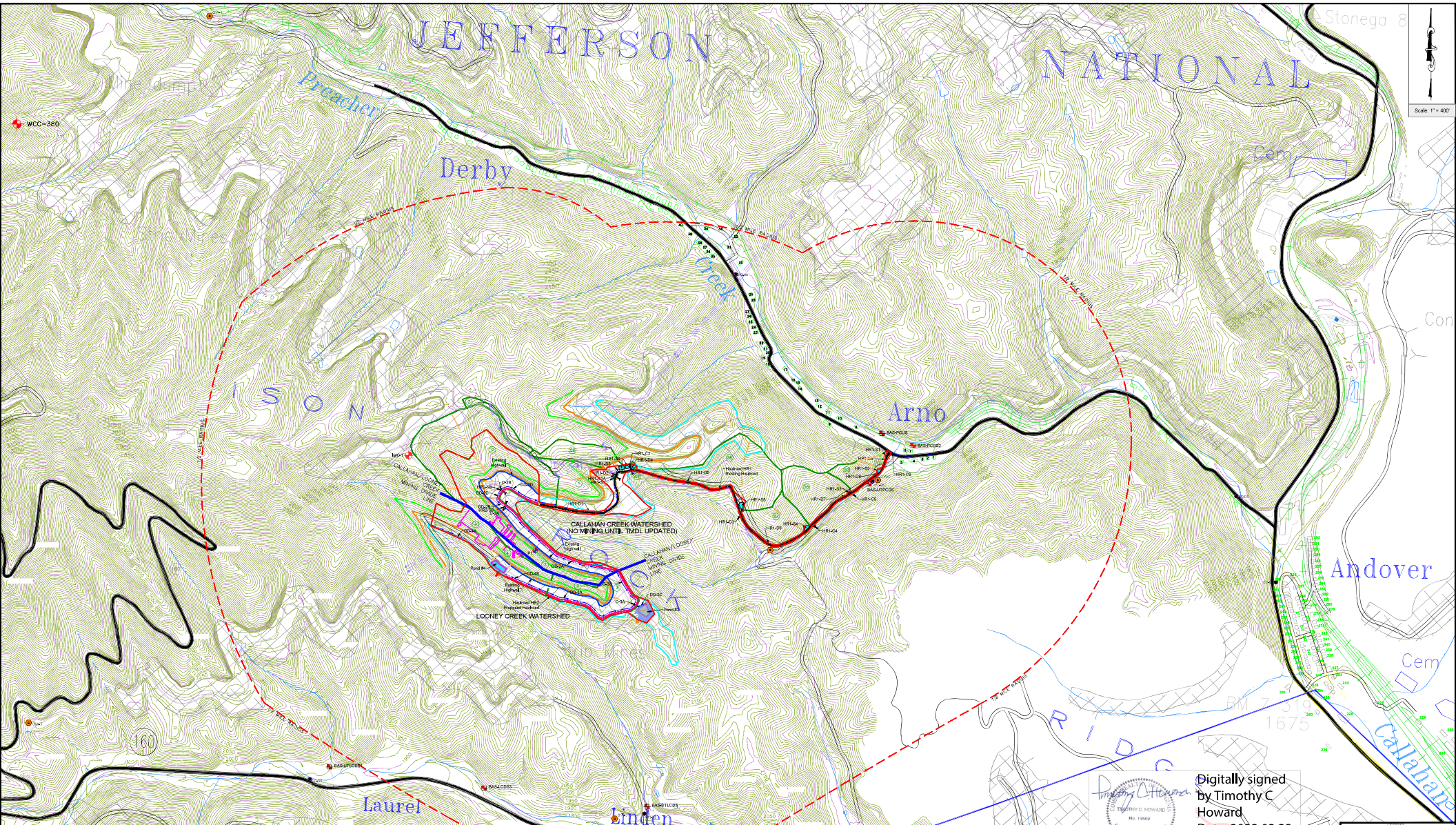

Digitally signed by Timothy C Howard
Date: 2023.02.23 09:13:12 -05'00'

