

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

API 47-033-05686 County Harrison District Tenmile
Quad Salem Pad Name Hubert Pad Field/Pool Name ----
Farm name Hubert Jr. and Lorena Bland Well Number Nellie 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 4,345,001.890m Easting 537,947.233m
Landing Point of Curve Northing 4,344,938.19m Easting 538,274.77m
Bottom Hole Northing 4,343,220.036m Easting 540,087.247m

Elevation (ft) 1376' 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 11/28/2012 Date drilling commenced 5/12/2013 Date drilling ceased 9/18/2013
Date completion activities began 10/2/2013 Date completion activities ceased 1/25/2014
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by RECEIVED

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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

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Freshwater depth(s) ft 364', 367' Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Identified Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1737' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

JK 8/21/15

10/30/2015

API 47-033 - 05686 Farm name Hubert Jr. and Lorena Bland Well number Nellie 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	Y
Surface	17-1/2"	13-3/8"	448'	New	48#/H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2560'	New	36#/J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16,172'	New	20#/P-110	N/A	Y
Tubing		2-3/8"	7684'		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	200 sx	15.6	1.18	38 Cu. Ft.	0'	8 hrs
Surface	Class A	518 sx	15.6	1.18	311 Cu. Ft.	0'	8 hrs
Coal							
Intermediate 1	Class A	937 sx	15.6	1.18	802 Cu. Ft.	0'	8 hrs
Intermediate 2							
Intermediate 3							
Production	Class H	1087 sx (Lead), 1370 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.80 (Tail)	3233 Cu. Ft.	~500' into Intermediate Casing	8 hrs
Tubing							

Drillers TD (ft) 16,172' MD, 7392' TVD (BHL), 7475' TVD (Deepest Point Drilled) Loggers TD (ft) 16,137' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 7254'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Nellie Unit 2H API# 47-033-05687). Please reference the wireline logs submitted with Form WR-35 for the Nellie 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

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 AUG 03 2015

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

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED Radioactive & Chemical

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API 47-033-05686 Farm Name Hubert Jr. and Lorena Bland Well Number Nellie Unit 1H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2-Oct-13	15915'	16088'	60	Marcellus
2	31-Oct-13	15711'	15883'	60	Marcellus
3	31-Oct-13	15506'	15678'	60	Marcellus
4	31-Oct-13	15301'	15474'	60	Marcellus
5	1-Nov-13	15096'	15269'	60	Marcellus
6	1-Nov-13	14892'	15064'	60	Marcellus
7	1-Nov-13	14687'	14860'	60	Marcellus
8	1-Nov-13	14482'	14655'	60	Marcellus
9	2-Nov-13	14278'	14450'	60	Marcellus
10	15-Nov-13	14073'	14245'	60	Marcellus
11	17-Nov-13	13868'	14041'	60	Marcellus
12	17-Nov-13	13663'	13836'	60	Marcellus
13	17-Nov-13	13459'	13631'	60	Marcellus
14	17-Nov-13	13254'	13427'	60	Marcellus
15	18-Nov-13	13049'	13222'	60	Marcellus
16	18-Nov-13	12845'	13017'	60	Marcellus
17	20-Nov-13	12640'	12812'	60	Marcellus
18	20-Nov-13	12435'	12608'	60	Marcellus
19	21-Nov-13	12230'	12403'	60	Marcellus
20	21-Nov-13	12026'	12198'	60	Marcellus
21	22-Nov-13	11821'	11994'	60	Marcellus
22	22-Nov-13	11616'	11789'	60	Marcellus
23	22-Nov-13	11412'	11584'	60	Marcellus
24	22-Nov-13	11207'	11379'	60	Marcellus
25	23-Nov-13	11002'	11175'	60	Marcellus
26	23-Nov-13	10797'	10970'	60	Marcellus
27	23-Nov-13	10593'	10765'	60	Marcellus
28	24-Nov-13	10388'	10561'	60	Marcellus
29	25-Nov-13	10183'	10356'	60	Marcellus
30	25-Nov-13	9979'	10151'	60	Marcellus
31	25-Nov-13	9774'	9946'	60	Marcellus
32	26-Nov-13	9569'	9742'	60	Marcellus
33	26-Nov-13	9364'	9537'	60	Marcellus
34	26-Nov-13	9160'	9332'	60	Marcellus
35	27-Nov-13	8955'	9128'	60	Marcellus
36	27-Nov-13	8750'	8923'	60	Marcellus
37	27-Nov-13	8546'	8718'	60	Marcellus
38	28-Nov-13	8341'	8513'	60	Marcellus
39	28-Nov-13	8136'	8309'	60	Marcellus
40	28-Nov-13	7931'	8104'	60	Marcellus
41	28-Nov-13	7727'	7899'	60	Marcellus

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API 47-033-05686 Farm Name Hubert Jr. and Lorena Bland Well Number Nellie Unit 1H

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	30-Oct-13	71.4	7,459	5,442	4,517	152,000	6,686	N/A
2	31-Oct-13	48.4	8,491	5,968	4,590	70,000	6,289	N/A
3	31-Oct-13	74.0	7,985	5,248	4,615	111,100	6,576	N/A
4	31-Oct-13	67.2	8,101	5,932	4,168	121,900	6,589	N/A
5	1-Nov-13	69.5	8,212	5,801	4,198	139,300	6,790	N/A
6	1-Nov-13	69.7	7,722	5,925	3,834	122,000	6,838	N/A
7	1-Nov-13	59.1	7,843	6,110	4,370	77,600	6,595	N/A
8	1-Nov-13	67.6	7,997	6,335	4,130	84,200	6,214	N/A
9	2-Nov-13	54.8	7,353	6,182	6,748	61,200	4,796	N/A
10	15-Nov-13	64.0	8,066	6,965	9,273	58,500	4,892	N/A
11	17-Nov-13	65.1	7,786	5,672	4,035	77,000	6,346	N/A
12	17-Nov-13	74.7	7,732	5,830	4,299	232,300	6,690	N/A
13	17-Nov-13	69.8	7,489	6,054	4,343	199,500	6,385	N/A
14	17-Nov-13	69.1	7,515	6,041	4,306	210,500	5,847	N/A
15	18-Nov-13	70.1	7,404	6,219	3,953	237,800	6,204	N/A
16	18-Nov-13	63.0	8,176	5,933	6,095	51,500	7,188	N/A
17	20-Nov-13	64.2	7,358	6,042	3,890	130,300	6,477	N/A
18	20-Nov-13	65.7	7,159	5,950	4,294	149,500	6,156	N/A
19	21-Nov-13	65.0	7,080	5,962	4,410	104,500	5,838	N/A
20	21-Nov-13	67.5	7,600	5,580	4,396	86,000	6,080	N/A
21	22-Nov-13	67.6	7,410	5,903	4,108	111,900	6,272	N/A
22	22-Nov-13	67.6	7,537	5,999	4,869	122,700	6,122	N/A
23	22-Nov-13	65.7	7,512	5,771	4,267	127,200	6,457	N/A
24	22-Nov-13	69.8	7,479	6,394	4,647	195,300	6,404	N/A
25	23-Nov-13	67.7	7,575	6,688	4,335	191,600	6,298	N/A
26	23-Nov-13	72.3	7,237	5,972	4,486	217,900	6,445	N/A
27	23-Nov-13	64.5	7,127	5,835	4,721	111,800	6,309	N/A
28	24-Nov-13	73.3	7,359	5,739	4,374	176,000	6,368	N/A
29	25-Nov-13	69.5	6,877	5,032	4,309	236,700	6,319	N/A
30	25-Nov-13	70.9	6,952	5,410	4,364	233,700	6,239	N/A
31	25-Nov-13	75.0	7,014	5,301	4,609	237,300	6,372	N/A
32	26-Nov-13	73.8	7,308	5,883	4,372	238,300	6,118	N/A
33	26-Nov-13	72.1	7,516	6,164	4,684	179,200	6,359	N/A
34	26-Nov-13	76.1	7,671	6,101	4,511	238,600	5,927	N/A
35	27-Nov-13	77.3	7,579	6,335	4,579	236,500	5,838	N/A
36	27-Nov-13	75.1	7,532	5,780	4,308	214,100	5,809	N/A
37	27-Nov-13	75.6	7,351	5,547	4,533	180,000	6,330	N/A
38	28-Nov-13	80.4	7,339	5,918	4,653	230,200	5,826	N/A
39	28-Nov-13	77.8	7,215	5,328	4,384	179,200	6,257	N/A
40	28-Nov-13	75.2	7,186	5,931	4,889	230,900	6,227	N/A
41	28-Nov-13	79.5	7,286	6,332	4,790	233,500	5,752	N/A
AVG=		69.4	7,527	5,916	4,616	6,599,300	255,524	TOTAL Gas

