

APPROVED

WR-35
Rev. 8/23/13

Page ___ of ___

NAME: [Signature]

DATE: 7/13/16
State of West Virginia

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

API 47 - 017 - 06488 County Doddridge District Central
Quad West Union 7.5' Pad Name Diane Davis Pad Field/Pool Name -----
Farm name Davis, Jonathan L., et al Well Number McPherson 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 4350530m Easting 515286m
Landing Point of Curve Northing 4350365.18m Easting 515099.73m
Bottom Hole Northing 4352394m Easting 514367m

Elevation (ft) 824' 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 5/29/2014 Date drilling commenced 6/4/2014 Date drilling ceased 2/10/2015
Date completion activities began 1/24/2016 Date completion activities ceased 3/31/2016
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 77' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1367' 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: _____

AX 07/29/2016

Received
Office of Oil & Gas
JUN 21 2016

API 47-017 - 06488 Farm name Davis, Jonathan L., et al Well number McPherson 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	30"	20"	80'	New	94# J-55	N/A	Y
Surface	17-1/2"	13-3/8"	475'	New	48# H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2538'	New	36# J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	14010'	New	20# P-110	N/A	Y
Tubing		2-3/8"	6586'		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	378 sx	15.6	1.18	77	0'	8 Hrs.
Surface	Class A	586 sx	15.6	1.00	330	0'	8 Hrs.
Coal							
Intermediate 1	Class A	938 sx	15.6	1.18	795	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	893 sx (Lead) 1182 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.80 (Tail)	2743	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 14010' MD, 6366' TVD (BHL); 6396' TVD (Deepest Point Drilled) Loggers TD (ft) 13961' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6137'

** This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Shearer Unit 2H API #47-017-06359). Please reference the wireline logs submitted with Form WR-35 for Shearer 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 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 _____

Received
Office of Oil & Gas
JUN 21 2016

API 47- 017 - 06488 Farm name Davis, Jonathan L., et al Well number McPherson Unit 1H

PRODUCING FORMATION(S)	DEPTHS		
<u>Marcellus</u>	<u>6325' (TOP)</u>	<u>TVD</u>	<u>6629' (TOP)</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3000 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 7887 mcfpd Oil 60 bpd NGL --- bpd Water 615 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	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**

Please insert additional pages as applicable.

Drilling Contractor Patterson - UTI Drilling Company, LLC
Address 207 Carlton Dr. City Eighty Four State PA Zip 15330

Logging Company Rush Wellsite Services
Address 600 Alpha Drive City Canonsburg State PA Zip 15317

Cementing Company Allied Oil & Gas Services, LLC
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company US Well Services
Address 533 Industrial Park Dr. City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Kara Quackenbush Telephone 303-357-7233
Signature *Kara Quackenbush* Title Permitting Agent Date 6/17/2016

Submission of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

Received
Office of Oil & Gas
JUN 21 2016

07/22/2016

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	24-Jan-16	13,749	13,916	60	Marcellus
2	28-Feb-16	13,550	13,718	60	Marcellus
3	29-Feb-16	13,352	13,519	60	Marcellus
4	29-Feb-16	13,153	13,321	60	Marcellus
5	29-Feb-16	12,955	13,122	60	Marcellus
6	1-Mar-16	12,756	12,924	60	Marcellus
7	1-Mar-16	12,558	12,725	60	Marcellus
8	1-Mar-16	12,359	12,527	60	Marcellus
9	1-Mar-16	12,161	12,328	60	Marcellus
10	2-Mar-16	11,962	12,129	60	Marcellus
11	2-Mar-16	11,763	11,931	60	Marcellus
12	2-Mar-16	11,565	11,732	60	Marcellus
13	2-Mar-16	11,366	11,534	60	Marcellus
14	3-Mar-16	11,168	11,335	60	Marcellus
15	3-Mar-16	10,969	11,137	60	Marcellus
16	3-Mar-16	10,771	10,938	60	Marcellus
17	3-Mar-16	10,572	10,740	60	Marcellus
18	4-Mar-16	10,374	10,541	60	Marcellus
19	4-Mar-16	10,175	10,343	60	Marcellus
20	4-Mar-16	9,977	10,144	60	Marcellus
21	5-Mar-16	9,778	9,945	60	Marcellus
22	5-Mar-16	9,580	9,747	60	Marcellus
23	5-Mar-16	9,381	9,548	60	Marcellus
24	6-Mar-16	9,182	9,350	60	Marcellus
25	6-Mar-16	8,984	9,151	60	Marcellus
26	6-Mar-16	8,785	8,953	60	Marcellus
27	6-Mar-16	8,587	8,754	60	Marcellus
28	7-Mar-16	8,388	8,556	60	Marcellus
29	7-Mar-16	8,190	8,357	60	Marcellus
30	8-Mar-16	7,991	8,159	60	Marcellus
31	8-Mar-16	7,793	7,960	60	Marcellus
32	8-Mar-16	7,594	7,762	60	Marcellus
33	8-Mar-16	7,396	7,563	60	Marcellus
34	9-Mar-16	7,029	7,178	60	Marcellus
35	9-Mar-16	6,852	7,001	60	Marcellus
36	9-Mar-16	6,675	6,824	60	Marcellus

