west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Tuesday, September 1, 2026
PERMIT MODIFICATION APPROVAL
Horizontal 6A / New Drill

ANTERO RESOURCES CORPORATION
1615 WYNKOOP STREET

DENVER, CO 80202

Re: Permit Modification Approval for KATY UNIT 5V
47-033-06126-00-00

Increased LOD

ANTERO RESOURCES CORPORATION

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

If there are any questions, please feel free to contact me at (304) 926- 0450.

H. Jason Harmon
Chief

Operator's Well Number:	Katy Unit 5V
Farm Name:	Patrick H Cunningham (2015 Revocable Trust c/o Dom
U.S. WELL NUMBER:	47-033-06126-00-00
Horizontal 6A	New Drill
Date Modification Issued:	9/1/2026

09/04/2026

LOCATION COORDINATES				
SITE LOCATIONS	NSRS11.WV-NF (NORTH ZONE)		UTM83-17	
	LATITUDE	LONGITUDE	NORTHING	EASTING
MAIN ACCESS ROAD ENTRANCE	39.34262	-80.401559	4354969.349	551569.398
CENTROID OF WELL PAD	39.344455	-80.40829	4355169.175	550988.043
CENTROID OF IMPARED WATER AST TANK	39.343703	-80.405957	4355087.12	551189.433

KATY WELL PAD
ISSUE FOR PERMIT
ANTERO RESOURCES
SARDIS DISTRICT
HARRISON COUNTY, WEST VIRGINIA
WEST FORK WATERSHED

LAT./LONG: N 39.343436° W -80.406426°
(APPROXIMATE CENTER OF PROJECT)

SHEET INDEX

C000	COVER SHEET	C601	PROFILES AND SECTIONS	C801	DETAILS
C001	GENERAL NOTES	C602	PROFILES AND SECTIONS	C802	DETAILS
C002	MATERIAL QUANTITIES	C603	PROFILES AND SECTIONS	C803	DETAILS
C003	BID SHEET	C605	PROFILES AND SECTIONS	C804	DETAILS
C004	MASTER LEGEND	C606	PROFILES AND SECTIONS	C805	DETAILS
C100	EXISTING CONDITIONS	C607	PROFILES AND SECTIONS	C806	DETAILS
C200	ISOPACH MAP	C608	PROFILES AND SECTIONS	C807	DETAILS
C300	OVERALL SITE PLAN	C609	PROFILES AND SECTIONS	C808	DETAILS
C301	SITE PLAN	C610	PROFILES AND SECTIONS	C900	OVERALL RECLAMATION PLAN
C302	SITE PLAN	C611	PROFILES AND SECTIONS	C901	RECLAMATION PLAN
C303	SITE PLAN	C612	PROFILES AND SECTIONS	C902	RECLAMATION PLAN
C600	PROFILES AND SECTIONS	C800	DETAILS	C903	RECLAMATION PLAN

KATY WELL PAD
ANTERO RESOURCES
ISSUE FOR PERMIT

GENERAL DESCRIPTION:
THE ACCESS ROAD AND WELL PAD ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF MARCELLUS SHALE GAS WELLS.

FLOODPLAIN NOTES:
THE PROPOSED SITE LOCATION ENTRANCE IS ***WITHIN*** A FLOOD ZONE OF GREGORY RUN. PER FEMA MAP NUMBER(S) ***#54033C0134D***.

MISS UTILITY STATEMENT:
ANTERO RESOURCES CORPORATION WILL NOTIFY MISS UTILITY OF WEST VIRGINIA FOR THE LOCATION OF UTILITIES PRIOR TO THIS PROJECT DESIGN; TICKET ***#2526978201 AND 2526978235***. IN ADDITION, MISS UTILITY WILL BE CONTACTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION FOR THIS PROJECT.