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Freshwater	364'	NA	364'	NA
Freshwater	367'	NA	367'	NA
Siltstone	0	97	0	97
Sandy Shale	est 97	317	est 97	317
Sandstone	est 317	507	est 317	507
Silty Sandstone	est 507	657	est 507	657
Sandstone	est 657	1027	est 657	1027
Limestone/Dolomite	est 1027	1,117	est 1027	1,117
Siltstone	est 1117	1,297	est 1117	1,297
Sandstone	est 1297	1,327	est 1297	1,327
Limey Siltstone	est 1327	1,477	est 1327	1,477
Sandstone	est 1477	1,597	est 1477	1,597
Sandy Siltstone	est 1597	1,737	est 1597	1,737
Coal	est 1737	1757	est 1737	1757
Sandstone	est 1757	1797	est 1757	1797
Siltstone	est 1797	1817	est 1797	1817
Sandstone	est 1817	2097	est 1817	2097
Limey Shale	est 2097	2283	est 2097	2283
Big Lime	2,283	2,403	2,283	2,403
Big Injun	2,403	2,758	2,403	2,758
Gantz Sand	2,758	2,846	2,758	2,846
Fifty Foot Sandstone	2,846	2,963	2,846	2,963
Gordon	2,963	3,291	2,963	3,291
Fifth Sandstone	3,291	3,321	3,291	3,321
Bayard	3,321	3,665	3,321	3,668
Warren	3,665	3,893	3,668	3,886
Speechley	3,893	4,410	3,886	4,403
Baltown	4,410	4,737	4,403	4,734
Bradford	4,737	5,258	4,734	5,261
Benson	5,258	5,535	5,261	5,540
Alexander	5,535	7,563	5,540	5,762
Elk	7,563	6,368	5,762	6,378
Rhinestreet	6,368	6,880	6,378	6,919
Sycamore	6,880	7,102	6,919	7,190
Middlesex	7,102	7,253	7,190	7,374
Burkett	7,253	7,279	7,374	7,405
Tully	7,279	7,430	7,405	7,684
Marcellus	7,430	NA	7,684	NA

*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.

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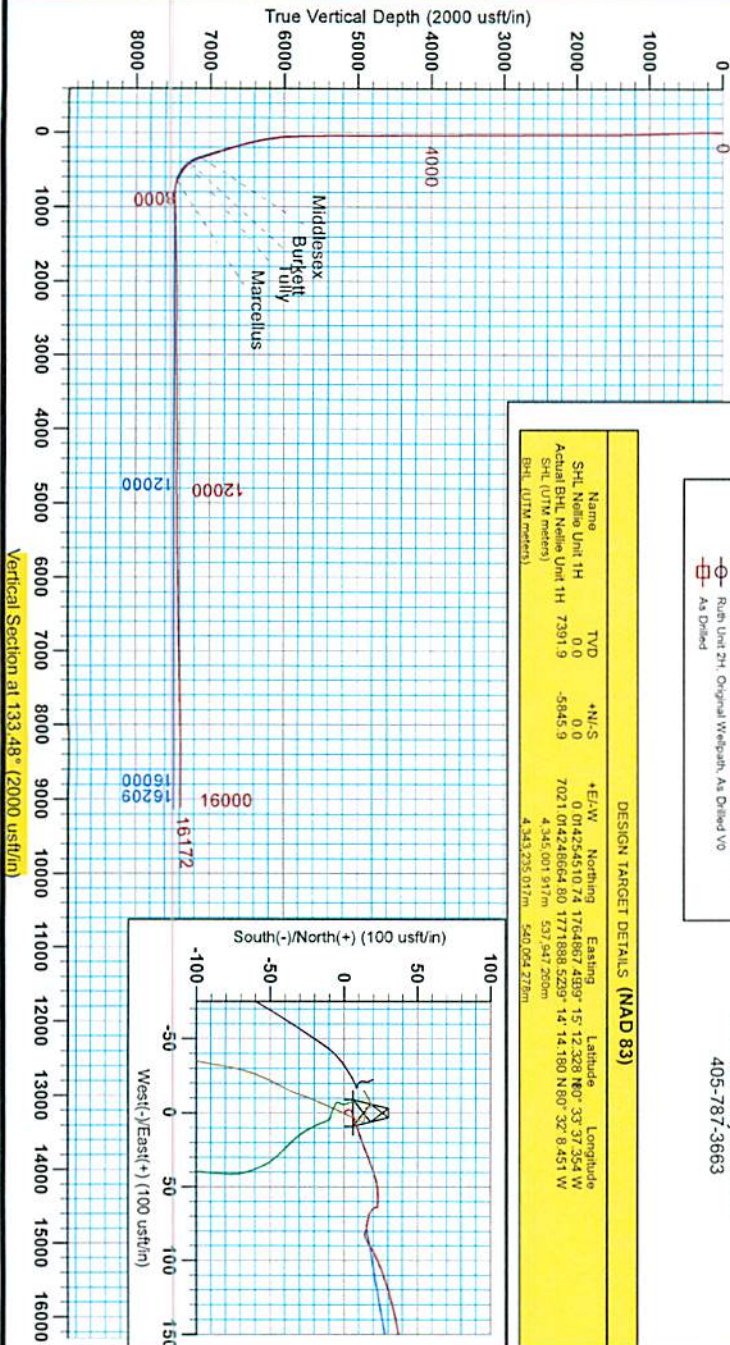
WV Department of
Environmental Protection