Received
Office of Oil & Gas
JUN 21 2016

07/22/2016

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	27-Feb-16	69.5	7,027	5,761	4,706	322,240	7,904	N/A
2	28-Feb-16	74.0	7,174	5,345	5,016	322,170	8,636	N/A
3	29-Feb-16	70.1	6,909	6,011	5,374	322,439	7,850	N/A
4	29-Feb-16	69.5	6,943	6,040	5,549	322,749	7,794	N/A
5	29-Feb-16	72.6	7,013	5,596	5,017	321,650	7,757	N/A
6	1-Mar-16	72.0	7,161	5,739	4,635	322,550	7,793	N/A
7	1-Mar-16	69.5	6,989	5,702	5,421	320,886	7,706	N/A
8	1-Mar-16	70.5	6,914	5,640	5,342	322,971	7,732	N/A
9	1-Mar-16	71.2	6,890	5,599	5,343	323,400	7,716	N/A
10	2-Mar-16	71.8	6,985	6,004	5,378	321,295	8,597	N/A
11	2-Mar-16	72.1	7,094	5,748	4,530	321,520	7,682	N/A
12	2-Mar-16	71.2	6,993	5,462	4,768	322,850	7,671	N/A
13	2-Mar-16	70.9	6,876	5,650	5,045	322,100	7,651	N/A
14	3-Mar-16	71.9	6,751	5,545	5,492	321,670	7,645	N/A
15	3-Mar-16	71.7	6,903	5,813	5,493	323,040	7,645	N/A
16	3-Mar-16	70.1	6,550	5,437	5,073	322,200	7,621	N/A
17	3-Mar-16	70.7	6,723	5,528	5,240	321,150	7,600	N/A
18	4-Mar-16	70.1	6,743	5,603	5,262	323,230	7,589	N/A
19	4-Mar-16	74.5	6,750	6,107	5,273	326,570	7,625	N/A
20	4-Mar-16	73.8	6,815	5,714	4,878	315,100	7,485	N/A
21	5-Mar-16	73.1	6,680	5,366	4,576	323,950	7,592	N/A
22	5-Mar-16	75.3	6,647	5,754	5,319	322,280	7,558	N/A
23	5-Mar-16	74.2	6,914	5,676	5,218	323,750	7,541	N/A
24	6-Mar-16	76.0	6,720	5,714	5,149	323,400	7,523	N/A
25	6-Mar-16	75.3	6,584	5,311	5,086	319,410	7,486	N/A
26	6-Mar-16	74.6	6,549	5,632	5,296	323,300	7,503	N/A
27	6-Mar-16	76.2	6,597	5,648	5,385	319,750	7,444	N/A
28	7-Mar-16	75.9	6,676	5,522	5,255	324,075	7,469	N/A
29	7-Mar-16	65.8	6,717	5,358	5,488	321,350	8,549	N/A
30	8-Mar-16	77.0	6,602	5,862	5,430	322,450	7,412	N/A
31	8-Mar-16	77.0	6,602	5,862	5,430	322,450	7,412	N/A
32	8-Mar-16	75.0	6,444	5,541	4,947	321,940	7,406	N/A
33	8-Mar-16	77.2	6,393	5,584	5,375	322,250	7,380	N/A
34	9-Mar-16	75.8	6,558	5,664	3,921	320,900	7,365	N/A
35	9-Mar-16	75.0	6,371	5,595	5,339	323,790	7,401	N/A
36	9-Mar-16	75.0	6,374	5,627	3,542	321,600	7,347	N/A
AVG=		72.9	6,768	5,660	5,100	11,598,425	7,669	TOTAL

