



Parks & Open Space

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March 31, 2025

Patrick Lennberg
 Environmental Protection Specialist
 Department of Natural Resources
 Division of Reclamation, Mining and Safety
 1313 Sherman Street, RM 215
 Denver, CO 80203
patrick.lennberg@state.co.us

Subject: Cross Gold Mine, M1977-410 Public Comments

Dear Mr. Lennberg:

Boulder County Parks & Open Space appreciates the opportunity to perform a review of the materials submitted for the Cross Gold Mine, M1977-410. Boulder County Parks & Open Space strongly opposes the significant expansion of the Cross Gold Mine by GIR. As the current landowner of the existing Boulder County Tunnel and Cardinal Mill located in the same watershed (Figure 1) as the Cross Gold Mine, we are currently facing permit violations with the Water Quality Control Division of the CDPHE due to heavy metal contamination from legacy mining. We were not the mine operator, however as the current landowner we are responsible for hazard mitigation. Our potential \$14 million dollar treatment system is an expense to taxpayers from Boulder County, the State of Colorado and the Nation. Our project is a current example of the long-term environmental impacts and threats to public health that mining in this area (Figure 2) can cause. The Claims Boundary for Cross Gold Mine has substantial overlap with our Jack Pot and Boulder County mine workings (Figure 3). Because of our vested interest in this land and watershed, Boulder County Parks & Open Space desires to be a party to the proceedings.

We request more details regarding surface and sub-surface locations of proposed activity within the fractured rock groundwater flow-shed as well as the interconnected surface water watershed (Figure 4). In particular, we have a 3D model of subsurface mine workings at the Jack Pot and Boulder County mines owned by Boulder County, and we request a 3D model of the existing and proposed exploration and mining associated with the Caribou and Cross Gold Mines (both under the above permit application). The combined 3D models can highlight locations where additional technical studies are needed to provide assurance of no impact on the Cardinal Mill and Boulder County Tunnel historic mine drainage.

Items within the DRMS application which are of general concern for Boulder County Parks & Open Space include:

1. The proposal to create new and expand existing drifts and tunnels runs the risk of physically and/or hydrologically connecting the Caribou and Cross Gold Mine tunnels with Boulder County mine and Jack Pot mines' workings and inadvertently drain to the

Boulder County Tunnel (Figure 3). Boulder County is designing a water treatment facility to meet our discharge permit at Cardinal Mill and the design is based on the amount and quality of flow in the Boulder County Tunnel. Any unintentional or intentional connection to, or influence of Caribou and Cross Gold Mine on, our mine workings could add additional flow to the Cardinal Mill outfall or change the outfall chemistry and cause the treatment system to fail. Our treatment design is very specific to historic flows and historic water quality. We seek reassurance in the form of additional studies performed by GIR to identify any preferential groundwater pathways or naturally occurring fractures/faults, voids or areas of weakness in the rock structure around proposed mining or exploration activities located within 1-mile of the Boulder County and Jack Pot mine workings (Figure 2). In particular, we are interested in any known natural and/or man-made features with a preferential east-west alignment (Figure 2), including the subsurface workings of the adjacent St. Louis, East St. Louis and Eagle Bird mines (Figure 4), that could provide preferential groundwater flow paths that connect Boulder County and Jack Pot mines with the Caribou and Cross mines (Figure 3). Any identified activity that shows risk of hydrological connection should be properly planned to avoid incidental or accidental connections.

2. We wish to understand the blasting plan for the Cross Gold Mine and have a public notification system regarding such activities, such that we can monitor any changes in flow to our water treatment system in relation to these disturbances (Figure 3). We know that tunnel collapse or preferential flow pathways can change based on local disturbance.
3. Activities that will influence the water quantity or water quality for Sherwood Creek's watershed, in which Boulder County owns and manages lands, should similarly be reported in a transparent manner such that coordinated monitoring can occur to ensure no impairments to water quality in that watershed from Caribou and Cross Gold Mine flows or blasting impacts (Figure 1).
4. The Cross Gold Mine (M1977-410) permit (e.g., Appendix N-1) indicates that GIR has the mineral rights to the Boulder County Mine, Boulder County Tunnel and Jack Pot Mine, and owns property east of the Caribou and Cross Gold Mine facility (Figure 3). We seek clarification of the surface and subsurface rights owned by GIR, their plans for areas east of their current operations, and what activities can be carried out in these areas without additional permitting. Even mineral exploration activities in this area could modify its hydrogeology and lead to significantly increased discharge, or chemical changes to the outfall from the Boulder County Tunnel observed near Cardinal Mill (Figure 3).
5. We seek additional records beyond what was provided in the permit related to the Caribou and Cross Mine and the Boulder County and Jack Pot mine to better understand their subsurface connections and the intended activities of GIR. We are specifically requesting the following:
 - a. The Scope of Work for the Hydrogeologic Study proposed in the 12/30/2024 Quarterly Report to MLRB and the results upon completion.
 - b. "Project Status and Recommendations for Continued Evaluation - Cross Mine" by Barrett and Schuiling from 1988.
 - c. A 3D model of the current and historical Caribou and Cross mine workings and mines to the east (St. Louis Mine, Eagle Bird Mine).