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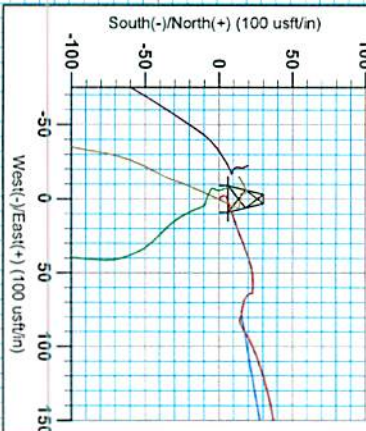
33-05686



Antero Resources
 Nellie Unit 1H
 Harrison County West Virginia
 Northing: 14254510.75
 Easting: 1764867.49
 As Drilled



Vertical Section at 133.48° (2000 usft/in)



DESIGN TARGET DETAILS (NAD 83)			
Name	TVD	+N/S	+E/W
Nellie Unit 1H	0.0	0.0	0.0
Actual BHL Nellie Unit 1H	7391.9	-5945.9	7021.014248664 80
SPL (UTM meters)			4,345,001 917m 537 947 205m
BHL (UTM meters)			4,343,235.037m 540,094.275m

LEGEND

- Nellie Unit 1H, Original Wellpath, As Drilled VO
- △ Nellie Unit 2H, Original Wellpath, As Drilled VO
- Norm Unit 2H, Original Wellpath, As Drilled VO
- ◇ Nellie Unit 1H, Original Wellpath, Plan 4 Post Op VO
- Norm Unit 2H, Original Wellpath, As Drilled VO
- As Drilled

WELL DETAILS: Nellie Unit 1H

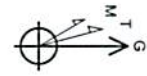
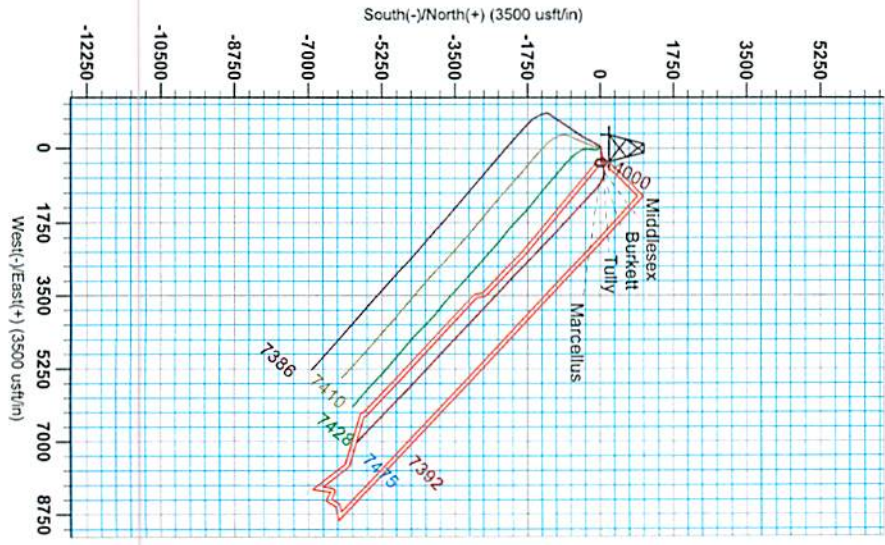
Ground Level: 1376.0
 +N/S -E/W: Northing: 14254510.75 Easting: 1764867.49
 0.0 0.0 14254510.75 1764867.49 30° 15' 12.328 N 97° 37' 35.4 W

REFERENCE INFORMATION

Geologic Information: Middlesex, Burkett, Tully, Marcellus
 Vertical (VD) Distance: 16209.5
 Actual (AD) Distance: 16209.5
 Calculated (CD) Distance: 16209.5
 Calculated (CD) Distance: 16209.5

Scientific Drilling

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



To convert Magnetic North to Grid North
 To convert True North to Grid North

Magnetic Declination: 11° 18' 00" W
 Grid North: 11° 18' 00" W
 True North: 0° 0' 00" W

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Antero Resources

Harrison County West Virginia
Ruth/Norris/Nellie/Ford Pad
Nellie Unit 1H
Original Wellpath

Design: As Drilled

EOW Completion Report

17 September, 2013

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Scientific Drilling
West Virginia Department of
Environmental Protection

10/30/2015



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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Project	Harrison County West Virginia, Harrison County, USA		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Ruth/Norris/Nellie/Ford Pad				
Site Position:		Northing:	14,254,530.66 usft	Latitude:	39° 15' 12.526 N
From:	Map	Easting:	1,764,845.07 usft	Longitude:	80° 33' 37.638 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.28 °

Well	Nellie Unit 1H					
Well Position	+N/-S	0.0 usft	Northing:	14,254,510.75 usft	Latitude:	39° 15' 12.328 N
	+E/-W	0.0 usft	Easting:	1,764,867.49 usft	Longitude:	80° 33' 37.354 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,400.0 usft	Ground Level:	1,376.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/18/2013	-8.59	66.83	52,349

Design	As Drilled				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	133.48

Survey Program	Date	9/17/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
50.0	2,535.0	Survey #3 Def Gyro to Intermediate (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
2,600.0	5,514.0	Survey #4 Def Gyro to KOP (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,623.0	16,172.0	Survey #5 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1	

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
	50.0	0.97	298.75	50.0	0.2	-0.4	-0.4	1.94
	100.0	0.99	328.27	100.0	0.8	-1.0	-1.2	1.00
	150.0	1.09	333.68	150.0	1.6	-1.4	-2.1	0.28
	200.0	1.20	341.79	200.0	2.5	-1.8	-3.0	0.39
	250.0	1.22	349.69	250.0	3.5	-2.0	-3.9	0.34
	300.0	1.20	36.31	300.0	4.5	-1.8	-4.4	1.92
	350.0	2.66	73.22	349.9	5.2	-0.4	-3.9	3.69
	400.0	4.48	73.65	399.8	6.1	2.6	-2.3	3.64
	450.0	5.36	70.18	449.6	7.4	6.7	-0.3	1.86

