14,221	14,388	60	Marcellus
14	19-Jun-14	14,022	14,190	60	Marcellus
15	19-Jun-14	13,823	13,991	60	Marcellus
16	20-Jun-14	13,624	13,792	60	Marcellus
17	20-Jun-14	13,426	13,593	60	Marcellus
18	20-Jun-14	13,227	13,395	60	Marcellus
19	20-Jun-14	13,028	13,196	60	Marcellus
20	21-Jun-14	12,830	12,997	60	Marcellus
21	21-Jun-14	12,631	12,798	60	Marcellus
22	21-Jun-14	12,432	12,600	60	Marcellus
23	21-Jun-14	12,233	12,401	60	Marcellus
24	22-Jun-14	12,035	12,202	60	Marcellus
25	22-Jun-14	11,836	12,004	60	Marcellus
26	23-Jun-14	11,637	11,805	60	Marcellus
27	23-Jun-14	11,439	11,606	60	Marcellus
28	23-Jun-14	11,240	11,407	60	Marcellus
29	24-Jun-14	11,041	11,209	60	Marcellus
30	24-Jun-14	10,842	11,010	60	Marcellus
31	24-Jun-14	10,644	10,811	60	Marcellus
32	24-Jun-14	10,445	10,613	60	Marcellus
33	25-Jun-14	10,246	10,414	60	Marcellus
34	25-Jun-14	10,048	10,215	60	Marcellus
35	25-Jun-14	9,849	10,016	60	Marcellus
36	26-Jun-14	9,650	9,818	60	Marcellus
37	26-Jun-14	9,451	9,619	60	Marcellus
38	26-Jun-14	9,253	9,420	60	Marcellus
39	26-Jun-14	9,054	9,222	60	Marcellus
40	26-Jun-14	8,855	9,023	60	Marcellus
41	27-Jun-14	8,656	8,824	60	Marcellus
42	27-Jun-14	8,458	8,625	60	Marcellus
43	27-Jun-14	8,259	8,427	60	Marcellus
44	27-Jun-14	8,060	8,228	60	Marcellus
45	28-Jun-14	7,862	8,029	60	Marcellus
46	28-Jun-14	7,663	7,830	60	Marcellus
47	28-Jun-14	7,464	7,632	60	Marcellus
48	29-Jun-14	7,265	7,433	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	15-Jun-14	71.9	8,104	N/A	4,584	254,740	6,645	N/A
2	15-Jun-14	71.1	7,530	N/A	5,268	183,965	6,915	N/A
3	15-Jun-14	76.0	8,198	5,764	2,824	250,500	6,753	N/A
4	17-Jun-14	74.5	8,118	5,792	5,361	249,345	7,783	N/A
5	17-Jun-14	75.6	7,851	5,915	3,944	252,483	7,418	N/A
6	17-Jun-14	77.0	7,516	6,048	4,536	250,793	7,421	N/A
7	17-Jun-14	82.0	7,339	5,355	5,213	250,234	7,941	N/A
8	18-Jun-14	77.7	7,573	5,339	4,356	253,798	7,195	N/A
9	18-Jun-14	78.7	7,557	5,959	4,377	253,533	7,150	N/A
10	18-Jun-14	77.1	7,545	6,213	4,022	251,453	7,040	N/A
11	18-Jun-14	75.7	7,413	5,640	5,035	254,408	6,616	N/A
12	19-Jun-14	59.0	6,775	5,542	5,391	210,171	7,609	N/A
13	19-Jun-14	78.5	7,257	5,596	5,590	253,749	7,067	N/A
14	19-Jun-14	80.6	7,984	5,985	5,134	251,318	6,870	N/A
15	20-Jun-14	72.2	8,226	6,228	4,896	243,082	7,102	N/A
16	20-Jun-14	77.8	7,926	6,094	5,216	246,203	6,984	N/A
17	20-Jun-14	80.3	7,886	5,907	6,200	253,443	6,935	N/A
18	20-Jun-14	79.4	7,736	N/A	5,825	258,685	6,957	N/A
19	21-Jun-14	76.4	7,308	5,451	6,719	251,869	6,807	N/A
20	21-Jun-14	78.3	7,219	5,461	5,829	258,441	6,784	N/A
21	21-Jun-14	79.0	7,576	5,572	5,530	252,609	6,814	N/A
22	22-Jun-14	77.0	7,216	5,383	4,638	249,543	6,625	N/A
23	22-Jun-14	75.8	7,074	5,795	4,606	251,262	6,641	N/A
24	22-Jun-14	76.0	7,368	6,235	3,740	253,396	6,331	N/A
25	23-Jun-14	78.0	8,044	6,155	4,845	255,047	5,855	N/A
26	23-Jun-14	80.0	6,854	5,842	5,185	251,624	5,890	N/A
27	23-Jun-14	80.0	7,142	5,596	5,597	254,233	5,939	N/A
28	24-Jun-14	83.0	7,033	6,223	5,668	251,200	6,079	N/A
29	24-Jun-14	76.0	7,123	6,130	5,410	253,196	5,812	N/A
30	24-Jun-14	79.0	7,821	5,697	5,826	252,024	6,310	N/A
31	25-Jun-14	81.0	8,340	6,072	5,517	170,293	5,185	N/A
32	25-Jun-14	74.0	7,791	5,602	5,474	250,117	6,016	N/A
33	25-Jun-14	78.0	7,651	5,790	4,512	251,363	6,251	N/A
34	25-Jun-14	78.0	7,558	5,863	5,903	247,984	6,133	N/A
35	26-Jun-14	79.0	6,955	5,860	4,211	251,544	5,772	N/A
36	26-Jun-14	78.0	6,955	5,804	4,354	250,338	5,705	N/A
37	26-Jun-14	80.0	7,104	5,756	4,296	251,947	6,355	N/A
38	26-Jun-14	81.0	7,138	5,626	5,358	252,762	6,108	N/A
39	26-Jun-14	81.0	7,138	5,493	5,279	252,931	6,090	N/A
40	27-Jun-14	79.6	6,997	5,712	5,373	252,671	6,047	N/A
41	27-Jun-14	83.0	7,291	6,434	5,360	248,253	6,035	N/A
42	27-Jun-14	80.0	6,951	6,047	5,466	253,856	6,099	N/A
43	27-Jun-14	80.1	7,147	6,273	4,410	267,075	6,000	N/A
44	28-Jun-14	80.8	6,840	5,975	4,202	254,589	6,059	N/A
45	28-Jun-14	80.0	6,961	7,467	4,261	257,128	6,065	N/A
46	28-Jun-14	80.0	6,970	6,010	5,227	256,884	6,047	N/A
47	28-Jun-14	79.9	6,727	5,989	5,526	255,872	5,958	N/A
48	29-Jun-14	80.0	6,467	5,484	4,267	251,610	5,999	N/A
	AVG=	77.9	7,402	5,871	5,008	11,933,564	312,212	TOTAL

