

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

APR 25 2018

API 47 - 085 - 10291 County Ritchie District Clay
Quad Pennsboro 7.5' Pad Name Noland Pad Field/Pool Name -----
Farm name Darrell A. Noland et al Well Number Piper 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 4349944m Easting 501902m
Landing Point of Curve Northing 4349956m Easting 502177m
Bottom Hole Northing 4347481m Easting 503201m

Elevation (ft) 1143' 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 08/31/2016 Date drilling commenced 10/20/2016 Date drilling ceased 4/9/2017
Date completion activities began 08/12/2017 Date completion activities ceased 11/04/2017
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 43', 124', 216' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1112' Void(s) encountered (Y/N) depths No
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by: _____

Reviewed

MAG 5-9-2018

WR-35
Rev. 8/23/13

API 47-085 - 10291 Farm name Darrell A. Noland et al Well number Piper Unit 1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	65'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	368'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2574'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	15742'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6669'		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	102 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	480 sx	15.6	1.19	571	0'	8 Hrs.
Coal							
Intermediate 1	Class A	989 sx	15.6	1.18	1167	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	788 sx (Lead) 1280 sx (Tail)	13.97 (Lead), 15.3 (Tail)	1.44 (Lead), 1.87 (Tail)	3540	-500' into Intermediate Casing	8 Hrs.
Tubing							

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Drillers TD (ft) 15742' MD, 6421' TVD (BHL), 12142' (Deepest Point Drilled) Loggers TD (ft) 15742' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A APR 25 2018

Plug back procedure N/A WV Department of Environmental Protection

Kick off depth (ft) 6050'

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

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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API 47- 085 - 10291 Farm name Darrell A. Noland et al Well number Piper Unit 1H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	6371' (TOP)	TVD	6707' (TOP) MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 10,150 mcfpd Oil 169 bpd NGL --- bpd Water 53 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	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**

					RECEIVED Office of Oil and Gas
					APR 25 2018
					WV Department of Environmental Protection

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 BJ Services
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company Halliburton
Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Mallory Stanton Telephone 303-357-7182
Signature  Title Permitting Supervisor Date 04/24/2018

API 47-085-10291 Farm Name Darrell A. Noland et al Well Number Piper Unit 1H					
EXHIBIT 1					
Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8/13/2017	15589	15640	60	Marcellus
2	8/13/2017	15384	15550	60	Marcellus
3	8/13/2017	15178	15344	60	Marcellus
4	8/14/2017	14973	15139	60	Marcellus
5	8/14/2017	14767	14933	60	Marcellus
6	8/14/2017	14562	14728	60	Marcellus
7	8/15/2017	14356	14522	60	Marcellus
8	8/15/2017	14151	14317	60	Marcellus
9	8/16/2017	13945	14111	60	Marcellus
10	8/16/2017	13740	13906	60	Marcellus
11	8/16/2017	13534	13700	60	Marcellus
12	8/17/2017	13329	13495	60	Marcellus
13	8/17/2017	13123	13289	60	Marcellus
14	8/18/2017	12918	13084	60	Marcellus
15	8/18/2017	12712	12878	60	Marcellus
16	8/18/2017	12507	12673	60	Marcellus
17	8/19/2017	12301	12467	60	Marcellus
18	8/19/2017	12096	12262	60	Marcellus
19	10/4/2017	11890	12056	60	Marcellus
20	10/6/2017	11685	11851	60	Marcellus
21	10/6/2017	11479	11645	60	Marcellus
22	10/6/2017	11274	11440	60	Marcellus
23	10/7/2017	11068	11234	60	Marcellus
24	10/7/2017	10863	11029	60	Marcellus
25	10/7/2017	10657	10823	60	Marcellus
26	10/9/2017	10452	10618	60	Marcellus
27	10/16/2017	10246	10412	60	Marcellus
28	10/16/2017	10041	10207	60	Marcellus
29	10/16/2017	9835	10001	60	Marcellus
30	10/16/2017	9629	9796	60	Marcellus
31	10/17/2017	9424	9590	60	Marcellus
32	10/17/2017	9218	9385	60	Marcellus
33	10/17/2017	9013	9179	60	Marcellus
34	10/17/2017	8807	8974	60	Marcellus
35	10/17/2017	8602	8768	60	Marcellus
36	10/18/2017	8396	8563	60	Marcellus
37	10/18/2017	8191	8357	60	Marcellus
38	10/18/2017	7985	8152	60	Marcellus
39	10/19/2017	7780	7946	60	Marcellus
40	10/19/2017	7574	7741	60	Marcellus
41	10/19/2017	7369	7535	60	Marcellus
42	10/19/2017	7163	7330	60	Marcellus
43	10/19/2017	6958	7124	60	Marcellus
44	10/19/2017	6752	6919	60	Marcellus

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API 47-085-10291 Farm Name Darrell A Noland et al Well Number Piper 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	8/13/2017	53.7	6487	3930	3381	108065	6194	N/A
2	8/13/2017	65.6	7300	5824	2667	413840	11784.95	N/A
3	8/13/2017	73.2	7217	5605	2790	425700	8994.571	N/A
4	8/14/2017	71.2	7177	5387	2869	414820	8856.19	N/A
5	8/14/2017	68.9	6966	5390	2853	423160	9002.143	N/A
6	8/14/2017	67.4	6777	5394	2689	413020	8977.667	N/A
7	8/15/2017	69.5	7467	5690	2771	417440	9162.167	N/A
8	8/15/2017	69.5	7828	6180	2818	417550	8627.857	N/A
9	8/16/2017	72.6	7920	6386	2697	421540	9945.452	N/A
10	8/16/2017	73.2	7665	6412	2907	422390	8496.381	N/A
11	8/16/2017	72.6	7792	5962	2824	420680	8402.19	N/A
12	8/17/2017	72.7	7828	5253	2888	424990	8352.405	N/A
13	8/17/2017	75.2	7848	4848	3253	417850	8307.452	N/A
14	8/18/2017	74.7	7617	5652	2951	419580	8224.929	N/A
15	8/18/2017	75.6	7684	5565	2871	422550	8168.119	N/A
16	8/18/2017	75.8	7227	4179	2818	420750	8308.286	N/A
17	8/19/2017	76.2	7257	6274	2995	419830	8115.143	N/A
18	8/19/2017	70.8	7885	5577	5928	207960	6237.19	N/A
19	10/4/2017	72.4	6899	6781	5763	221960	8388.714	N/A
20	10/6/2017	72.2	6835	5547	3336	410730	8121.952	N/A
21	10/6/2017	72.3	6461	5302	3480	406790	7628.881	N/A
22	10/6/2017	68	6789	5959	3513	417050	10183.64	N/A
23	10/7/2017	76.4	6926	6559	3700	415250	8257.786	N/A
24	10/7/2017	77.2	7042	5923	3748	421810	8185.286	N/A
25	10/7/2017	71.7	6895	5880	3751	410240	8255.667	N/A
26	10/9/2017	74.9	7229	5665	3359	177580	8188.952	N/A
27	10/16/2017	68.2	6371		3447	420600	8265.738	N/A
28	10/16/2017	71	6742	6875	4049	419780	8622.738	N/A
29	10/16/2017	75.6	6533	6375	3652	417160	7954.833	N/A
30	10/16/2017	76.1	6683	6726	3677	419880	7970.19	N/A
31	10/17/2017	73.9	6674	6703	3840	418300	7972.881	N/A
32	10/17/2017	72.7	6560	7132	3757	420040	7908.905	N/A
33	10/17/2017	70.6	6476	7411	5532	408950	9344.167	N/A
34	10/17/2017	73.5	6893	6200	3842	410590	8476.286	N/A
35	10/17/2017	76.6	6730	6310	3892	416960	7711.238	N/A
36	10/18/2017	77.8	6457	6806	3977	419660	7953.69	N/A
37	10/18/2017	67.5	6304	6213	3917	419740	8743.667	N/A
38	10/18/2017	70.5	6615	6937	4829	359420	9944.81	N/A
39	10/19/2017	75.3	6698	5636	3920	413520	7934.619	N/A
40	10/19/2017	73.8	6303	5892	3941	418020	8059.714	N/A
41	10/19/2017	72.2	6474	6461	3942	436720	7904.857	N/A
42	10/19/2017	71.1	6914	6831	4261	300910	7846.738	N/A
43	10/19/2017	77.9	6497	6496	3857	422270	8063.952	N/A
44	10/19/2017	76.3	6368	6034	3667	404970	7962.429	N/A
	AVG=	72.4	6,984	6,004	3,582	17,260,615	370,009	TOTAL