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

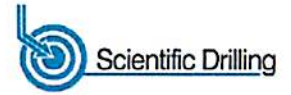
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
500.0	5.49	69.58	499.4	9.1	11.1	1.8	0.28
550.0	5.59	70.57	549.2	10.7	15.6	4.0	0.28
600.0	5.89	69.54	598.9	12.4	20.3	6.2	0.63
650.0	6.09	69.05	648.7	14.3	25.2	8.5	0.41
700.0	6.41	69.24	698.4	16.2	30.3	10.8	0.64
750.0	6.37	69.24	748.1	18.2	35.5	13.3	0.08
800.0	5.39	70.35	797.8	19.9	40.3	15.5	1.97
850.0	5.11	71.40	847.6	21.4	44.6	17.6	0.59
900.0	3.44	83.91	897.4	22.3	48.2	19.6	3.81
950.0	3.11	84.60	947.4	22.6	51.1	21.5	0.66
1,000.0	2.58	85.01	997.3	22.8	53.5	23.1	1.06
1,050.0	2.27	88.41	1,047.2	23.0	55.7	24.6	0.68
1,100.0	1.80	87.57	1,097.2	23.0	57.4	25.8	0.94
1,150.0	1.70	93.25	1,147.2	23.0	59.0	26.9	0.40
1,200.0	1.27	92.68	1,197.2	22.9	60.2	27.9	0.86
1,250.0	1.05	93.64	1,247.2	22.9	61.3	28.7	0.44
1,300.0	0.82	94.10	1,297.2	22.8	62.1	29.3	0.46
1,350.0	0.61	93.12	1,347.2	22.8	62.7	29.8	0.42
1,400.0	0.43	88.06	1,397.2	22.8	63.1	30.1	0.37
1,450.0	0.24	105.31	1,447.2	22.8	63.4	30.4	0.43
1,500.0	0.16	114.77	1,497.2	22.7	63.6	30.5	0.17
1,550.0	0.18	175.78	1,547.2	22.6	63.7	30.7	0.35
1,600.0	0.12	93.29	1,597.2	22.5	63.7	30.7	0.41
1,650.0	0.13	204.73	1,647.2	22.5	63.8	30.8	0.41
1,700.0	0.05	19.41	1,697.2	22.4	63.7	30.8	0.36
1,750.0	0.09	100.22	1,747.2	22.4	63.8	30.8	0.19
1,800.0	0.32	87.68	1,797.2	22.4	64.0	31.0	0.47
1,850.0	0.30	169.35	1,847.2	22.3	64.1	31.2	0.81
1,900.0	0.29	139.21	1,897.2	22.1	64.2	31.4	0.31
1,950.0	0.26	198.77	1,947.2	21.9	64.3	31.6	0.55
2,000.0	0.10	185.65	1,997.2	21.7	64.2	31.7	0.33
2,050.0	0.26	152.56	2,047.1	21.6	64.3	31.8	0.37
2,100.0	0.28	207.77	2,097.1	21.4	64.3	31.9	0.50
2,150.0	0.28	158.97	2,147.1	21.2	64.3	32.1	0.46
2,200.0	0.21	271.42	2,197.1	21.1	64.2	32.1	0.82
2,250.0	0.08	160.89	2,247.1	21.0	64.1	32.1	0.50
2,300.0	0.18	184.99	2,297.1	20.9	64.1	32.2	0.22
2,350.0	0.48	147.76	2,347.1	20.7	64.3	32.4	0.71
2,400.0	0.44	134.34	2,397.1	20.3	64.5	32.8	0.23
2,450.0	0.35	113.71	2,447.1	20.1	64.8	33.1	0.33
2,500.0	0.32	161.24	2,497.1	20.0	65.0	33.4	0.54
2,535.0	0.24	149.67	2,532.1	19.8	65.0	33.6	0.28
2,600.0	0.10	166.49	2,597.1	19.6	65.1	33.7	0.23
2,650.0	0.14	142.53	2,647.1	19.5	65.2	33.8	0.13
2,700.0	0.37	121.76	2,697.1	19.4	65.3	34.1	0.49

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

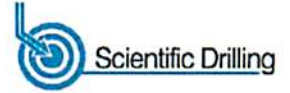
Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,750.0	0.30	139.62	2,747.1	19.2	65.6	34.3	0.25	
2,800.0	0.36	131.35	2,797.1	19.0	65.8	34.6	0.15	
2,850.0	0.46	123.46	2,847.1	18.8	66.0	35.0	0.23	
2,900.0	0.23	145.17	2,897.1	18.6	66.3	35.3	0.52	
2,950.0	0.71	115.24	2,947.1	18.4	66.6	35.7	1.05	
3,000.0	0.19	133.27	2,997.1	18.2	66.9	36.1	1.07	
3,050.0	0.24	131.85	3,047.1	18.1	67.1	36.2	0.10	
3,100.0	0.72	123.57	3,097.1	17.8	67.4	36.7	0.97	
3,150.0	0.59	111.74	3,147.1	17.6	67.9	37.2	0.37	
3,200.0	0.39	124.74	3,197.1	17.4	68.3	37.6	0.46	
3,250.0	0.41	112.62	3,247.1	17.2	68.6	37.9	0.17	
3,300.0	0.43	116.04	3,297.1	17.1	68.9	38.3	0.06	
3,350.0	0.39	113.08	3,347.1	16.9	69.3	38.6	0.09	
3,400.0	0.30	113.17	3,397.1	16.8	69.5	38.9	0.18	
3,450.0	0.22	100.93	3,447.1	16.7	69.8	39.1	0.19	
3,500.0	0.41	96.00	3,497.1	16.7	70.0	39.3	0.38	
3,550.0	0.30	94.18	3,547.1	16.7	70.3	39.6	0.22	
3,600.0	0.31	85.73	3,597.1	16.7	70.6	39.8	0.09	
3,650.0	0.29	79.93	3,647.1	16.7	70.9	39.9	0.07	
3,700.0	0.21	99.02	3,697.1	16.7	71.1	40.1	0.23	
3,750.0	0.38	100.60	3,747.1	16.6	71.3	40.3	0.34	
3,800.0	0.29	98.71	3,797.1	16.6	71.6	40.5	0.18	
3,850.0	0.38	106.48	3,847.1	16.5	71.9	40.8	0.20	
3,900.0	0.35	109.85	3,897.1	16.4	72.2	41.1	0.07	
3,950.0	0.37	104.79	3,947.1	16.3	72.5	41.4	0.08	
4,000.0	0.28	119.82	3,997.1	16.2	72.8	41.6	0.25	
4,050.0	0.28	109.72	4,047.1	16.1	73.0	41.9	0.10	
4,100.0	0.32	118.34	4,097.1	16.0	73.2	42.1	0.12	
4,150.0	0.18	116.21	4,147.1	15.9	73.4	42.3	0.28	
4,200.0	0.25	102.45	4,197.1	15.9	73.6	42.5	0.17	
4,250.0	0.25	107.63	4,247.1	15.8	73.8	42.7	0.05	
4,300.0	0.16	122.94	4,297.1	15.7	74.0	42.8	0.21	
4,350.0	0.34	90.34	4,347.1	15.7	74.2	43.0	0.45	
4,400.0	0.35	89.25	4,397.1	15.7	74.5	43.2	0.02	
4,450.0	0.18	75.95	4,447.1	15.7	74.7	43.4	0.36	
4,500.0	0.42	79.16	4,497.1	15.8	75.0	43.5	0.48	
4,550.0	0.52	103.85	4,547.1	15.8	75.4	43.8	0.45	
4,600.0	0.51	102.13	4,597.1	15.7	75.8	44.2	0.04	
4,650.0	0.41	113.40	4,647.1	15.5	76.2	44.6	0.27	
4,700.0	0.21	72.08	4,697.1	15.5	76.4	44.8	0.58	
4,750.0	0.24	84.74	4,747.1	15.5	76.6	44.9	0.12	
4,800.0	0.07	307.19	4,797.1	15.6	76.7	45.0	0.59	
4,850.0	0.17	236.07	4,847.1	15.5	76.6	44.9	0.32	
4,900.0	0.40	236.84	4,897.1	15.4	76.4	44.8	0.46	