## 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	231'	N/A	231'	N/A
Sandstone/ Siltstone	0	591	0	591
Sandy Shale/ Dolostone	Est. 591	691	Est. 591	691
Sandstone/ Siltstone	Est. 691	871	Est. 691	871
Silty Shale	Est. 871	1,021	Est. 871	1,021
Sandstone/ Siltstone	Est. 1021	1,101	Est. 1021	1,101
Sandstone/ Trace Coal	Est. 1101	1,191	Est. 1101	1,191
Sandstone/ Siltstone	Est. 1191	1,641	Est. 1191	1,641
Limestone/ Sandstone	Est. 1641	1,701	Est. 1641	1,701
Sandstone/ Trace Coal	Est. 1701	1,731	Est. 1701	1,731
Sandy Shale	Est. 1731	1,861	Est. 1731	1,861
Sandstone/ Siltstone	Est. 1861	1,941	Est. 1861	1,941
Limestone/ Sandstone	Est. 1941	1,964	Est. 1941	1,964
Big Lime	1,964	2,076	1,964	2,076
Big Injun	2,076	2,527	2,076	2,527
Gantz Sand	2,527	2,660	2,527	2,660
Fifty Foot Sandstone	2,660	2,732	2,660	2,732
Gordon	2,732	3,074	2,732	3,074
Fifth Sandstone	3,074	3,092	3,074	3,092
Bayard	3,092	3,457	3,092	3,457
Warren	3,457	3,848	3,457	3,849
Speechley	3,848	4,093	3,849	4,097
Baltown	4,093	4,561	4,097	4,592
Bradford	4,561	5,042	4,592	5,127
Benson	5,042	5,307	5,127	5,421
Alexander	5,307	5,500	5,421	5,639
Elk	5,500	6,024	5,639	6,229
Rhinestreet	6,024	6,398	6,229	6,644
Sycamore	6,398	6,579	6,644	6,857
Middlesex	6,579	6,715	6,857	7,051
Burkett	6,715	6,743	7,051	7,100
Tully	6,743	6,802	7,100	7,226
Marcellus	6,802	NA	7,226	NA