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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
Fresh Water	43'	N/A	43'	N/A
Fresh Water	124'	N/A	124'	N/A
Fresh Water	216'	N/A	216'	N/A
Siltstone/Sandstone	0	137	0	137
Sandstone	est. 137	217	est. 137	217
Shale	est. 217	357	est. 217	357
Siltstone/ Shale	est. 357	397	est. 357	397
Trace Coal	est. 397	657	est. 397	657
Siltstone	est. 657	697	est. 657	697
Sandstone	est. 697	737	est. 697	737
Siltstone/ Shale	est. 737	757	est. 737	757
Sandstone	est. 757	777	est. 757	777
Shale/ Limestone	est. 777	817	est. 777	817
Siltstone	est. 817	877	est. 817	877
Shale	est. 877	957	est. 877	957
Shale	est. 957	997	est. 957	997
Shale/ limestone	est. 997	1,257	est. 997	1,257
Siltstone/ shale	est. 1257	1,357	est. 1257	1,357
Sandstone	est. 1357	1,577	est. 1357	1,577
Sandstone	est. 1577	2,002	est. 1577	2,002
Big Lime	2,002	2,581	2,002	2,581
Gantz	2,581	2,859	2,581	2,860
Fifty Foot Sandstone	2,859	2,949	2,860	2,951
Gordon	2,949	3,324	2,951	3,331
Fifth Sandstone	3,324	3,375	3,331	3,383
Bayard	3,375	3,920	3,383	3,951
Spechley	3,920	4,132	3,951	4,175
Baltown	4,132	4,544	4,175	4,607
Bradford	4,544	4,950	4,607	5,037
Benson	4,950	5,218	4,937	5,322
Alexander	5,218	5,519	5,322	5,637
Elk	5,519	5,798	5,637	5,925
Rhinestreet	5,798	6,131	5,925	6,289
Sycamore	6,131	6,227	6,289	6,415
Middlesex	6,227	6,331	6,415	6,604
Burkett	6,331	6,356	6,604	6,666
Tully	6,356	6,371	6,666	6,707
Marcellus	6,371	NA	6,707	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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/13/2017
Job End Date:	10/19/2017
State:	West Virginia
County:	Ritchie
API Number:	47-085-10291-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Piper Unit 1H
Latitude:	39.29878889
Longitude:	-80.97811389
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,428
Total Base Water Volume (gal):	15,967,610
Total Base Non Water Volume:	0

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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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	88.32536	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.14338	

MC B-8614	Halliburton	Biocide					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
HYDROCHLORI C ACID	Halliburton	Solvent					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			

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MC S-2510T	Halliburton	Scale Inhibitor					
				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	11.47820	
			Inorganic salt	Proprietary	30.00000	0.02117	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02117	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02117	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Guar gum	9000-30-0	100.00000	0.01723	
			Ethylene Glycol	107-21-1	60.00000	0.00813	
			Hydrochloric acid	7647-01-0	7.50000	0.00641	
			Glutaraldehyde	111-30-8	30.00000	0.00269	
			Neutralized Polyacrylic Emulsion	Proprietary	10.00000	0.00135	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00045	
			Sodium persulfate	7775-27-1	100.00000	0.00034	
			Methanol	67-56-1	60.00000	0.00021	
			Ethoxylated alcohols	Proprietary	30.00000	0.00010	
			Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1	30.00000	0.00010	
			Fatty acids, tall oil	Proprietary	30.00000	0.00010	
			Ethanol	64-17-5	1.00000	0.00009	
			Olefins	Proprietary	5.00000	0.00004	
			Propargyl alcohol	107-19-7	10.00000	0.00003	
			Phosphoric acid	7664-38-2	0.10000	0.00001	

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			Sodium sulfate	7757-82-6	0.10000	0.00000	
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- * 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(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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LATITUDE 39°20'00"

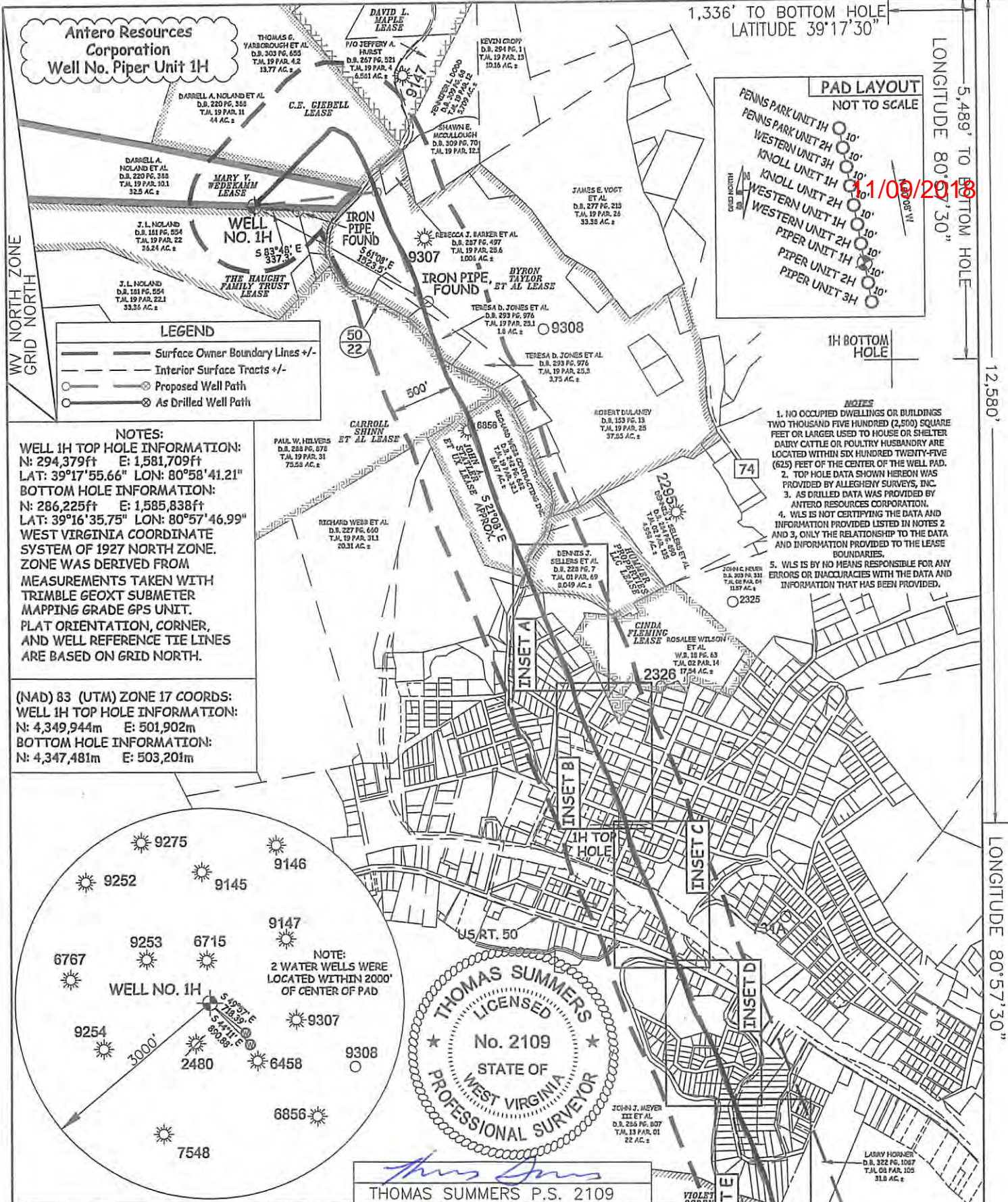
5,598'