ENTRANCE PERMIT:
CIVIL AND ENVIRONMENTAL CONSULTANTS AND ANTERO RESOURCES WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

ENVIRONMENTAL NOTES:
STREAM AND WETLAND DELINEATIONS WERE PERFORMED BY ***ALL STAR ECOLOGY*** (ON 9/04/2025 , 9/05/2025, 9/08/2025). ***ALL STAR ECOLOGY*** PREPARED A STREAM AND WETLAND DELINEATION MAP WHICH VERIFIES AND SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE MAP DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE OR THE WVDEP. IT IS STRONGLY RECOMMENDED THAT THE AFOREMENTIONED AGENCIES BE CONSULTED IN AN EFFORT TO GAIN WRITTEN CONFIRMATION OF THE DELINEATION SHOWN ON THE EXHIBIT PRIOR TO ENGAGING IN CONSTRUCTION ON THE PROPERTIES DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATER OF THE U.S., INCLUDING WETLAND FILLS AND STREAM CROSSINGS.

GEOTECHNICAL NOTES:
GEOTECHNICAL ANALYSIS PERFORMED BY CIVIL AND ENVIRONMENTAL CONSULTANTS DATED JANUARY 2026.

PROJECT CONTACTS:

OPERATOR:
ANTERO RESOURCES CORPORATION
535 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE: (304) 842-4100
FAX: (304) 842-4102

ELI WAGONER - ENVIRONMENTAL & REGULATORY MANAGER
OFFICE: (304) 842-4068 CELL: (304) 476-9770

AARON KUNZLER - CONSTRUCTION MANAGER
OFFICE: (304) 842-4191

ROBERT WIRKS - DESIGN MANAGER
OFFICE: (304) 842-4100 CELL: (304) 627-7405

SCOTT HOFFER - UTILITY SUPERVISOR
CELL: (304) 615-8699

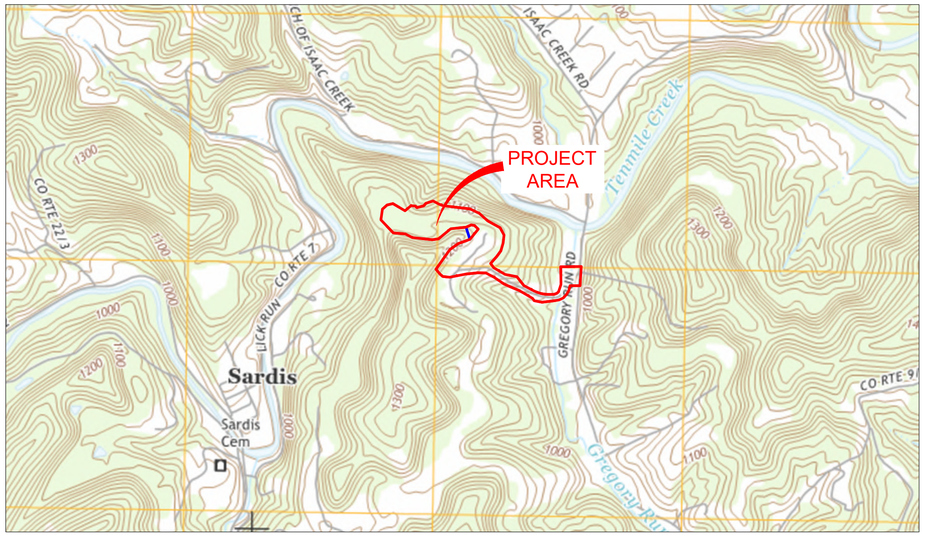
MARK HUTSON - LAND AGENT
CELL: 304-669-8315

JON MCEVERS - SVP OPERATIONS
OFFICE: 303-357-6799

ENGINEER/SURVEYOR:
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
JOSEPH D. ROBINSON, PE - PROJECT MANAGER/ENGINEER
OFFICE: (304) 933-3119 FAX: (304) 933-3327 CELL: (443) 366-2606