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/15/2014
Job End Date:	6/29/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06220-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Costlow Unit 2H
Longitude:	-80.73295800
Latitude:	39.36576700
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,883
Total Base Water Volume (gal):	13,504,764
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	Operator	Carrier	Water	7732-18-5	100.00000	90.09631	
Sand, White, 40/70	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		5.58433	
Sand, White, 20/40	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		3.37104	
Sand, White, 100 mesh	Baker Hughes	Proppant	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.59223	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.20182	SmartCare Product
FRW-18	Baker Hughes	Friction Reducer	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.05588	SmartCare Product
GW-3	Baker Hughes	Gelling Agent	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.03115	
Scaletrol 720	Baker Hughes	Scale Inhibitor	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01486	SmartCare Product



Alpha 1427	Baker Hughes	Biocide	MSDS and Non-MSDS Ingredients Listed Below	N/A	WV GEOLOGICAL SURVEY MORGANTOWN, WV	0.01308	SmartCare Product
Enzyme G-NE	Baker Hughes	Breaker	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01066	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00950	SmartCare Product
Ferrotrol 300L	Baker Hughes	Iron Control	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00140	SmartCare Product
C1-14	Baker Hughes	Corrosion Inhibitor	MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00032	SmartCare Product
Ingredients shown above are subject to 29 CFR, 1910.1200(l) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Ingredients in Additive (s) (MSDS and non- MSDS)	Baker Hughes	See Trade Name(s) List					
			Crystalline Silica (Quartz)	14808-60-7	100.00000	9.54576	
			Water	7732-18-5	95.00000	0.21997	
			Guar Gum	9000-30-0	100.00000	0.03685	
			Hydrochloric Acid	7647-01-0	15.00000	0.03027	
			Poly (acrylamide-co-acrylic acid) partial sodium salt	62649-23-4	30.00000	0.01676	
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.01676	
			Ethylene Glycol	107-21-1	45.00000	0.00669	
			Mineral Oil	8042-47-5	70.00000	0.00665	
			Glutaraldehyde	111-30-8	30.00000	0.00392	
			2-Propenoic, Polymer with Sodium Phosphinate, Sodium Salt	71050-62-9	20.00000	0.00297	
			Sodium Chloride	7647-14-5	5.00000	0.00294	
			Paraffinic Petroleum Distillate	64742-55-8	30.00000	0.00285	
			Ammonium Chloride	12125-02-9	3.00000	0.00168	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	10.00000	0.00131	
			Alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00112	
			Oleamide DEA	93-83-4	2.00000	0.00112	
			Citric Acid	77-92-9	60.00000	0.00084	
			Calcium Chloride	10043-52-4	5.00000	0.00074	
			Ethanol	64-17-5	5.00000	0.00065	
			Quaternary Ammonium Compound	68424-85-1	5.00000	0.00065	
			Hemicellulase Enzyme Concentrate	9025-56-3	5.00000	0.00053	
			Crystalline Silica: Quartz	14808-60-7	5.00000	0.00048	
			Isoridecanol, ethoxylated	9043-30-5	5.00000	0.00048	
			1-butoxy-2-propanol	5131-66-8	5.00000	0.00048	
			Methanol	67-56-1	100.00000	0.00032	
			Sorbitan Monooleate	1338-43-8	0.50000	0.00028	