1,336' TO BOTTOM HOLE
LATITUDE 39°17'30"

LONGITUDE 80°57'30"

12,580'

LONGITUDE 80°57'30"

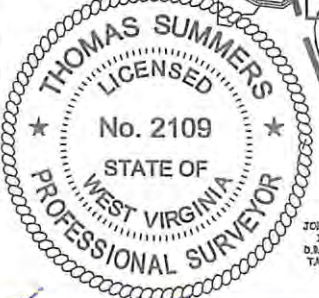
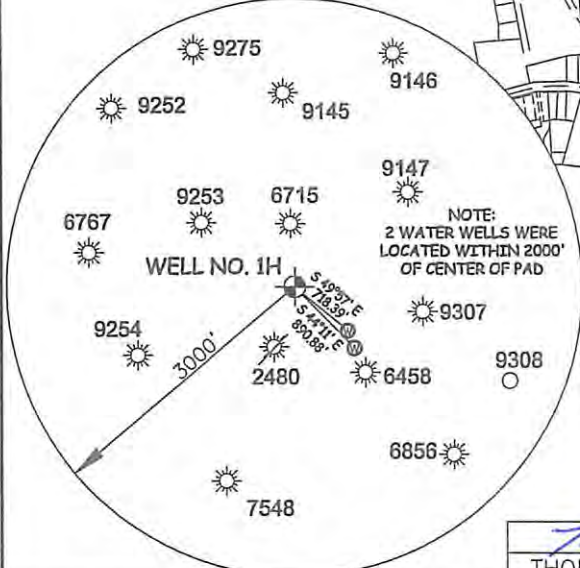


LEGEND

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

NOTES:
WELL 1H TOP HOLE INFORMATION:
 N: 294,379ft E: 1,581,709ft
 LAT: 39°17'55.66" LON: 80°58'41.21"
BOTTOM HOLE INFORMATION:
 N: 286,225ft E: 1,585,838ft
 LAT: 39°16'35.75" LON: 80°57'46.99"
 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 1H TOP HOLE INFORMATION:
 N: 4,349,944m E: 501,902m
BOTTOM HOLE INFORMATION:
 N: 4,347,481m E: 503,201m



THOMAS SUMMERS P.S. 2109

JOB # 16-005WA
 DRAWING # PIPER1HAD
 SCALE 1" = 1000'

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 PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS



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

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

WILLOW LAND SURVEYING PLLC
 266 HUSHERS RUN RD PENNSBORO WEST VIRGINIA 26415

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
 LOCATION: ELEVATION 1,143' AS DRILLED WATERSHED NORTH FORK HUGHES RIVER
 QUADRANGLE PENNSBORO 7.5' DISTRICT CLAY COUNTY RITCHIE
 SURFACE OWNER DARRELL A. NOLAND ET AL ACREAGE 32.5 ACRES +/-
 OIL & GAS ROYALTY OWNER SEE ATTACHED PAGES FOR LEASE INFORMATION LEASE ACREAGE SEE ATTACHED PAGES

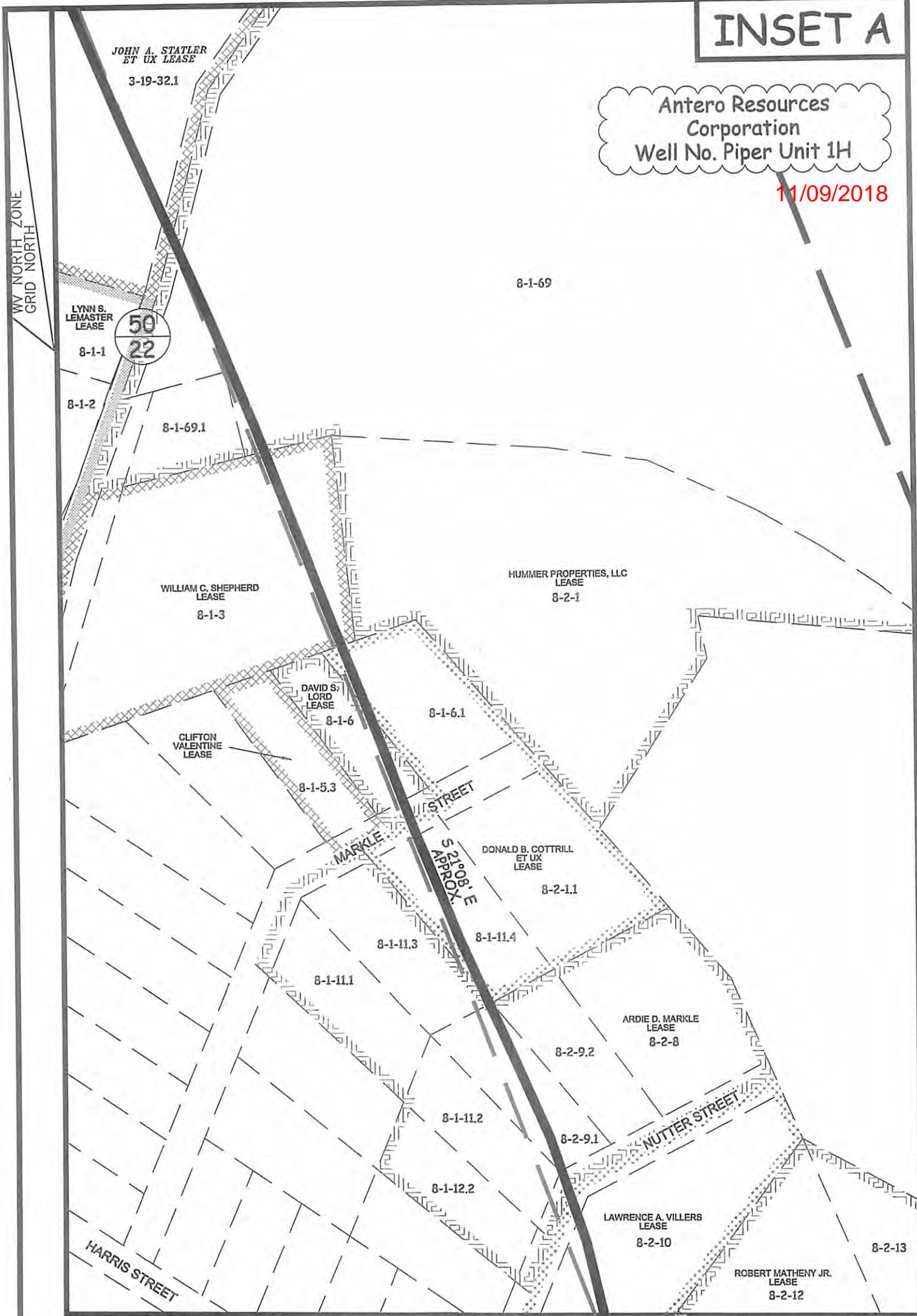
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,421' TVD 15,742 MD