Received
Office of Oil & Gas
JUN 21 2016

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	77'	N/A	77'	N/A
Sandstone/ Shale	0	407	0	407
Sand Shale/ Trace Coal	est. 407	457	est. 407	457
Sandstone/ Limestone	est. 457	567	est. 457	567
Sandstone	est. 567	667	est. 567	667
Sandstone/ Limestone	est. 667	707	est. 667	707
Sandstone/ Siltstone	est. 707	807	est. 707	807
Sandstone/ Limestone	est. 807	927	est. 807	927
Shale	est. 927	947	est. 927	947
Sandstone/ Shale	est. 947	1147	est. 947	1147
Sandstone/ Trace Coal	est. 1147	1507	est. 1147	1507
Sandstone/ Siltstone	est. 1507	1567	est. 1507	1567
Sandstone/ Trace Coal	est. 1567	1587	est. 1567	1587
Sandstone/ Siltstone	est. 1587	1732	est. 1587	1732
Big Lime	1732	2353	1732	2353
Fifty Foot Sandstone	2353	2455	2353	2455
Gordon	2455	2753	2455	2754
Fifth Sandstone	2753	2792	2754	2793
Bayard	2792	3578	2793	3599
Speechley	3578	3831	3599	3861
Baltown	3831	4301	3861	4357
Bradford	4301	4734	4357	4823
Benson	4734	4997	4823	5107
Alexander	4997	5969	5107	6146
Sycamore	5969	6138	6146	6326
Middlesex	6138	6260	6326	6487
Burkett	6260	6288	6487	6538
Tully	6288	6325	6538	6629
Marcellus	6325	NA	6629	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.

Received
Office of Oil & Gas
JUN 21 2016

07/22/2016

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/27/2016
Job End Date:	3/9/2016
State:	West Virginia
County:	Doddridge
API Number:	47-017-06488-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	McPherson 1H
Longitude:	-80.82270800
Latitude:	39.30402200
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,396
Total Base Water Volume (gal):	12,145,900
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	Base Fluid	Water	7732-18-5	100.00000	89.43607	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	10.24023	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.50000	0.13839	
			Hydrogen Chloride	7647-01-0	18.00000	0.03306	
LGC-15	U.S. Well Services	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.02992	
			Petroleum Distillates	64742-47-8	60.00000	0.02834	
			Suspending agent (solid)	14808-60-7	3.00000	0.00458	
			Surfactant	68439-51-0	3.00000	0.00180	
WFRA-405	U.S. Well Services	Friction Reducer	Water	7732-18-5	60.00000	0.03126	
			2-Propenoic acid, polymer with 2-propenamide	9003-06-9	30.00000	0.01563	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01258	
			Ethoxylated alcohol blend	68002-97-1	4.00000	0.00208	

SI-1100	U.S. Well Services	Scale Inhibitor				
			Water	7732-18-5	80.00000	0.00991
			Ethylene Glycol	107-21-1	25.00000	0.00350
			Copolymer of Maleic and Acrylic acid	52255-49-9	10.00000	0.00146
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	7.50000	0.00125
			Phosphino carboxylic acid polymer	71050-62-9	5.00000	0.00081
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	5.00000	0.00081
			Hexamethylene diamine penta (methylene phosphonic acid)	23605-74-5	2.00000	0.00032
K-BAC 1020	U.S. Well Services	Anti-Bacterial Agent				
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00403
			Deionized Water	7732-18-5	28.00000	0.00230
AP One	U.S. Well Services	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00133
AI-302	U.S. Well Services	Acid Corrosion Inhibitors				
			Water	7732-18-5	95.00000	0.00030
			2-Propyn-1-olcompound with methyloxirane	38172-91-7	15.00000	0.00005

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.