ENVIRONMENTAL:
ALLSTAR ECOLOGY
DAVE BOHNERT
OFFICE: (866) 213-2666

GEOTECHNICAL:
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
MICHAEL L. SCHUMAKER, PE - PRINCIPAL
OFFICE: (412) 429-2324 DIRECT: (412) 246-1608 CELL: (412) 779-5728



LOCATION MAP
WOLF SUMMIT USGS 7.5' QUADS
SCALE IN FEET
0 1000 2000
1 INCH = 1000 FEET

NORTH

GRADING VOLUMES			
DESCRIPTION	CUT (CY)	FILL (CY)	NET (CY)
MAIN ACCESS ROAD	3,022	11,531	-8,509
WELL PAD	30,350	9,630	20,720
STAGING AREA	5,786	10,086	-4,300
TOTAL	**39,158**	**31,247**	**7,911**
TOPSOIL / STRIPPING WITH 20% SWELL	(14,445 C.Y)	12,037 C.Y	

SPOIL PILE VOLUMES	
DESCRIPTION	TOTAL CAPACITY
STOCKPILE A	24,570
STOCKPILE B	3,110
TOTAL	**27,680**

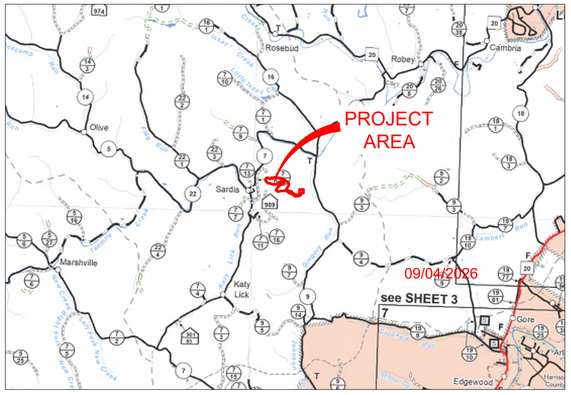
NOTE: TOTAL SPOIL PILE CAPACITY INCLUDES 10% SWELL FACTOR FOR CUT MATERIAL.
TOPSOIL CAPACITY NEEDED INCLUDES 20% SWELL FACTOR.
8" OF TOPSOIL/STRIPPING MATERIAL REMOVED.

L.O.D. AREAS	
DESCRIPTION	**ACRES**
ACCESS ROADS	8.46
ROW	0.20
WELL PAD	7.35
STOCKPILE A	2.29
STOCKPILE B	0.78
STAGING AREA	4.72
TOTAL	**23.80**
WOODED	**16.07**

KATY WELL LEGEND							
WELL HEAD LETTER	WELL NAME	ELEVATION	WV NORTH NAD 27	WV NORTH NAD 83 (2011)	NAD83 UTM-17M	NAD 83	NAD 27
Z	KATY 5V	1129.81'	N: 308829.5706	N: 308866.6753	N: 4355167.8503	39° 20' 39.99"	39° 20' 39.68"
			E: 1743115.4398	E: 1711675.9024	E: 551001.6710	-80° 24' 29.27"	-80° 24' 29.95"

STREAM IMPACT TABLE								
STREAM	STREAM CLASS	OHWM WIDTH (FT)	OHWM DEPTH (IN)	IMPACT	PERMANENT (LF)	TEMPORARY (LF)	PERMANENT IMPACT AREA (AC)	TOTAL LENGTH (LF)
ASE_Ditch_001	EPH	2.0	0.167	ACCESS ROAD		54	0.000	54
ASE_Stream_001	EPH	2.0	0.333	ACCESS ROAD	20	81	0.001	101
ASE_Stream_002	INT	4.0	0.667	ACCESS ROAD		87	0.000	87
ASE_Stream_02_ASE_MOD (Gregory Run)	PER	12.0	0.667	ACCESS ROAD	114	143	0.020	257
ASE_Stream_006	EPH	1.5	0.167	ACCESS ROAD		42	0.000	42
ASE_Stream07	EPH	0.75	0.167	ACCESS ROAD		103	0.000	103
ASE_Stream_009	EPH	3.0	0.500	ACCESS ROAD		40	0.000	40
ASE_Stream_010	EPH	2.0	0.167	ACCESS ROAD		43	0.000	43
ASE_Stream_011	EPH	1.5	0.167	ACCESS ROAD		52	0.000	52
ASE_Stream_015	EPH	1.5	0.167	ACCESS ROAD	164	79	0.006	243
ASE_Stream_021	INT	3.0	0.333	WELL PAD	73	33	0.005	106
TOTALS					**371**	**757**	**0.032**	**1128**