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

INSET A

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



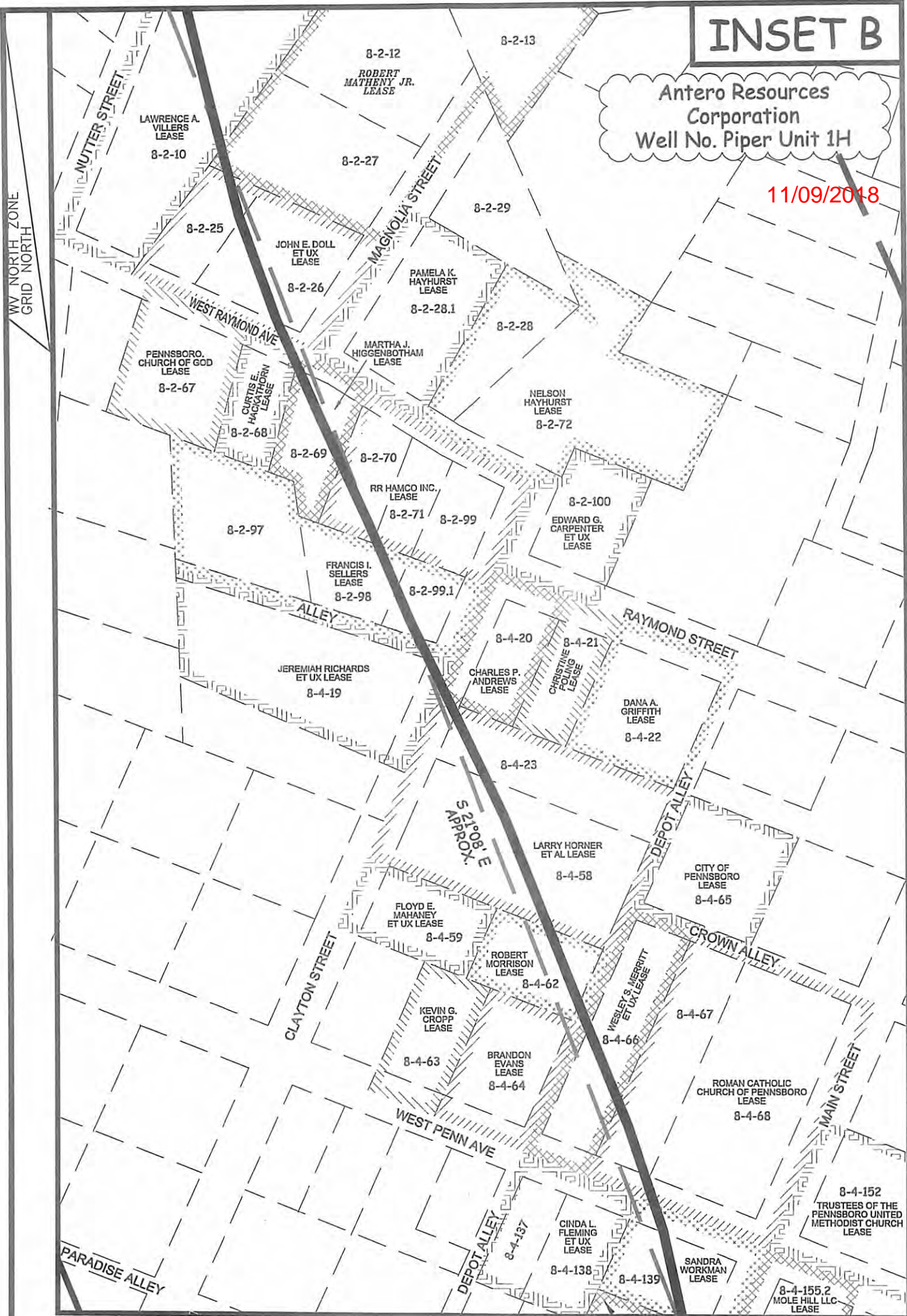
FILE: 16-005WA
JOB: PIPER1HR INSETA AD
DRAFTED BY: T.B.S. 02/01/18

LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-

INSET B

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



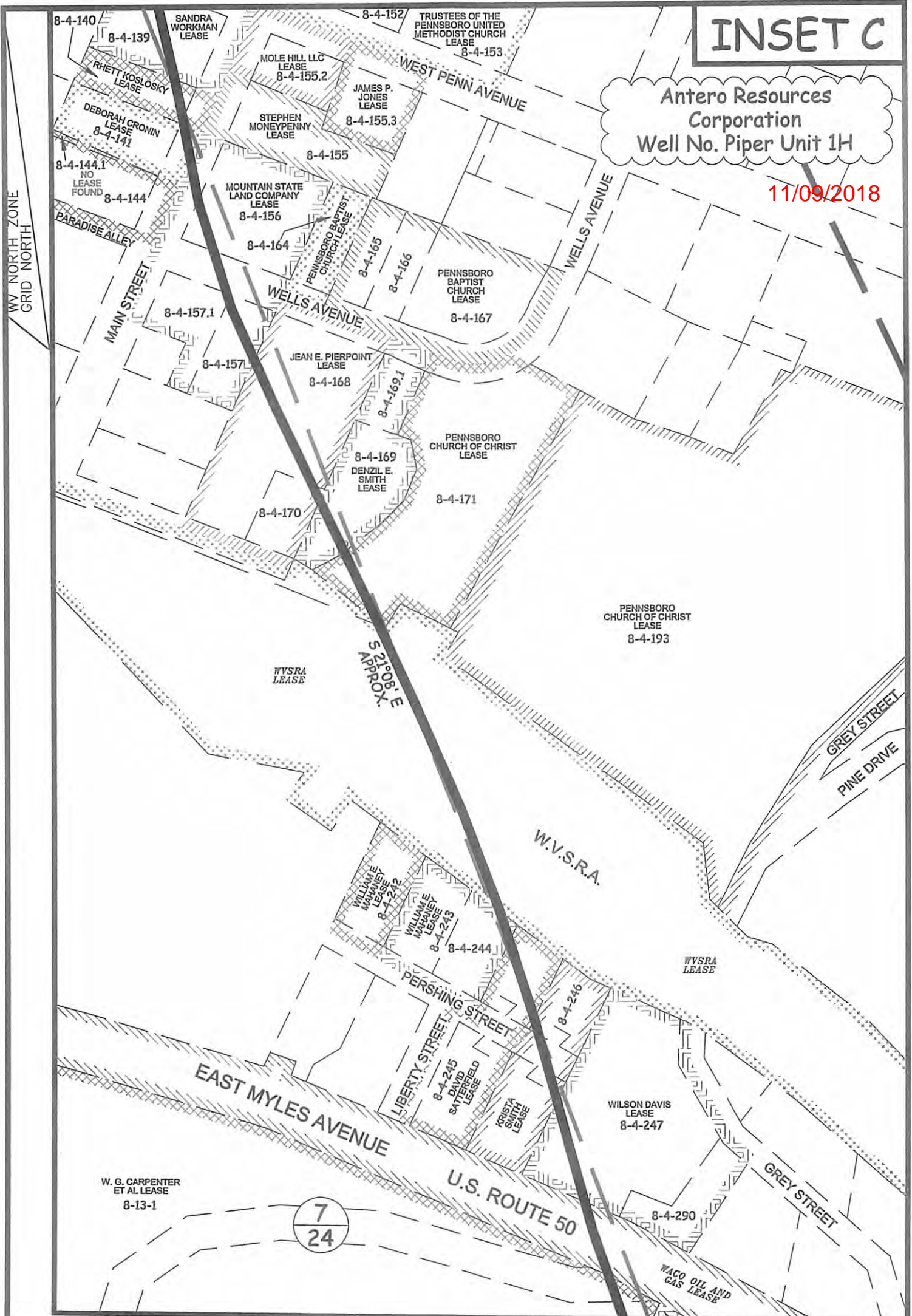
FILE: 16-005WA
JOB: PIPER1HR INSETB AD
DRAFTED BY: T.B.S. 02/01/18

LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-

INSET C

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



FILE: 16-005WA
JOB: PIPER1HR INSETC AD
DRAFTED BY: T.B.S. 02/01/18

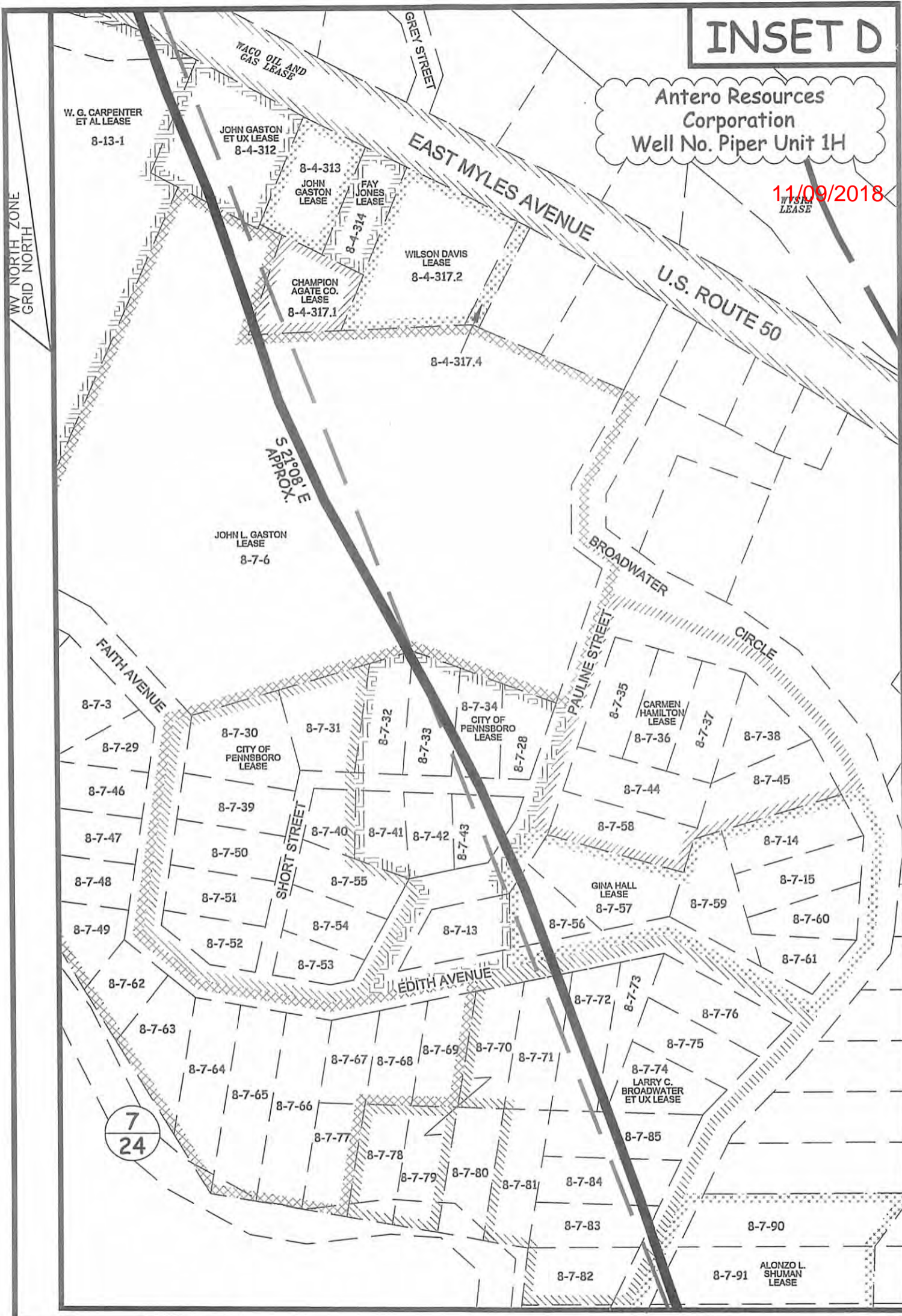
LEGEND

- Piper 1H Lateral
- Interior Surface Tracts +/-

INSET D

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018
WYSA LEASE



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



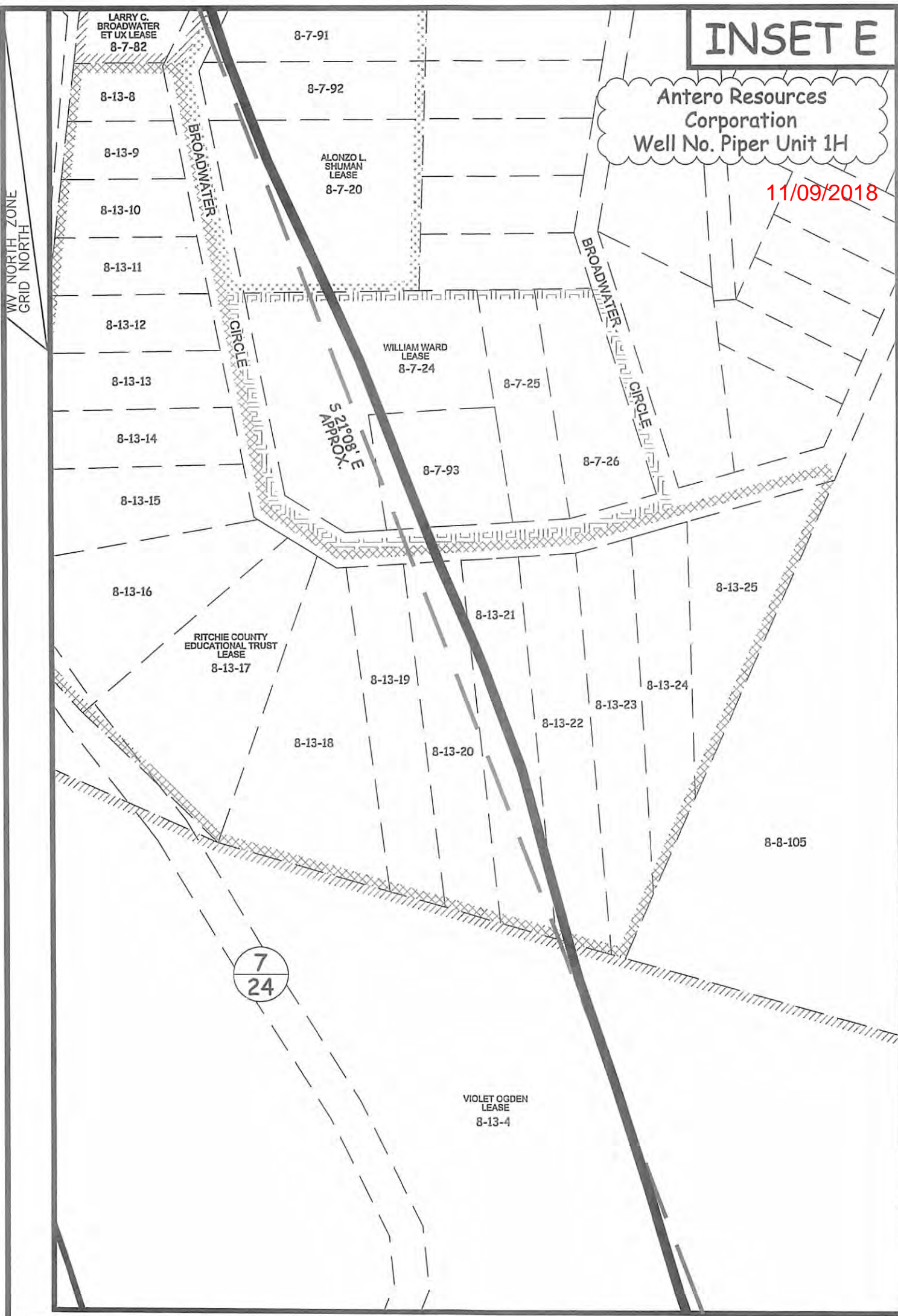
FILE: 16-005WA
JOB: PIPER1HR INSETD AD
DRAFTED BY: T.B.S. 02/01/18

LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-

INSET E

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



FILE: 16-005WA
JOB: PIPER1HR INSET E AD
DRAFTED BY: T.B.S. 02/01/18

LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-

LATITUDE 39°20'00"

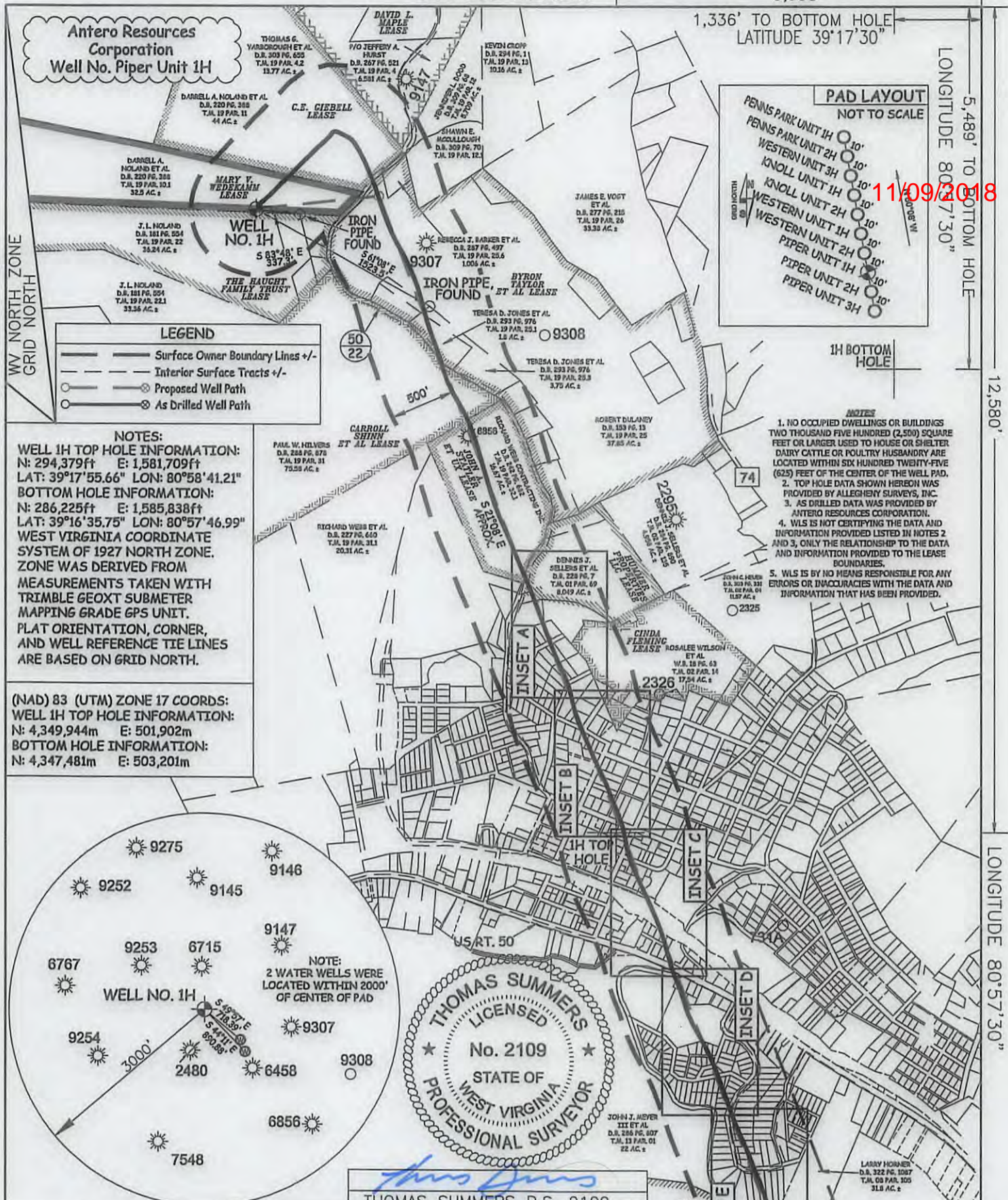
5,598'

1,336' TO BOTTOM HOLE
LATITUDE 39°17'30"

LONGITUDE 80°27'30"

5,489' TO BOTTOM HOLE

LONGITUDE 80°57'30"



JOB # 16-005WA
DRAWING # PIPER1HAD
SCALE 1" = 1000'

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
266 HUSHERS RUN RD PENNSBORO WEST VIRGINIA 26415

DATE 02/01/18
OPERATOR'S WELL # PIPER UNIT 1H

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
WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
(IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
LOCATION: ELEVATION 1,143' AS DRILLED WATERSHED NORTH FORK HUGHES RIVER
QUADRANGLE PENNSBORO 7.5' DISTRICT CLAY COUNTY RITCHIE
SURFACE OWNER DARRELL A. NOLAND ET AL ACREAGE 32.5 ACRES +/-
OIL & GAS ROYALTY OWNER SEE ATTACHED PAGES FOR LEASE INFORMATION LEASE ACREAGE SEE ATTACHED PAGES

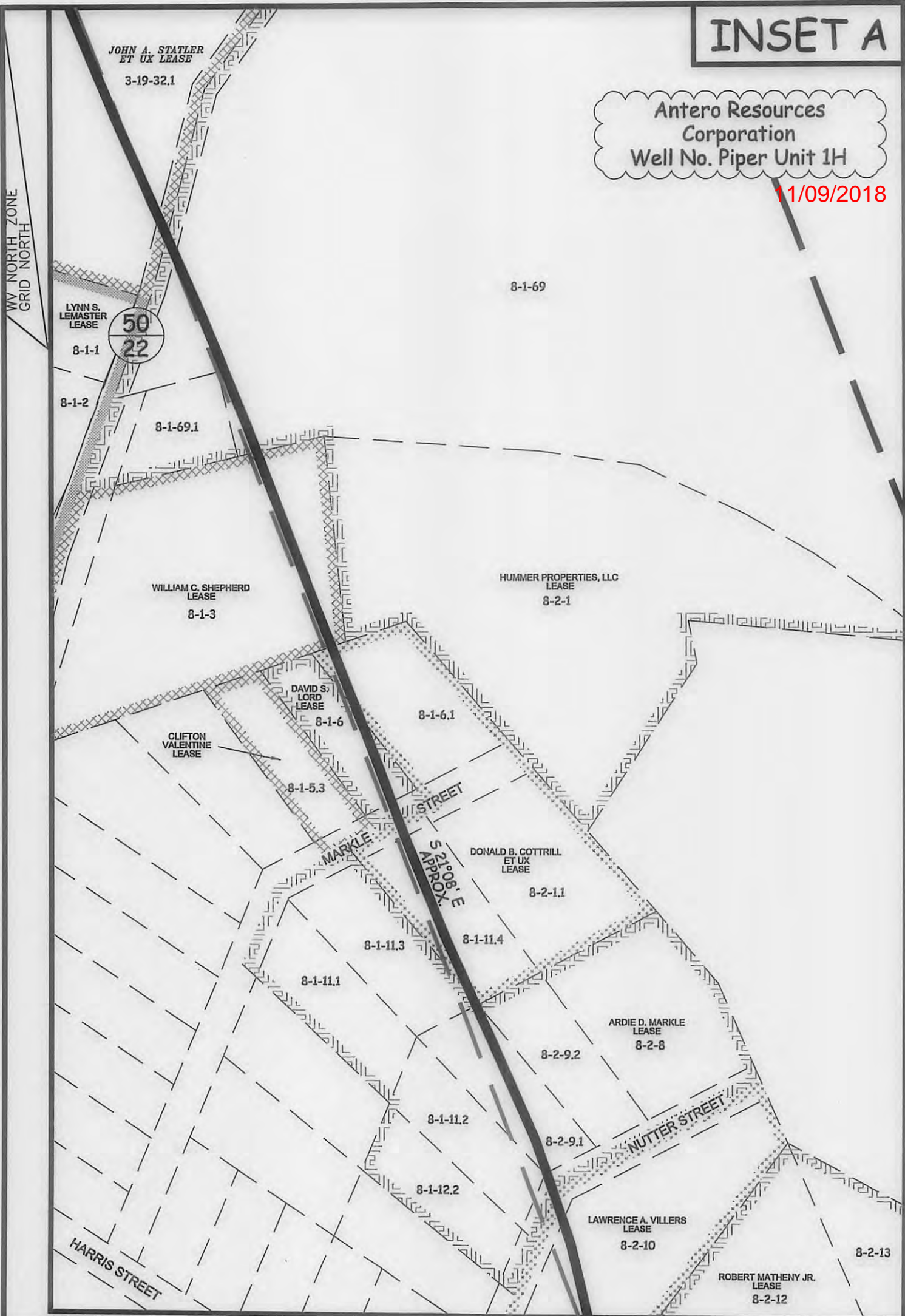
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,421' TVD 15,742 MD
WELL OPERATOR ANTERO RESOURCES CORP. 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