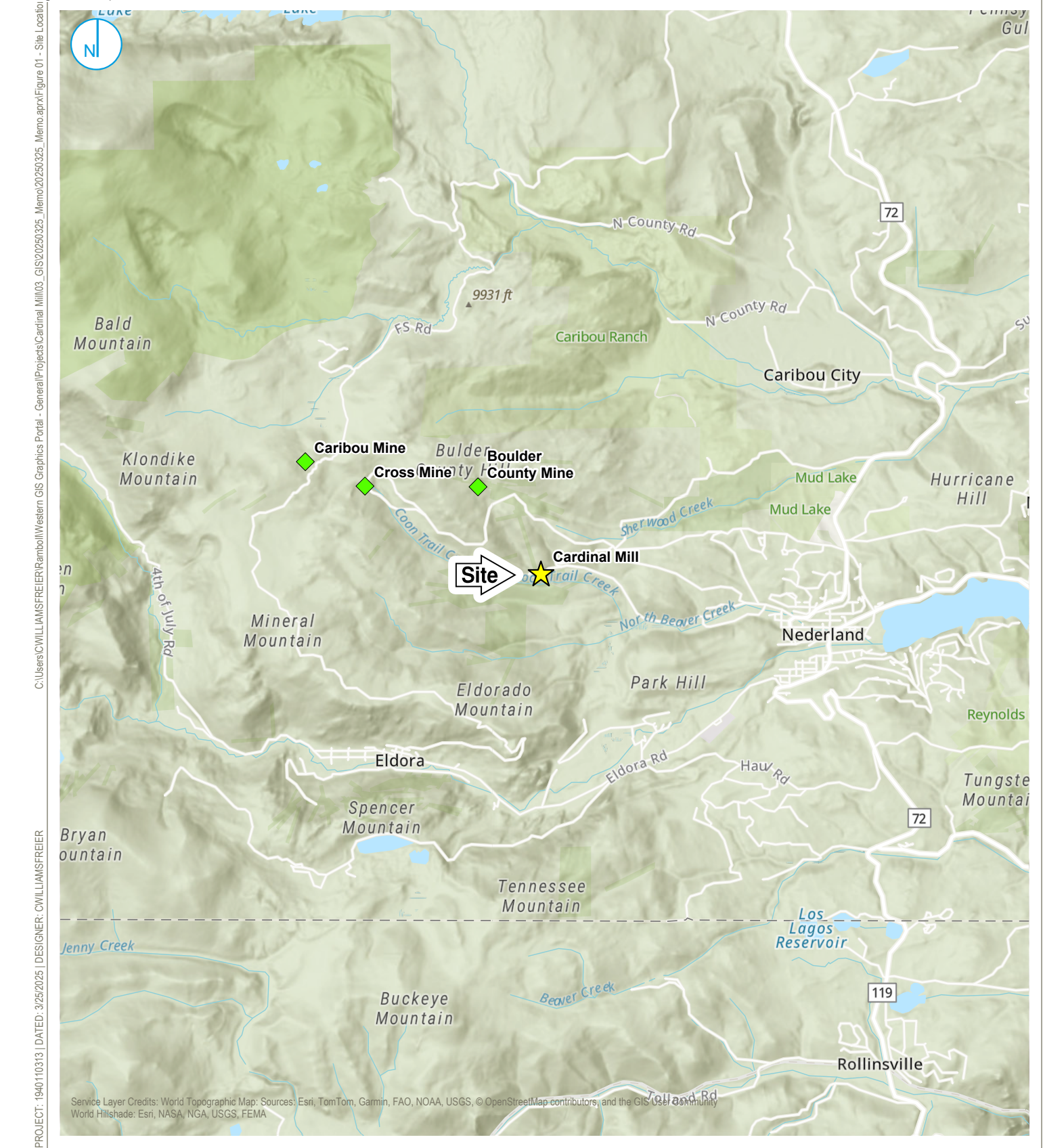
d. Location of planned mining and exploration activities.

This letter is intended to present Parks & Open Space comments relative to DRMS **Cross Gold Mine submittal M1977-410**. Please contact me directly if you have any questions.