LATITUDE 39°22'30"

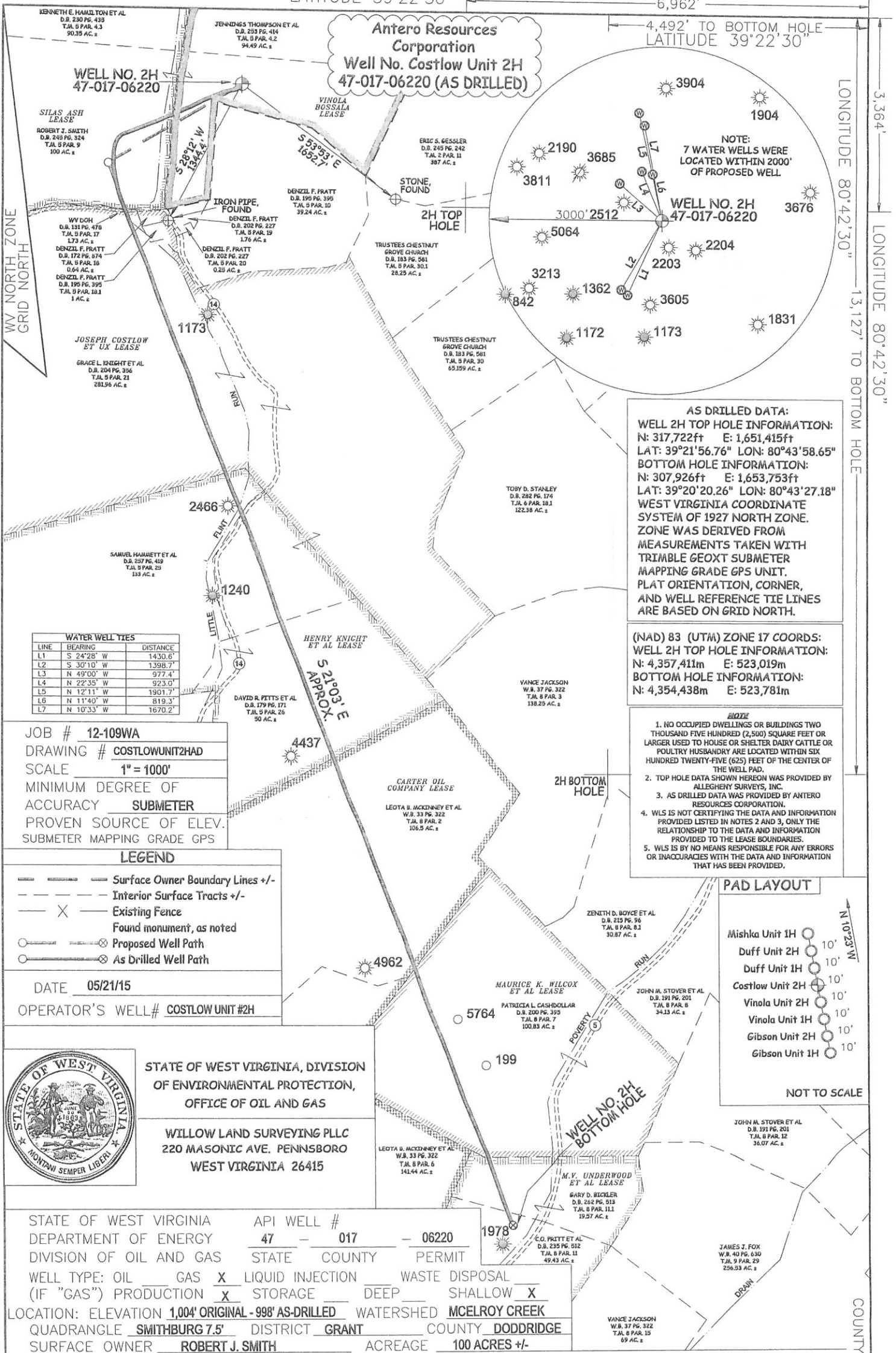
6,962'