COUNTY NAME PERMIT

INSET A

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018



P.O. BOX 17
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304-659-1717

SCALE: 1-INCH = 100-FEET



FILE: 16-005WA
JOB: PIPER1HR INSETA AD
DRAFTED BY: T.B.S. 02/01/18

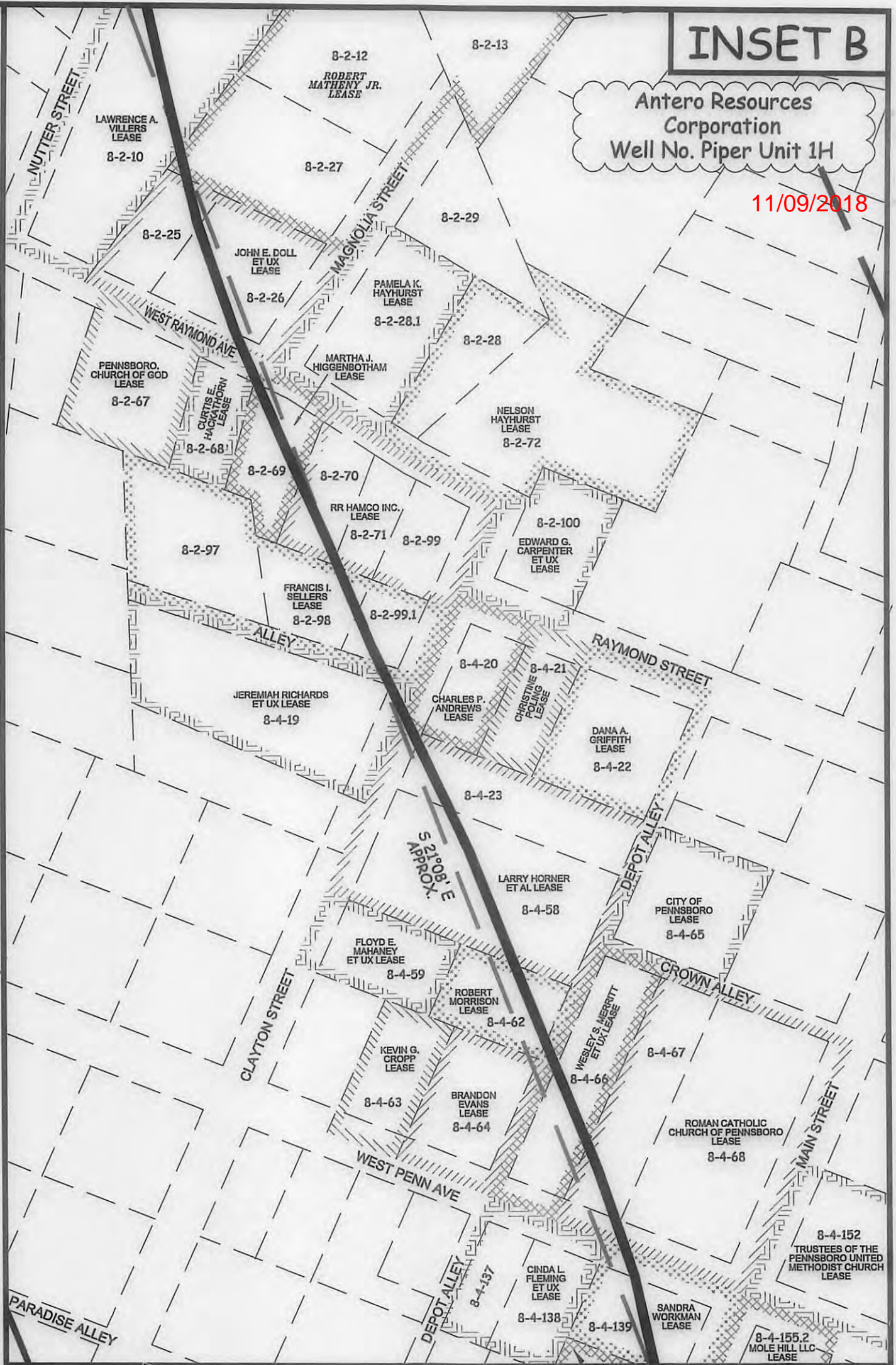
LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-