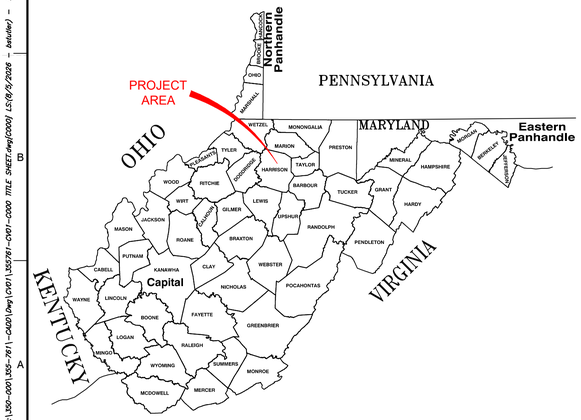
APPROVED
WVDEP OOG
MODIFICATION
9/1/2026



VICINITY MAP
HARRISON COUNTY HIGHWAY MAP
SCALE IN FEET
0 1 MILES 2 MILES
1 INCH = 1 MILE

NORTH

LIMITS OF DISTURBANCE PARCEL BREAK UPS - KATY WELL PAD					
HARRISON COUNTY, WEST VIRGINIA					
OWNER	**TM-PARCEL**	**DEED-PAGE**	**TOTAL ACRES**	**TYPE OF DISTURBANCE**	**ACERAGE**
ANTERO RESOURCES	245-22	1815-497	22.48	PARCEL INFORMATION	
				ACCESS ROADS	3.19
				ROW	0.20
				PARCEL TOTAL	**3.39**
STEPHEN L BAILEY	245-22.1	1467-33	1.02	PARCEL INFORMATION	
				ACCESS ROADS	0.16
				PARCEL TOTAL	**0.16**
ANTERO RESOURCES	245-23	1815-497	49.98	PARCEL INFORMATION	
				ACCESS ROADS	5.11
				WELL PAD	3.38
				STOCKPILE B	0.78
				STAGING AREA	4.72
				PARCEL TOTAL	**13.99**
ANTERO RESOURCES	245-8	1815-194	22.67	PARCEL INFORMATION	
				WELL PAD	3.97
				STOCKPILE A	2.29
				PARCEL TOTAL	**6.26**
				TOTAL	**23.80**
				ORIGINAL PERMIT TOTAL	**23.43AC**



WETLAND IMPACT TABLE				
WETLAND	IMPACT	PERMANENT (AC)	TEMPORARY (AC)	TOTAL AREA (AC)
ASE_Wetland_002	ACCESS ROAD		0.012	0.012
ASE_Wetland_003	ACCESS ROAD	0.009		0.009
ASE_Wetland_005	ACCESS ROAD	0.012		0.012
ASE_Wetland_007	STOCKPILE B/ STAGING AREA	0.396		0.396
ASE_Wetland_012	STOCKPILE B	0.020		0.020
ASE_Wetland_013	STOCKPILE B		0.015	0.015
ASE_Wetland_014	STOCKPILE B	0.007		0.007
ASE_Wetland_015	STOCKPILE B	0.007		0.007
ASE_Wetland_016	STAGING AREA	0.006		0.006
ASE_Wetland_017	STAGING AREA	0.073		0.073
ASE_Wetland_018	STAGING AREA	0.305		0.305
ASE_Wetland_019	STAGING AREA	0.027		0.027
ASE_Wetland_020	ACCESS ROAD	0.164		0.164
ASE_Wetland_021	ACCESS ROAD	0.018		0.018
ASE_Wetland_022	ACCESS ROAD	0.015		0.015
ASE_Wetland_023	ACCESS ROAD	0.064		0.064
ASE_Wetland_024	WELL PAD	0.306		0.306
ASE_Wetland_025	WELL PAD	0.027		0.027
ASE_Wetland_026	WELL PAD	0.042		0.042
TOTALS		**1.498**	**0.027**	**1.525**