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
4,950.0	0.45	252.66	4,947.1	15.2	76.1	44.7	0.25
5,000.0	0.13	222.62	4,997.1	15.1	75.9	44.6	0.69
5,050.0	0.24	84.72	5,047.1	15.1	75.9	44.7	0.70
5,100.0	0.11	32.87	5,097.1	15.2	76.1	44.7	0.39
5,150.0	0.47	87.77	5,147.1	15.2	76.3	44.9	0.83
5,200.0	0.29	74.62	5,197.1	15.3	76.6	45.1	0.40
5,250.0	0.40	114.04	5,247.1	15.2	76.9	45.3	0.51
5,300.0	0.33	76.85	5,297.1	15.2	77.2	45.6	0.48
5,350.0	0.33	61.83	5,347.1	15.3	77.5	45.7	0.17
5,400.0	0.44	91.98	5,397.1	15.3	77.8	45.9	0.45
5,450.0	0.38	87.95	5,447.1	15.3	78.1	46.1	0.13
5,500.0	0.35	93.09	5,497.1	15.3	78.5	46.4	0.09
5,514.0	0.45	78.15	5,511.1	15.3	78.5	46.4	1.03
5,623.0	1.06	124.19	5,620.1	14.9	79.8	47.7	0.75
5,654.0	1.93	118.19	5,651.1	14.5	80.5	48.5	2.85
5,717.0	2.88	85.55	5,714.0	14.1	83.0	50.5	2.59
5,811.0	5.88	56.24	5,807.7	16.9	89.4	53.2	3.88
5,905.0	7.81	64.84	5,901.1	22.3	99.2	56.6	2.32
5,999.0	9.93	71.79	5,993.9	27.6	112.6	62.8	2.52
6,094.0	12.58	75.02	6,087.1	32.8	130.4	72.0	2.87
6,187.0	14.61	82.22	6,177.5	37.0	151.8	84.7	2.84
6,282.0	16.78	83.66	6,269.0	40.2	177.3	101.0	2.32
6,376.0	19.27	81.57	6,358.3	43.9	206.2	119.4	2.74
6,470.0	22.16	81.30	6,446.3	48.9	239.0	139.8	3.08
6,564.0	22.77	80.88	6,533.1	54.5	274.5	161.7	0.67
6,659.0	23.19	80.66	6,620.6	60.4	311.1	184.2	0.45
6,721.0	26.08	85.05	6,676.9	63.6	336.8	200.6	5.51
6,847.0	28.09	85.27	6,789.1	68.4	393.9	238.8	1.60
6,941.0	26.73	85.72	6,872.6	71.8	437.1	267.7	1.46
7,129.0	26.64	81.84	7,040.5	80.9	521.0	322.3	0.93
7,159.0	25.58	82.33	7,067.5	82.8	534.0	330.6	3.61
7,194.0	25.17	81.89	7,099.1	84.8	548.9	339.9	1.29
7,218.0	24.95	81.44	7,120.8	86.3	558.9	346.2	1.20
Middlesex							
7,226.0	24.88	81.29	7,128.1	86.8	562.3	348.3	1.20
7,254.0	27.04	85.64	7,153.3	88.2	574.4	356.2	10.28
7,289.0	31.20	90.56	7,183.9	88.7	591.5	368.1	13.70
7,320.0	34.77	94.93	7,209.9	87.9	608.3	380.9	13.83
7,348.0	37.49	98.55	7,232.5	85.9	624.7	394.2	12.34
7,383.0	40.10	101.96	7,259.7	82.0	646.2	412.5	9.63
7,397.0	41.28	103.19	7,270.4	80.0	655.2	420.4	10.21
Burkett							
7,414.0	42.74	104.60	7,283.0	77.3	666.2	430.2	10.21

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
7,428.0	43.93	105.54	7,293.2	74.8	675.5	438.7	9.70	
Tully								
7,443.0	45.22	106.51	7,303.9	71.9	685.6	448.0	9.70	
7,477.0	47.59	108.90	7,327.3	64.4	709.0	470.2	8.63	
7,508.0	50.12	112.11	7,347.7	56.2	730.9	491.7	11.29	
7,537.0	53.24	114.97	7,365.7	47.1	751.7	513.1	13.25	
7,571.0	56.46	116.95	7,385.3	34.9	776.7	539.6	10.60	
7,603.0	58.56	119.81	7,402.5	22.1	800.5	565.7	9.99	
7,631.0	61.79	122.47	7,416.4	9.5	821.3	589.4	14.18	
7,665.0	65.56	124.86	7,431.5	-7.4	846.6	619.4	12.75	
7,697.0	68.79	128.07	7,443.9	-24.9	870.3	648.7	13.69	
7,707.0	70.09	128.45	7,447.4	-30.7	877.7	658.0	13.51	
Marcellus								
7,725.0	72.44	129.12	7,453.2	-41.4	890.9	675.0	13.51	
7,760.0	76.93	129.38	7,462.4	-62.8	917.1	708.6	12.85	
7,791.0	80.99	129.95	7,468.3	-82.2	940.5	739.0	13.22	
7,820.0	85.12	131.02	7,471.8	-100.9	962.4	767.7	14.70	
7,882.0	88.92	135.15	7,475.1	-143.1	1,007.6	829.6	9.04	
7,976.0	93.67	134.06	7,472.9	-209.1	1,074.5	923.5	5.18	
8,071.0	90.94	133.50	7,469.1	-274.8	1,143.0	1,018.5	2.93	
8,165.0	90.87	133.60	7,467.6	-339.5	1,211.1	1,112.4	0.13	
8,259.0	90.03	133.02	7,466.9	-404.0	1,279.5	1,206.4	1.09	
8,353.0	91.78	134.54	7,465.4	-469.0	1,347.4	1,300.4	2.47	
8,447.0	91.55	133.72	7,462.7	-534.5	1,414.8	1,394.4	0.91	
8,541.0	90.84	131.72	7,460.7	-598.2	1,483.9	1,488.3	2.26	
8,635.0	92.49	134.83	7,458.0	-662.6	1,552.3	1,582.3	3.74	
8,729.0	92.08	135.02	7,454.2	-728.9	1,618.8	1,676.2	0.48	
8,823.0	91.31	133.60	7,451.5	-794.6	1,686.0	1,770.1	1.72	
8,917.0	89.46	134.54	7,450.8	-860.0	1,753.5	1,864.1	2.21	
9,012.0	91.18	133.56	7,450.3	-926.0	1,821.8	1,959.1	2.08	
9,103.0	90.87	133.75	7,448.7	-988.8	1,887.6	2,050.1	0.40	
9,194.0	89.63	131.81	7,448.3	-1,050.6	1,954.4	2,141.1	2.53	
9,286.0	89.63	133.17	7,448.9	-1,112.8	2,022.2	2,233.1	1.48	
9,377.0	90.57	133.17	7,448.7	-1,175.0	2,088.6	2,324.1	1.03	
9,468.0	89.60	135.63	7,448.6	-1,238.7	2,153.6	2,415.0	2.91	
9,560.0	89.63	137.05	7,449.2	-1,305.2	2,217.1	2,506.9	1.54	
9,653.0	90.17	133.09	7,449.4	-1,371.1	2,282.8	2,599.9	4.30	
9,744.0	89.63	133.35	7,449.5	-1,433.4	2,349.1	2,690.9	0.66	
9,835.0	90.20	130.08	7,449.7	-1,493.9	2,417.0	2,781.8	3.65	
9,926.0	89.23	132.73	7,450.1	-1,554.1	2,485.3	2,872.7	3.10	
10,018.0	89.87	132.65	7,450.8	-1,616.5	2,552.9	2,964.7	0.70	
10,108.0	90.91	134.28	7,450.2	-1,678.4	2,618.2	3,054.7	2.15	
10,202.0	89.90	133.42	7,449.5	-1,743.5	2,686.0	3,148.7	1.41	
10,296.0	91.95	134.32	7,448.0	-1,808.6	2,753.8	3,242.7	2.38	
10,390.0	92.09	134.45	7,444.7	-1,874.3	2,820.9	3,336.6	0.20	