INSET B

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018

WV NORTH ZONE
GRID NORTH



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



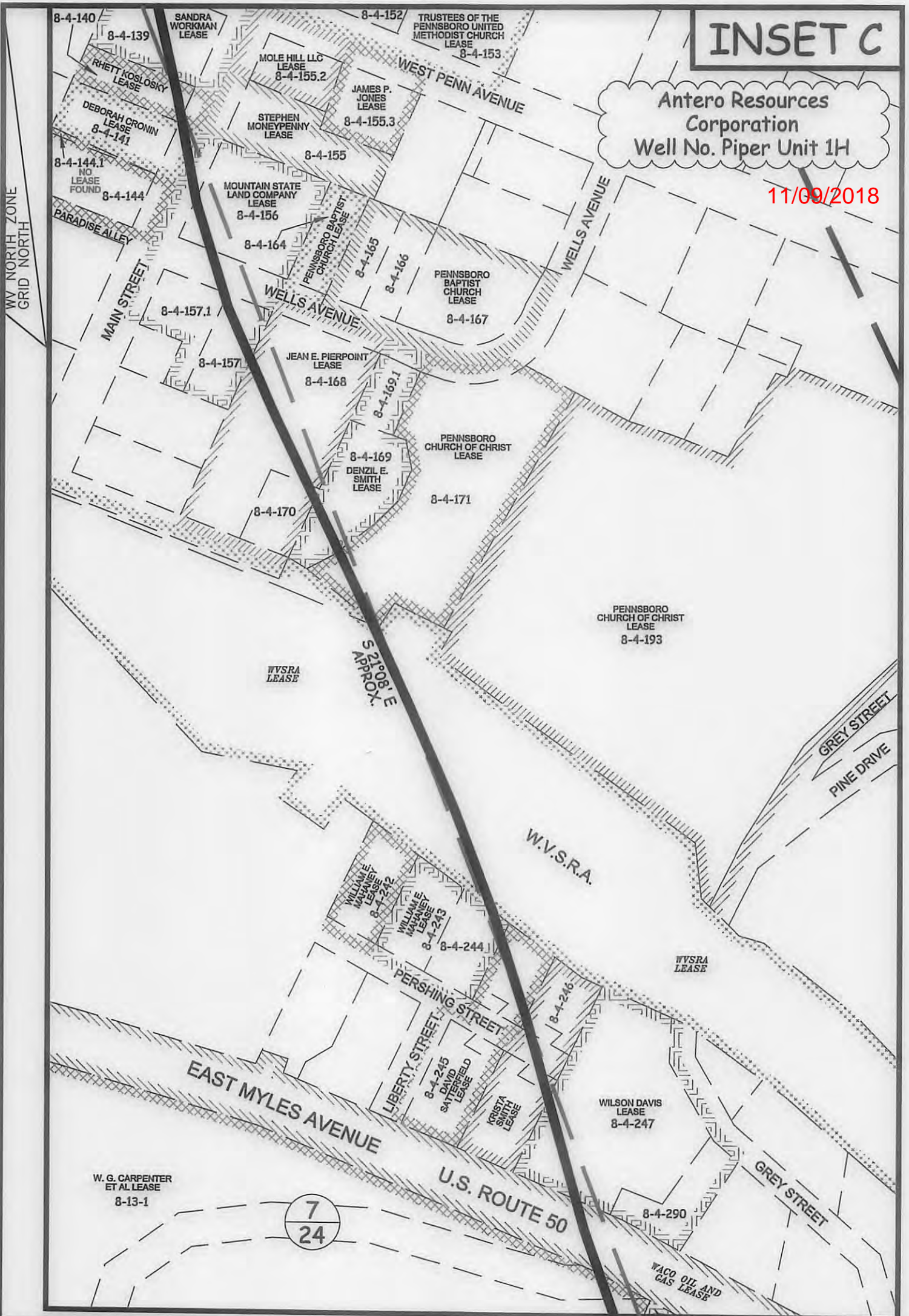
FILE: 16-005WA
JOB: PIPER1HR INSETB AD
DRAFTED BY: T.B.S. 02/01/18

LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-

INSET C

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018



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PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



FILE: 16-005WA
JOB: PIPER1HR INSETC AD
DRAFTED BY: T.B.S. 02/01/18

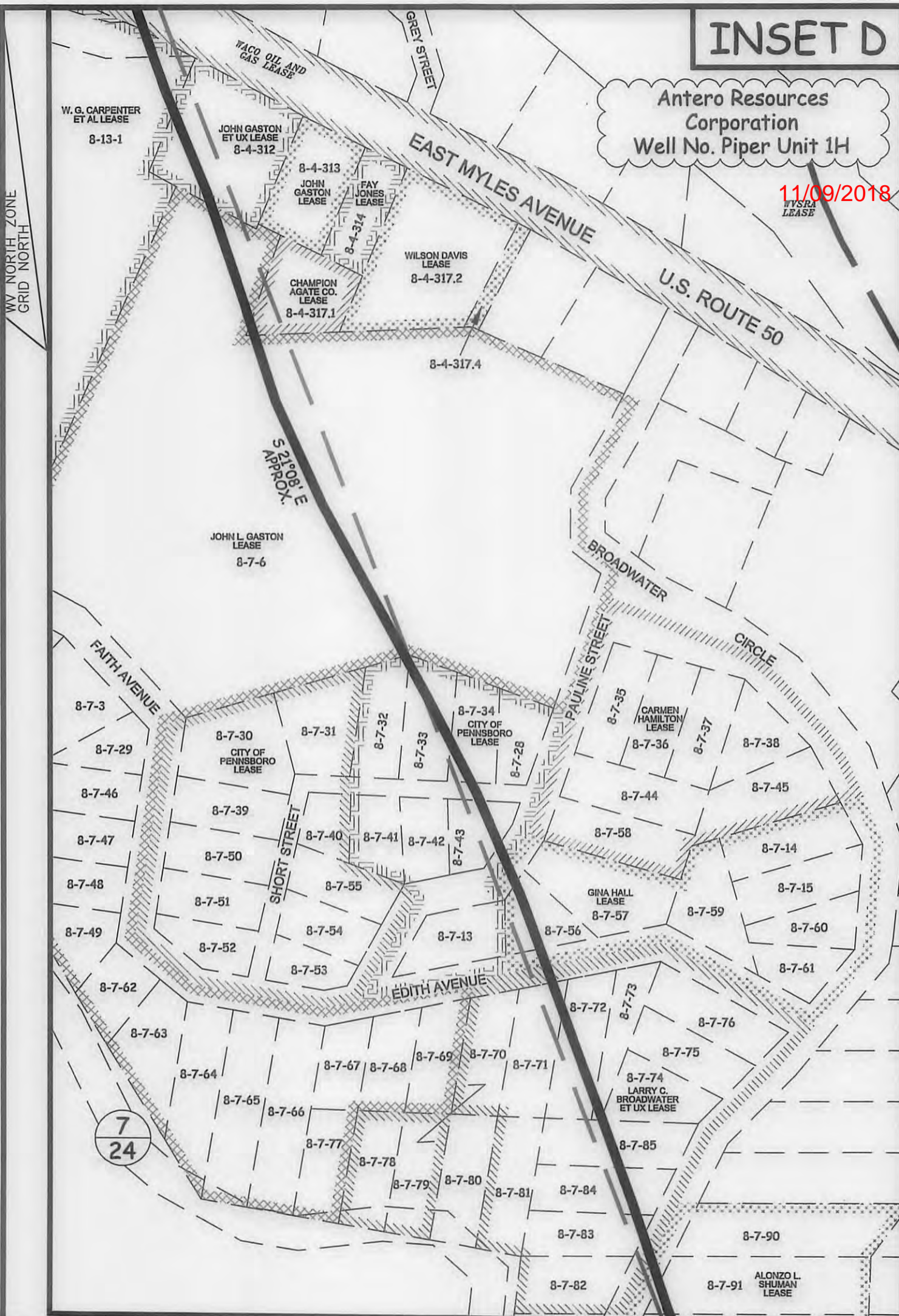
LEGEND

- Piper 1H Lateral
- Interior Surface Tracts +/-

INSET D

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018
WV SRA
LEASE



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



FILE: 16-005WA
JOB: PIPER1HR INSETD AD
DRAFTED BY: T.B.S. 02/01/18

LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-

INSET E

Antero Resources Corporation
Well No. Piper Unit 1H

11/09/2018

WV NORTH ZONE
GRID NORTH

LARRY C. BROADWATER
ET UX LEASE
8-7-82

8-7-91

8-7-92

8-13-8

8-13-9

8-13-10

8-13-11

8-13-12

8-13-13

8-13-14

8-13-15

ALONZO L. SHUMAN
LEASE
8-7-20

WILLIAM WARD
LEASE
8-7-24

8-7-25

BROADWATER
CIRCLE

S 2°08' E
APPROX.

8-7-93

8-7-26

8-13-16

RITCHIE COUNTY
EDUCATIONAL TRUST
LEASE
8-13-17

8-13-21

8-13-25

8-13-19

8-13-24

8-13-18

8-13-20

8-13-22

8-13-23

7
24

8-8-105

VIOLET OGDEN
LEASE
8-13-4



P.O. BOX 17
PENNSBORO, WV 26415
304-659-1717

SCALE: 1-INCH = 100-FEET



FILE: 16-005WA
JOB: PIPER1HR INSETE AD
DRAFTED BY: T.B.S. 02/01/18

LEGEND	
	Piper 1H Lateral
	Interior Surface Tracts +/-