4,492' TO BOTTOM HOLE  
LATITUDE 39°22'30"

LONGITUDE 80°42'30"

LONGITUDE 80°42'30"

**Antero Resources Corporation**  
**Well No. Costlow Unit 2H**  
**47-017-06220 (AS DRILLED)**



**AS DRILLED DATA:**  
**WELL 2H TOP HOLE INFORMATION:**  
 N: 317,722ft E: 1,651,415ft  
 LAT: 39°21'56.76" LON: 80°43'58.65"  
**BOTTOM HOLE INFORMATION:**  
 N: 307,926ft E: 1,653,753ft  
 LAT: 39°20'20.26" LON: 80°43'27.18"  
**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: 4,357,411m E: 523,019m  
**BOTTOM HOLE INFORMATION:**  
 N: 4,354,438m E: 523,781m

- 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 POULTRY HUSBANDRY 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	S 24°28' W	1430.6'
L2	S 30°10' W	1398.7'
L3	N 49°00' W	977.4'
L4	N 22°35' W	923.0'
L5	N 12°11' W	1901.7'
L6	N 11°40' W	819.3'
L7	N 10°33' W	1670.2'

JOB # **12-109WA**  
 DRAWING # **COSTLOWUNIT2HAD**  
 SCALE **1" = 1000'**  
 MINIMUM DEGREE OF ACCURACY **SUBMETER**  
 PROVEN SOURCE OF ELEV. **SUBMETER MAPPING GRADE GPS**

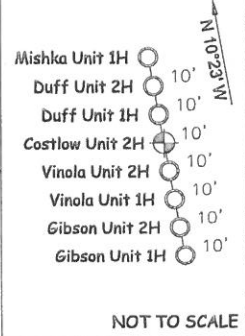
**LEGEND**

- Surface Owner Boundary Lines +/-
- - - Interior Surface Tracts +/-
- X - Existing Fence
- Found monument, as noted
- Proposed Well Path
- As Drilled Well Path

DATE **05/21/15**

OPERATOR'S WELL# **COSTLOW UNIT #2H**

**PAD LAYOUT**



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

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

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

API WELL # **47 - 017 - 06220**

STATE COUNTY PERMIT

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION **1,004' ORIGINAL - 998' AS-DRILLED** WATERSHED **MCELROY CREEK**

QUADRANGLE **SMITHBURG 7.5'** DISTRICT **GRANT** COUNTY **DODDRIDGE**

SURFACE OWNER **ROBERT J. SMITH** ACREAGE **100 ACRES +/-**

OIL & GAS ROYALTY OWNER **VINOLA BOSSALA; SILAS ASH; JOSEPH COSTLOW ET UX; HENRY KNIGHT ET AL; CARTER OIL CO.; MAURICE K. WILCOX ET AL; M.V. UNDERWOOD ET AL**  
 LEASE ACREAGE **120 ACRES±; 120 ACRES±; 350 ACRES±; 213 ACRES±; 224.75 ACRES±; 101 ACRES±; 44 ACRES±**

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE   
 PLUG OFF OLD FORMATION  PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) **(X) AS DRILLED** PLUG & ABANDON  CLEAN OUT & REPLUG

TARGET FORMATION **MARCELLUS** ESTIMATED DEPTH **6,815' TVD 16,860' MD**

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