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
10,484.0	89.87	134.47	7,443.1	-1,940.2	2,888.0	3,430.6	2.36
10,578.0	90.54	134.56	7,442.8	-2,006.1	2,955.0	3,524.6	0.72
10,673.0	90.84	133.73	7,441.6	-2,072.2	3,023.2	3,619.6	0.93
10,767.0	88.66	132.25	7,442.0	-2,136.3	3,091.9	3,713.5	2.80
10,860.0	91.28	133.18	7,442.1	-2,199.4	3,160.2	3,806.5	2.99
10,954.0	91.75	132.15	7,439.6	-2,263.1	3,229.3	3,900.5	1.20
11,048.0	90.84	132.27	7,437.5	-2,326.2	3,298.9	3,994.4	0.98
11,142.0	90.24	132.60	7,436.6	-2,389.6	3,368.3	4,088.4	0.73
11,237.0	90.07	133.99	7,436.3	-2,454.8	3,437.5	4,183.4	1.47
11,331.0	89.26	133.03	7,436.9	-2,519.5	3,505.6	4,277.4	1.34
11,425.0	89.33	133.33	7,438.0	-2,583.8	3,574.2	4,371.4	0.33
11,519.0	90.07	133.89	7,438.5	-2,648.7	3,642.2	4,465.4	0.99
11,613.0	89.36	132.88	7,439.0	-2,713.2	3,710.5	4,559.4	1.31
11,707.0	89.09	131.94	7,440.3	-2,776.6	3,779.9	4,653.4	1.04
11,801.0	90.24	133.17	7,440.8	-2,840.2	3,849.2	4,747.3	1.79
11,895.0	90.64	133.28	7,440.1	-2,904.6	3,917.7	4,841.3	0.44
11,989.0	90.37	133.59	7,439.3	-2,969.2	3,985.9	4,935.3	0.44
12,083.0	90.71	135.04	7,438.4	-3,034.8	4,053.2	5,029.3	1.58
12,177.0	90.37	135.06	7,437.5	-3,101.4	4,119.6	5,123.3	0.36
12,272.0	89.53	135.54	7,437.6	-3,168.9	4,186.4	5,218.2	1.02
12,366.0	90.10	133.19	7,437.9	-3,234.6	4,253.6	5,312.2	2.57
12,460.0	90.13	133.86	7,437.7	-3,299.3	4,321.8	5,406.2	0.71
12,554.0	90.27	132.34	7,437.4	-3,363.6	4,390.4	5,500.2	1.62
12,648.0	91.24	132.81	7,436.1	-3,427.2	4,459.6	5,594.2	1.15
12,742.0	91.51	132.78	7,433.9	-3,491.0	4,528.6	5,688.2	0.29
12,836.0	89.56	134.20	7,433.0	-3,555.7	4,596.8	5,782.1	2.57
12,930.0	90.30	132.95	7,433.1	-3,620.5	4,664.8	5,876.1	1.55
13,025.0	90.17	133.13	7,432.7	-3,685.3	4,734.3	5,971.1	0.23
13,118.0	90.13	133.07	7,432.5	-3,748.9	4,802.2	6,064.1	0.08
13,212.0	91.61	133.22	7,431.1	-3,813.1	4,870.8	6,158.1	1.58
13,306.0	91.92	135.02	7,428.2	-3,878.5	4,938.2	6,252.1	1.94
13,400.0	90.37	134.02	7,426.3	-3,944.4	5,005.2	6,346.0	1.96
13,495.0	91.51	134.77	7,424.7	-4,010.9	5,073.1	6,441.0	1.44
13,589.0	90.84	132.59	7,422.8	-4,075.8	5,141.0	6,535.0	2.43
13,683.0	91.18	133.76	7,421.1	-4,140.1	5,209.6	6,629.0	1.30
13,777.0	91.65	133.20	7,418.8	-4,204.8	5,277.8	6,722.9	0.78
13,871.0	89.70	131.08	7,417.7	-4,267.8	5,347.5	6,816.9	3.06
13,965.0	91.18	131.41	7,417.0	-4,329.8	5,418.1	6,910.8	1.61
14,059.0	92.72	133.15	7,413.8	-4,393.0	5,487.6	7,004.7	2.47
14,153.0	90.67	133.40	7,411.0	-4,457.4	5,556.0	7,098.7	2.20
14,248.0	89.76	132.66	7,410.7	-4,522.2	5,625.5	7,193.7	1.23
14,342.0	92.38	132.32	7,408.9	-4,585.7	5,694.8	7,287.6	2.81
14,436.0	91.82	134.61	7,405.5	-4,650.3	5,763.0	7,381.6	2.51
14,530.0	92.51	135.53	7,401.9	-4,716.8	5,829.3	7,475.5	1.22