Acrobat Digital Signature

TIMOTHY C. HOWARD
No. 19989
PROFESSIONAL ENGINEER

LEGEND

PROPOSED PERMIT BOUNDARY
PROPOSED HAUL ROAD
CROSS SECTIONS
HAULROAD 1
HAULROAD 2
CUT OR FILL FOR MARKER SEAM
CUT OR FILL FOR TAGSART 'B' SEAM
CUT OR FILL FOR TAGSART 'A' SEAM
POWER LINE
OVERHEAD CABLE
PIEZOMETERS
GROUND WATER MONITORING POINT
SURFACE WATER MONITORING POINT
PRELIMINARY SURFACE WATER MONITORING POINT
SPRING DISCHARGE POINT
ROCK PIEZOMETER
WATERSHED AREAS
330 HOUSE NUMBERS
TAGSART 'B' DEPARTURE WORKS

DITCH SCHEDULE

NAME	LENGTH (ft)	DEPTH (ft)	BOTTOM WIDTH (ft)	SIDESLOPE RATIO (H:V)	VELOCITY (ft/s)	AREA (sq.ft)	SLOPE (%)	DESCRIPTION (Type)	LINING
HR1-D1	990'	1.5'	4.0'	2:1	1.15	5.77	2%	V-DITCH	VEGETATED
HR1-D2	90'	1.0'	2.0'	2:1	0.53	0.35	10%	V-DITCH	VEGETATED
HR1-D3	105'	1.0'	2.0'	2:1	1.04	3.69	10%	V-DITCH	VEGETATED
HR1-D4	40'	1.0'	2.0'	2:1	0.26	0.06	15%	V-DITCH	VEGETATED
HR1-D5	1300'	1.0'	3.0'	2:1	6.27	7.56	16%	V-DITCH	RIP-RAP
HR1-D6	800'	1.0'	3.0'	2:1	4.51	4.18	11%	V-DITCH	RIP-RAP
HR1-D7	550'	1.0'	5.0'	2:1	1.91	6.37	8%	V-DITCH	VEGETATED
HR1-D8	375'	1.0'	2.0'	2:1	1.36	2.22	9.5%	V-DITCH	VEGETATED
HR1-D9	160'	1.0'	2.0'	2:1	0.49	0.80	5%	V-DITCH	VEGETATED
DD-1A	895'	2.0'	2.0'	2:1	0.73	2.17	1%	V-DITCH	VEGETATED
DD-2A	1435'	2.5'	2.5'	2:1	1.58	8.68	1%	V-DITCH	VEGETATED
DD-2B	135'	2.0'	2.0'	2:1	0.67	1.90	1%	V-DITCH	VEGETATED
DD-2C	105'	2.0'	2.0'	2:1	0.53	1.35	1%	V-DITCH	VEGETATED
DD-2D	455'	2.0'	2.0'	2:1	2.53	13.83	2%	V-DITCH	VEGETATED
DD-3A	1050'	2.5'	2.0'	2:1	1.15	4.80	1%	V-DITCH	VEGETATED
DD-3B	440'	2.0'	2.0'	2:1	0.68	1.91	1%	V-DITCH	VEGETATED
DD-3C	90'	2.5'	2.0'	2:1	1.45	7.33	1%	V-DITCH	VEGETATED
DD-4A	770'	2.5'	2.0'	2:1	1.22	5.41	1%	V-DITCH	VEGETATED
DD-4B	500'	1.5'	2.0'	2:1	1.72	2.70	5%	V-DITCH	VEGETATED

Iron Mountain Collieries, LLC.

Iron Mountain #1
Application #1211197
Surface Water Hydrology Map

Prepared by:
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Filename: Iron Mountain #1 Surface Water Hydrology Map.dwg

Scale: 1" = 400'

Map Disclaimer

NOTES:

This Map Certification pertains to work performed by Howard Engineering & Geology, Inc. only.

Underground mine areas, utility power line locations, gas well locations, and gas pipeline locations depicted on this document were prepared and provided to HEG by third parties. HEG affirmatively states that it has used best engineering practices in obtaining and utilizing the third party information, however, HEG accepts no liability as to the accuracy or completeness of the third party information. HEG also accepts no liability from damages that may arise as a result of inaccuracies in the third party information. HEG also affirmatively states that it is the user's responsibility to review and understand the limitations of this third party information. It is the recommendation of HEG that all utility and surface locations be field located when mining is advancing within one thousand (1,000) feet of the known structure.

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