WEST VIRGINIA 811
CALL BEFORE YOU DIG!

WEST VIRGINIA STATE LAW REQUIRES THAT YOU CALL TWO BUSINESS DAYS BEFORE YOU DIG IN THE STATE OF WEST VIRGINIA. IT'S THE LAW!

PLAN REPRODUCTION WARNING

THE PLANS HAVE BEEN CREATED ON ANSI D (22" X 34") SHEETS. FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

THE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.

WARNING: INFORMATION MAY BE LOST IN COPYING AND/OR GRAY SCALE PLOTTING.

JOSEPH D. ROBINSON
REGISTERED
19756
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

SUBMITTAL RECORD

NO	DATE	DESCRIPTION
1	8/05/2026	ADDED DETAIL IN MYKOUTLET CONNECTION
2	8/05/2026	ADDED LOD FOR MODIFICATION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, PSC. ALL SERVICES IN WEST VIRGINIA WILL BE PROVIDED BY CEC, INCORPORATED DBA CEC LANDSCAPE ARCHITECTS, LLC.

120 Genesis Boulevard
Bridgeport, WV 26330
Ph: 304.933.3119
www.cecinc.com
Civil & Environmental Consultants, Inc.

ANTERO RESOURCES
KATY WELL PAD
HARRISON COUNTY
WEST VIRGINIA

COVER SHEET

DRAWN BY: JW/CM
CHECKED BY: DBS
PROJECT NO.: 355-761
APPROVED BY: JDR
DATE: AUGUST 2026
DWG SCALE: AS SHOWN

DRAWING NO.: C000
SHEET 1 OF 37

P:\355-001\355-761\-CAD\Dwg\CV01\355761-CV01-C000 TITLE SHEET.dwg[C000] LS/8/5/2026 - bstuhler - LP 8/5/2026 10:27 AM

KATY WELL PAD
ANTERO RESOURCES
ISSUE FOR PERMIT

APPROVED
WVDEP OOG
MODIFICATION
9/1/2026

NORTH

ANTERO RESOURCES
TAX MAP 245 PARCEL 6.1
DEED BOOK 1815 PAGE 194

ANTERO RESOURCES
TAX MAP 245 PARCEL 8
DEED BOOK 1815 PAGE 194

DELINEATION
OF STUDY AREA

ASE_STREAM_024

ASE_STREAM_025

ASE_STREAM_022

ASE_STREAM_021

FILL KEY FOUNDATION F

INTERMEDIATE FILL KEY F1

FILL KEY FOUNDATION E

FILL KEY FOUNDATION D

FILL KEY FOUNDATION H

FILL KEY FOUNDATION G

FILL KEY FOUNDATION I

STOCKPILE A
CAPACITY: 24,570 CY

SOIL KEY C

Horizontal

PROPOSED
SUMP 3
RIM EL: 1128.13'

PROPOSED
SUMP 4
RIM EL: 1128.10'

PROPOSED
SUMP 5
RIM EL: 1128.12'

PROPOSED
SUMP 6
RIM EL: 1127.98

PROPOSED
SUMP 1
RIM EL: 1127.71'

PROPOSED
SUMP 2
RIM EL: 1126.80'

PROPOSED DIVERSION
SWALE (TYP.)

PROPOSED DIVERSION
SWALE (TYP.)