* 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)

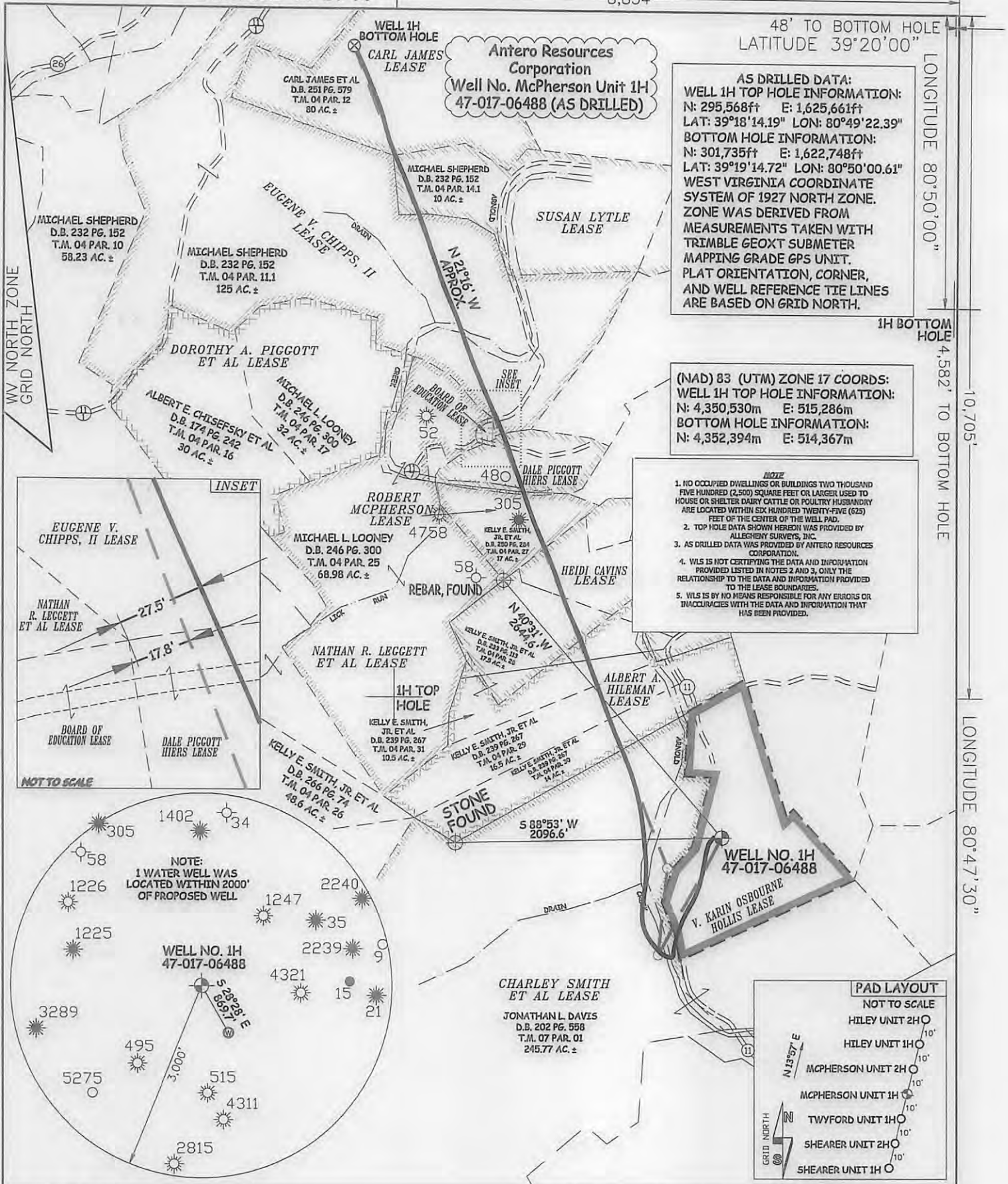
LATITUDE 39°20'00" 8,834'