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,624.0	91.63	133.34	7,398.5	-4,782.6	5,896.4	7,569.4	2.51
14,718.0	90.77	133.15	7,396.5	-4,847.0	5,964.8	7,663.4	0.94
14,813.0	91.41	134.75	7,394.7	-4,912.9	6,033.2	7,758.3	1.81
14,907.0	91.21	134.52	7,392.6	-4,978.9	6,100.1	7,852.3	0.32
15,001.0	90.44	134.66	7,391.2	-5,044.9	6,167.0	7,946.3	0.83
15,095.0	90.10	134.13	7,390.8	-5,110.6	6,234.2	8,040.2	0.67
15,189.0	90.27	132.89	7,390.5	-5,175.4	6,302.4	8,134.2	1.33
15,283.0	91.18	133.51	7,389.3	-5,239.7	6,370.9	8,228.2	1.17
15,377.0	89.87	133.15	7,388.4	-5,304.2	6,439.2	8,322.2	1.45
15,472.0	89.50	132.75	7,389.0	-5,368.9	6,508.8	8,417.2	0.57
15,566.0	89.90	132.65	7,389.4	-5,432.7	6,577.9	8,511.2	0.44
15,660.0	89.23	134.02	7,390.2	-5,497.2	6,646.2	8,605.2	1.62
15,754.0	89.76	132.24	7,391.0	-5,561.4	6,714.8	8,699.2	1.98
15,848.0	89.76	133.02	7,391.4	-5,625.1	6,784.0	8,793.2	0.83
15,942.0	89.73	133.63	7,391.8	-5,689.6	6,852.4	8,887.2	0.65
16,036.0	90.07	132.81	7,392.0	-5,754.0	6,920.9	8,981.2	0.94
16,126.0	89.97	132.09	7,391.9	-5,814.7	6,987.3	9,071.2	0.81
16,172.0	90.00	133.48	7,391.9	-5,845.9	7,021.0	9,117.2	3.02

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,218.0	7,120.8	86.3	558.9	Middlesex
7,397.0	7,270.4	80.0	655.2	Burkett
7,428.0	7,293.2	74.8	675.5	Tully
7,707.0	7,447.4	-30.7	877.7	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/30/2013
Job End Date:	11/28/2013
State:	West Virginia
County:	Harrison
API Number:	47-033-056886-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Nellie Unit 1H
Longitude:	-80.56037500
Latitude:	39.25342500
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,475
Total Base Water Volume (gal):	10,731,504
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	ANTERO RESOURCES	Water	Water	7732-18-5	100.00000	92.57840	
Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	4.31073	
			Aluminum Oxide	1344-28-1	1.10000	0.04747	
			Titanium Oxide	13463-67-7	0.10000	0.00432	
			Iron Oxide	1309-37-1	0.10000	0.00432	
Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	1.96812	
			Aluminum Oxide	1344-28-1	1.10000	0.02167	
			Titanium Oxide	13463-67-7	0.10000	0.00197	
			Iron Oxide	1309-37-1	0.10000	0.00197	
Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	0.67426	
			Aluminum Oxide	1344-28-1	1.10000	0.00742	

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			Iron Oxide	1309-37-1	0.10000	0.00068	
			Titanium Oxide	13463-67-7	0.10000	0.00068	
HCl Acid (12.5%-18.0%)	Nabors Completion and Production Services	Bulk Acid					
			Hydrogen Chloride	7647-01-0	18.00000	0.05054	
LSG-100L	Nabors Completion and Production Services	Gelling Agents					
			Petroleum Distillates	64742-47-8	70.00000	0.04877	
WFR-3B	Nabors Completion and Production Services	Friction Reducer					
			Hydroreated light distillates, non-aromatic, BTEX free	64742-47-8	30.00000	0.02006	
			Ethoxylated alcohols	68002-97-1	15.00000	0.01003	
			Ethoxylated oleylamine	26635-93-8	5.00000	0.00334	
KR-153SL	Nabors Completion and Production Services	Biocides					
			Polyethylene-Glycol	25322-68-3	50.00000	0.00656	
			2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00262	
OB-2-LT	Nabors Completion and Production Services	Gel Breakers					
			Ammonium Persulfate	7727-54-0	85.00000	0.00705	
			Crystalline Silica (in the form of quartz)	14808-60-7	10.00000	0.00083	
Super GREEN SOLV	Nabors Completion and Production Services	Paraffin & Scale Additives					
			BTEX Free Aliphatic Hydrocarbon	64742-96-7	100.00000	0.00773	
SUPER TSC-LTS	Nabors Completion and Production Services	Paraffin & Scale Additives					
			Water	7732-18-5	60.00000	0.00535	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors					
			Propargyl Alcohol	107-19-7	40.00000	0.00021	
			Glycol Ethers	111-46-6	40.00000	0.00021	
			Isopropyl Alcohol	67-63-0	40.00000	0.00021	
			Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00007	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00005	
EB-4L	Nabors Completion and Production Services	Gel Breakers					
			Ethylene Glycol	107-21-1	40.00000	0.00020	

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.