PROPOSED DIVERSION
SWALE (TYP.)

PROPOSED ROCK
FILTER OUTLET

PROPOSED RIP RAP APRON 8

PROPOSED LET DOWN CHANNEL 1

PROPOSED
CULVERT 6

PROPOSED RIP RAP
APRON 7

MOUNTABLE BERM

PROPOSED ROADSIDE
DITCH 4

PROPOSED 14'x40'x8"
AIR BRIDGE OVER
EXISTING GASLINE

PROPOSED DIVERSION
DITCH 1

PROPOSED RIP RAP APRON 9

PROPOSED DIVERSION
DITCH 2

PROPOSED DIVERSION
DITCH 3

PROPOSED DIVERSION DITCH 4

PROPOSED
BERM

KATY 5V

WELL PAD
ELEVATION = 1129.81'
CENTROID LOCATION
NAD83 LAT = 39.344455
NAD83 LON = -80.408290

ASE_WETLAND_024

ASE_WETLAND_025

ASE_WETLAND_026

ASE_WETLAND_007

ASE_WETLAND_018

ADDITIONAL LIMITS OF DISTURBANCE
0.37 AC

PERMITTED LIMITS OF DISTURBANCE

IMPAIRED WATER
22K BBL AST TANK
26K BBL SECONDARY CONTAINMENT
(W/110% CONTAINMENT)
ELEVATION = 1146.38'
CENTROID TANK LOCATION
NAD83 LAT = 39.343753
NAD83 LON = -80.405957

STAGING PAD
ELEVATION = 1146.38'
CENTROID LOCATION
NAD83 LAT = 39.343542
NAD83 LON = -80.406343

SOIL KEY B

SOIL KEY D

SOIL KEY E

MATCHLINE C302

JARVIS FAMILY LLC

782.20'

214.30'

145.76'

700.00'

OH-E

3-HD

HD

REFERENCE

1. EXISTING TOPOGRAPHY SURVEYED BY CIVIL & ENVIRONMENTAL CONSULTANTS ON 9/18/25, 9/22/25, 9/25/25, AND 9/29/25 AND SUPPLEMENTED FROM PUBLICLY AVAILABLE QL2 LIDAR FROM WVGIS, SUPPLEMENTED BY SURVEY
2. PROPOSED GRADING BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
3. EXISTING STREAM AND WETLAND DELINEATIONS COLLECTED BY ALL STAR ECOLOGY.
4. GEOTECHNICAL ANALYSIS COMPLETED BY CIVIL AND ENVIRONMENTAL CONSULTANTS DATED JANUARY 2026.
5. FEMA FLOOD MAP: 54033C0134D

SCALE IN FEET
0 50 100

SUBMITTAL RECORD

NO	DATE	DESCRIPTION
2	8/8/2026	ADDED DETAIL 39 AND OUTLET CONNECTION
1	8/6/2026	ADDED LOD FOR MODIFICATION

ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC, INC. SURVEYING IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF NC, PLLC. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC ENGINEERS & CONSULTANTS, PSC. SERVICES IN THE STATE OF WEST VIRGINIA WILL BE PROVIDED BY CEC, INC. AND CEC LANDSCAPE ARCHITECTS, LLC.

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ANTERO RESOURCES
KATY WELL PAD
HARRISON COUNTY
WEST VIRGINIA

SITE PLAN

DATE:	AUGUST 2026
DWG SCALE:	AS SHOWN
PROJECT NO:	355-761
DRAWN BY:	JW/CM
CHECKED BY:	DBS
APPROVED BY:	JDR

JOSEPH D. ROBINSON
REGISTERED
19756
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
9/2/2026

DRAWING NO.:
C303
SHEET 11 OF 37

F:\355-0001\355-761\~CAD\Dwg\CIVIL\355761-CIV01-C300 SITE PLAN.dwg[C303] LS(8/5/2026 - saturday) - LP(8/5/2026 10:30 AM