48' TO BOTTOM HOLE
LATITUDE 39°20'00"

LONGITUDE 80°50'00"

10,705'

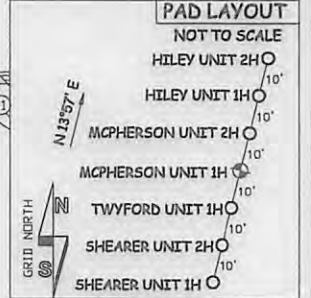
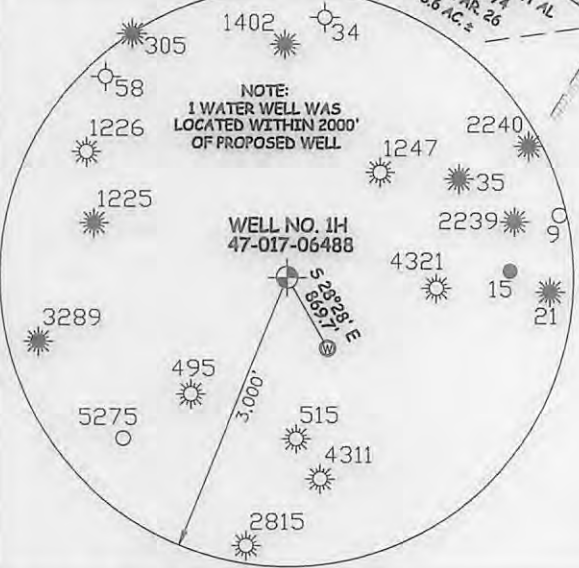
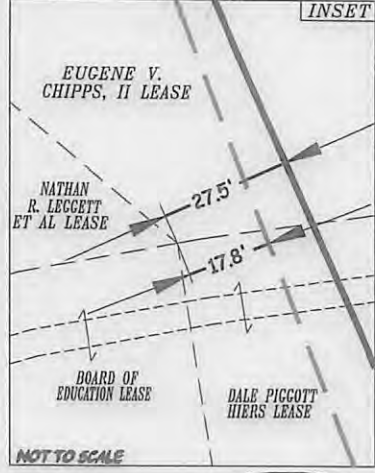
LONGITUDE 80°47'30"



AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
 N: 295,568ft E: 1,625,661ft
 LAT: 39°18'14.19" LON: 80°49'22.39"
BOTTOM HOLE INFORMATION:
 N: 301,735ft E: 1,622,748ft
 LAT: 39°19'14.72" LON: 80°50'00.61"
 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: 4,350,530m E: 515,286m
BOTTOM HOLE INFORMATION:
 N: 4,352,394m E: 514,367m

- 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.



JOB # 13-084WA
 DRAWING # MCPHERSONHAD
 SCALE 1" = 1000'
 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

WILLOW LAND SURVEYING PLLC
 P.O. BOX 17
 PENNSBORO, WV 26415

LEGEND

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

DATE 05/21/15
 OPERATOR'S WELL# MCPHERSON UNIT #1H

API WELL # 47-017-06488
 STATE COUNTY PERMIT

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 829' ORIGINAL - 824' AS-DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
 QUADRANGLE WEST UNION 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE
 SURFACE OWNER JONATHAN L. DAVIS ET AL ACREAGE 35.21 ACRES +/-
 OIL & GAS ROYALTY OWNER V. KARIN OSBOURNE HOLLIS; CHARLEY SMITH ET AL; ALBERT A. HILEMAN; HEIDI CAVINS; ROBERT MCPHERSON; DALE PIGGOTT HEIRS; EUGENE V. CHIPPI, II; SUSAN LYTLE; CARL JAMES
 LEASE ACREAGE 79.09 ACRES +/-; 213 ACRES +/-; 50.5 ACRES +/-; 86 ACRES +/-; 17 ACRES +/-; 9.75 ACRES +/-; 140 ACRES +/-; 35 ACRES +/-; 80 ACRES +/-
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 (SPECIFY) (X) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,366' TVD 14,010' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