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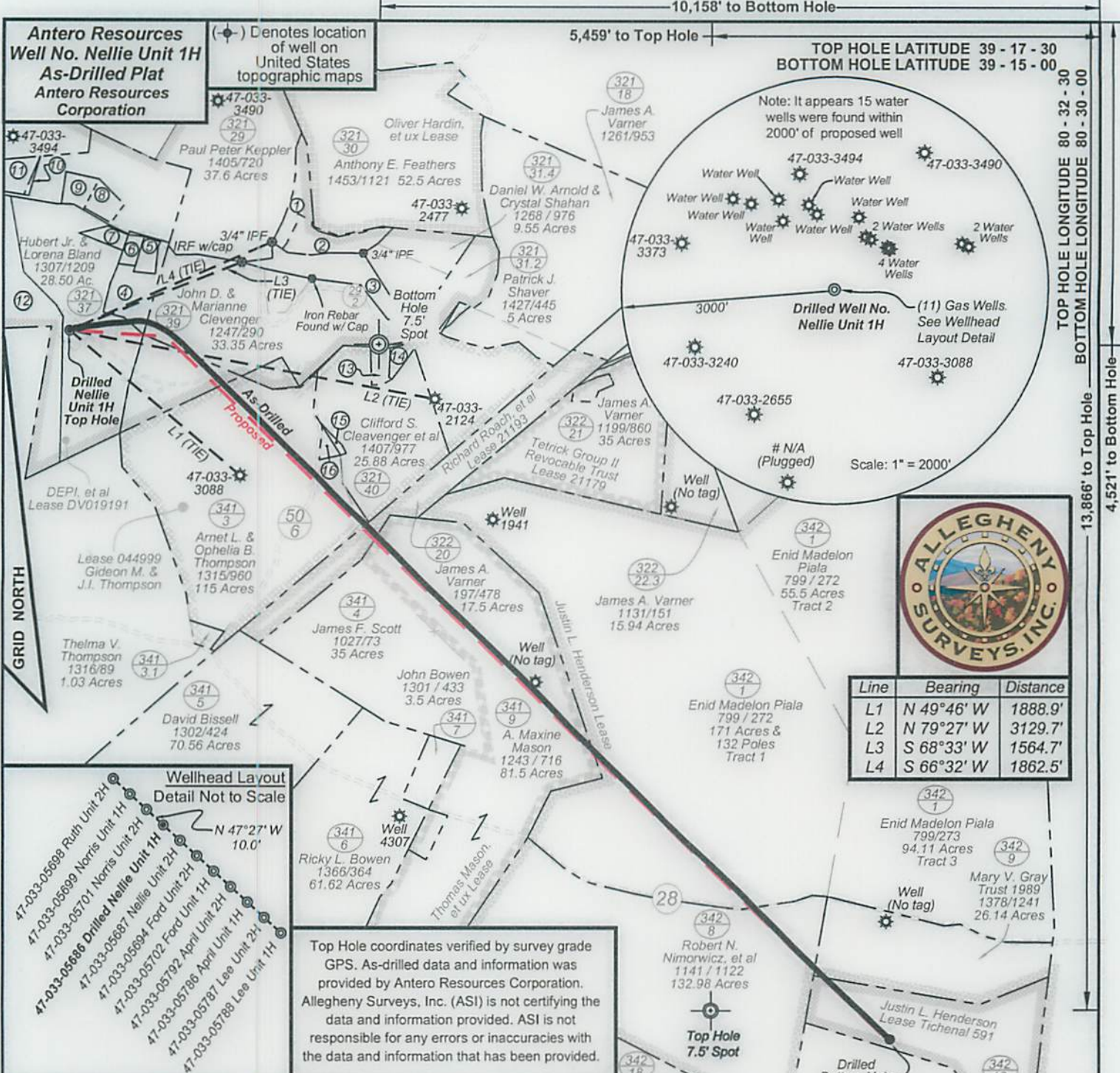
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Other Ingredients	Nabors Completion and Production Services	Other Ingredients						
		Water	7732-18-5	87.50000	0.24570			
		guar gum	9000-30-0	50.00000	0.03484			
		Anionic Polyacrylamide	910644-97-2	40.00000	0.02675			
		Water	7732-18-5	40.00000	0.02675			
		Water	7732-18-5	80.00000	0.01049			
		Propylene glycol	57-55-6	15.00000	0.01003			
		Water	7732-18-5	60.00000	0.00306			
		Proprietary	Proprietary	50.00000	0.00255			
		Surfactant	68439-51-0	2.00000	0.00139			
		Crystalline Silica (in the form of quartz)	14808-60-7	2.00000	0.00139			
		Proprietary	Proprietary	2.00000	0.00134			
		Proprietary	Proprietary	15.00000	0.00134			
		Proprietary	Proprietary	15.00000	0.00134			
		Proprietary	Proprietary	15.00000	0.00134			
		Alkali Chloride salt	Proprietary	15.00000	0.00124			
		Proprietary	Proprietary	15.00000	0.00077			
		Proprietary	Proprietary	15.00000	0.00077			
		Proprietary	Proprietary	15.00000	0.00077			
		Sugar	57-50-1	100.00000	0.00050			
		Proprietary	Proprietary	100.00000	0.00050			
		Water	7732-18-5	48.00000	0.00025			
		Water	7732-18-5	100.00000	0.00025			
		2-Butoxyethanol	111-76-2	13.00000	0.00007			
		Proprietary	Proprietary	1.00000	0.00001			
		Dioxane	123-91-1	1.00000	0.00001			
		Proprietary	Proprietary	1.00000	0.00001			
		Proprietary	Proprietary	1.00000	0.00001			
		Proprietary	Proprietary	1.00000	0.00001			
		Organophylic Clay	68953-58-2	1.00000	0.00001			

* 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)

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Wellhead Layout Detail Not to Scale

47-033-05688 Ruth Unit 2H
 47-033-05689 Norris Unit 1H
 47-033-05701 Norris Unit 2H
 47-033-05687 Nellie Unit 2H
 47-033-05684 Ford Unit 2H
 47-033-05702 Ford Unit 1H
 47-033-05792 April Unit 1H
 47-033-05786 April Unit 1H
 47-033-05787 Lee Unit 2H
 47-033-05788 Lee Unit 1H

Top Hole coordinates verified by survey grade GPS. As-drilled data and information was provided by Antero Resources Corporation. Allegheny Surveys, Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

Par	Tax Map	321 Owner	Bk/Pg	Acres
1	31.1	Robert G. Jr. & Betty A. Matheny	1405/720	4.87
2	31.3	Robert G. Jr. & Betty A. Matheny	1114/167	3.53
3	31	Carl H. Jr. & Jeanne Adkins	1356/1050	2.35
4	38.1	John & Marianne Clevenger	1247/289	4.17
5	38.2	John & Marianne Clevenger	1247/289	1.05
6	38	Robert N. & Shirley M. Bowen	941/478	0.78
7	37.1	Roberta G. Zwiebel	F104/780	0.98
8	28.1	Patricia A. Collins	1060/1140	1.46
9	27	City of Salem	642/123	1.50
10	28.4	Nancy E. Farr	1439/38	0.18
11	28.3	Nancy E. Farr	1362/580	19.75
12	26	Christine R. Utter	1314/417	1.06
13	40.4	Clifford S. & Laura Clevenger	1406/1196	0.81
14	40.3	Clifford S. & Laura Clevenger	1407/979	0.244
15	40.5	Danny & Tina Martin	1188/1013	0.565
16	40	Danny & Tina Martin	1321/453	

Legend

- Proposed gas well
- Found corner, as noted
- Surface boundary (approx.)
- Existing Road
- Interior surface tracts (approx.)
- Creek or Drain

Notes:
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Well No. Nellie Unit 1H Top Hole coordinates are
 N: 276,184.54 Latitude: 39°15'12.33"
 E: 1,699,722.53 Longitude: 80°33'37.36"
 Bottom Hole coordinates are
 N: 270,220.21 Latitude: 39°14'14.18"
 E: 1,706,647.47 Longitude: 80°32'08.45"
UTM Zone 17, NAD 1983
 Top Hole Coordinates: N: 4,345,001.890m E: 537,947.233m
 Bottom Hole Coordinates: N: 4,343,220.036m E: 540,087.247m
 Plat orientation and corner and well references are based upon the grid north meridian. Well location references are based upon the magnetic meridian.

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

FILE NO: 70-36-U-12
 DRAWING NO: 70-12 Nellie 1H As-Drilled
 SCALE: 1" = 1200'
 MINIMUM DEGREE OF ACCURACY: Submeter
 PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

DATE: April 2, 2015
 OPERATOR'S WELL NO. Nellie Unit 1H
 API WELL NO. 47-033-05686
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Original - 1398' Existing - 1376' WATERSHED: Tenmile Creek QUADRANGLE: Salem & Big Isaac
 DISTRICT: Tenmile COUNTY: Harjo
 SURFACE OWNER: Hubert Jr. & Lorena Bland Justin L. Henderson; Thomas Mason, et ux; Tichenal 591 ACREAGE: 28.50 80, 30; 21193; 1026.936;
 ROYALTY OWNER: DEPI, et al; Gideon M. & J.I. Thompson; Richard Roach, et al LEASE NO: DV019191; 044999 ACREAGE: 283; 144; 17.50
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled TVD 7,392'
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale DEPTH: MD 16,172'

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
 ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
 Denver, CO 80202 Charleston, WV 25313