07/22/2016

COUNTY NAME PERMIT

LATITUDE 39°20'00"

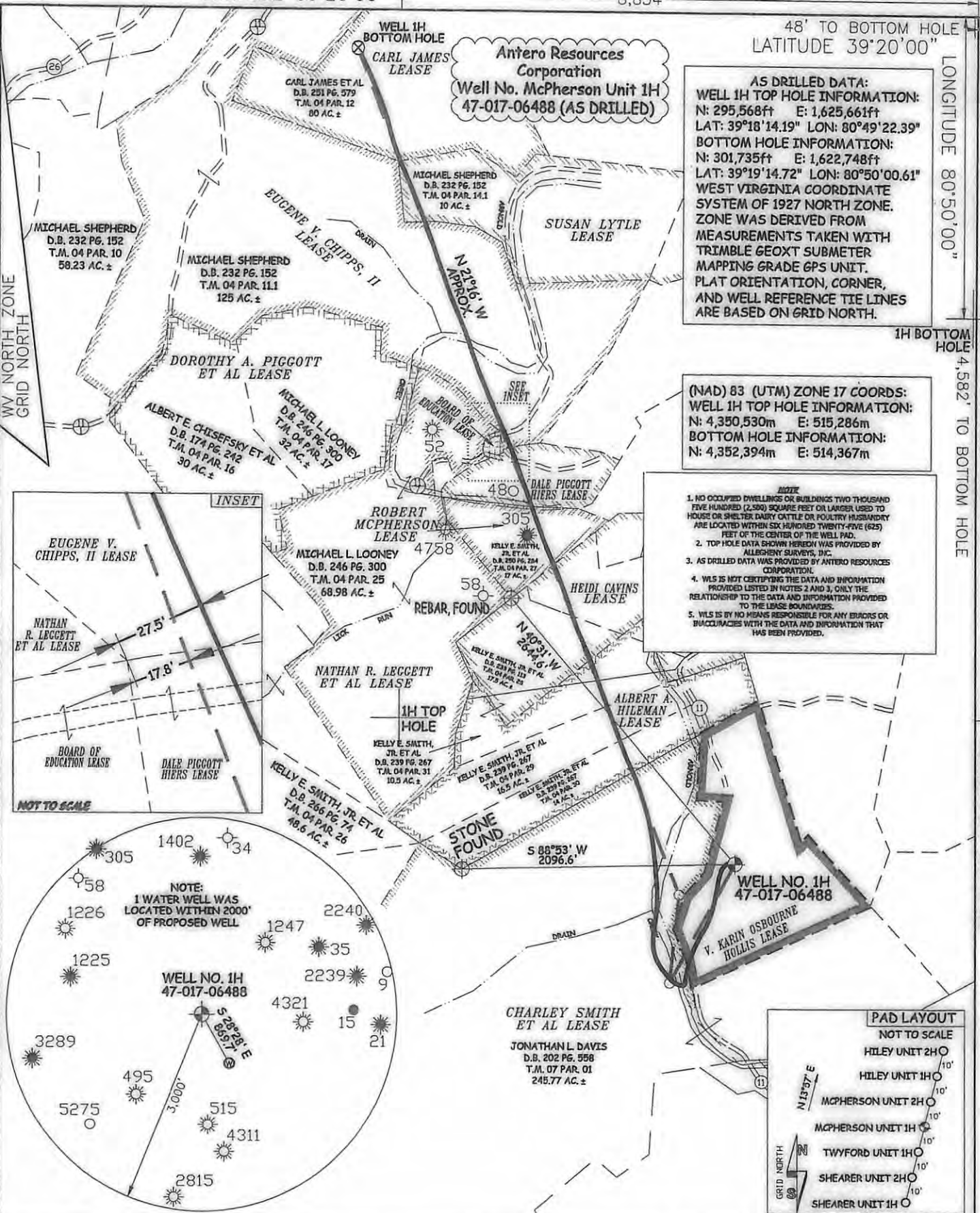
8,834'

48' TO BOTTOM HOLE
LATITUDE 39°20'00"

LONGITUDE 80°50'00"

10,705'

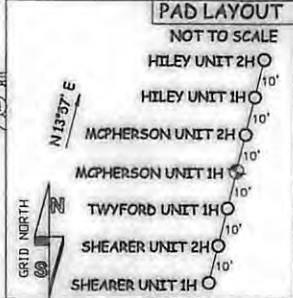
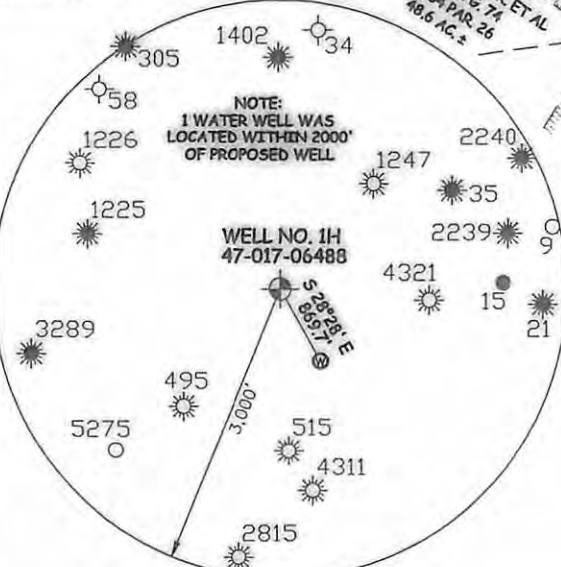
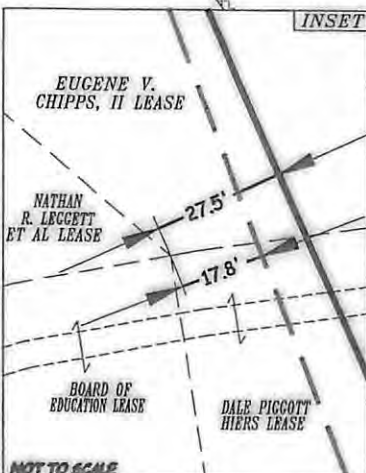
LONGITUDE 80°47'30"



AS DRILLED DATA:
WELL 1H TOP HOLE INFORMATION:
 N: 295,568ft E: 1,625,661ft
 LAT: 39°18'14.19" LON: 80°49'22.39"
BOTTOM HOLE INFORMATION:
 N: 301,735ft E: 1,622,748ft
 LAT: 39°19'14.72" LON: 80°50'00.61"
 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: 4,350,530m E: 515,286m
BOTTOM HOLE INFORMATION:
 N: 4,352,394m E: 514,367m

- 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.



JOB # 13-004WA
 DRAWING # MCPHERSON1HAD
 SCALE 1" = 1000'
 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 LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW
 LOCATION: ELEVATION 829' ORIGINAL - 824' AS-DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
 QUADRANGLE WEST UNION 7.5' DISTRICT CENTRAL COUNTY DODDRIDGE
 SURFACE OWNER JONATHAN L. DAVIS ET AL ACREAGE 35.21 ACRES +/-
 OIL & GAS ROYALTY OWNER V. KARIN OSBOURNE HOLLIS; CHARLEY SMITH ET AL; ALBERT A. HILEMAN; HEIDI CAVINS; ROBERT MCPHERSON; DALE PIGGOTT HIERS; EUGENE V. CHIPPS, II; SUSAN LYTLE; CARL JAMES LEASE ACREAGE 79.09 ACRES±; 213 ACRES±; 50.5 ACRES±; 86 ACRES±; 17 ACRES±; 9.75 ACRES±; 140 ACRES±; 35 ACRES±; 80 ACRES±
 PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___
 PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE UN WELL
 (SPECIFY) AS DRILLED PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,366' TVD 14,010' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313



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

WILLOW LAND SURVEYING PLLC
 P.O. BOX 17
 PENNSBORO, WV 26415

- 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# MCPHERSON UNIT #1H
 API WELL # 47 - 017 - 06488
 STATE COUNTY PERMIT

07/22/2016

COUNTY NAME PERMIT