Sincerely,

Therese Glowacki: tglowacki@bouldercounty.gov

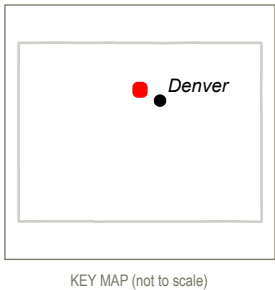
Therese Glowacki
Boulder County Parks & Open Space Director



C:\Users\OWILLIAMS\FREIER\Brambol\Western GIS Graphics Portal - General\Projects\Cardinal Mill\03_GIS\20250325_Memo.aprx\Figure 01 - Site Location

PROJECT: 1940110313 | DATED: 3/25/2025 | DESIGNER: OWILLIAMS\FREIER

Map Scale: 1:60,000 | Map Center: 105°32'58"W 39°58'8"N



- ★ Approximate Location of Cardinal Mill
- ◆ Mines

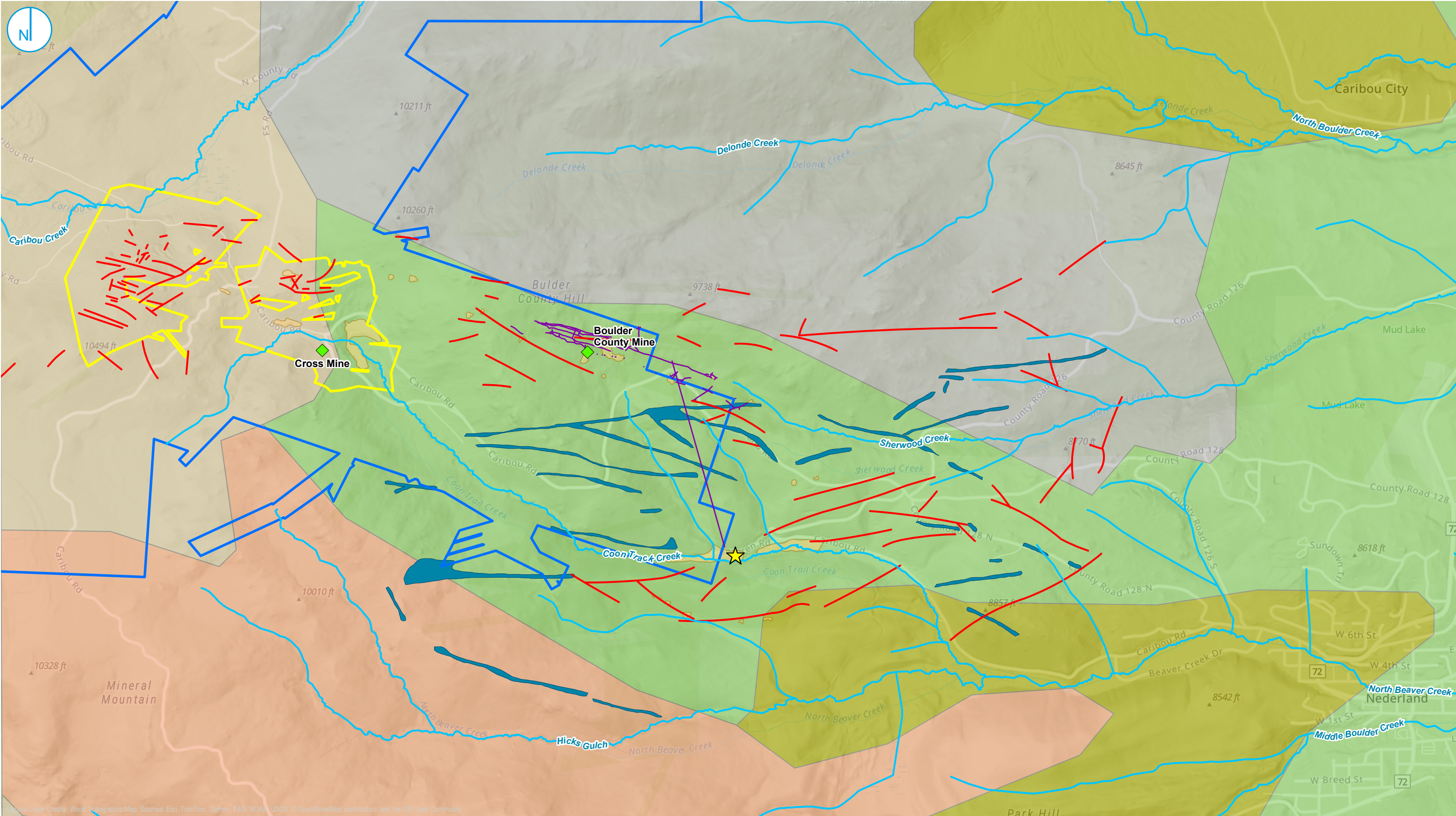
SITE LOCATION

FIGURE 01

Cardinal Mill
Nederland, Colorado

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY





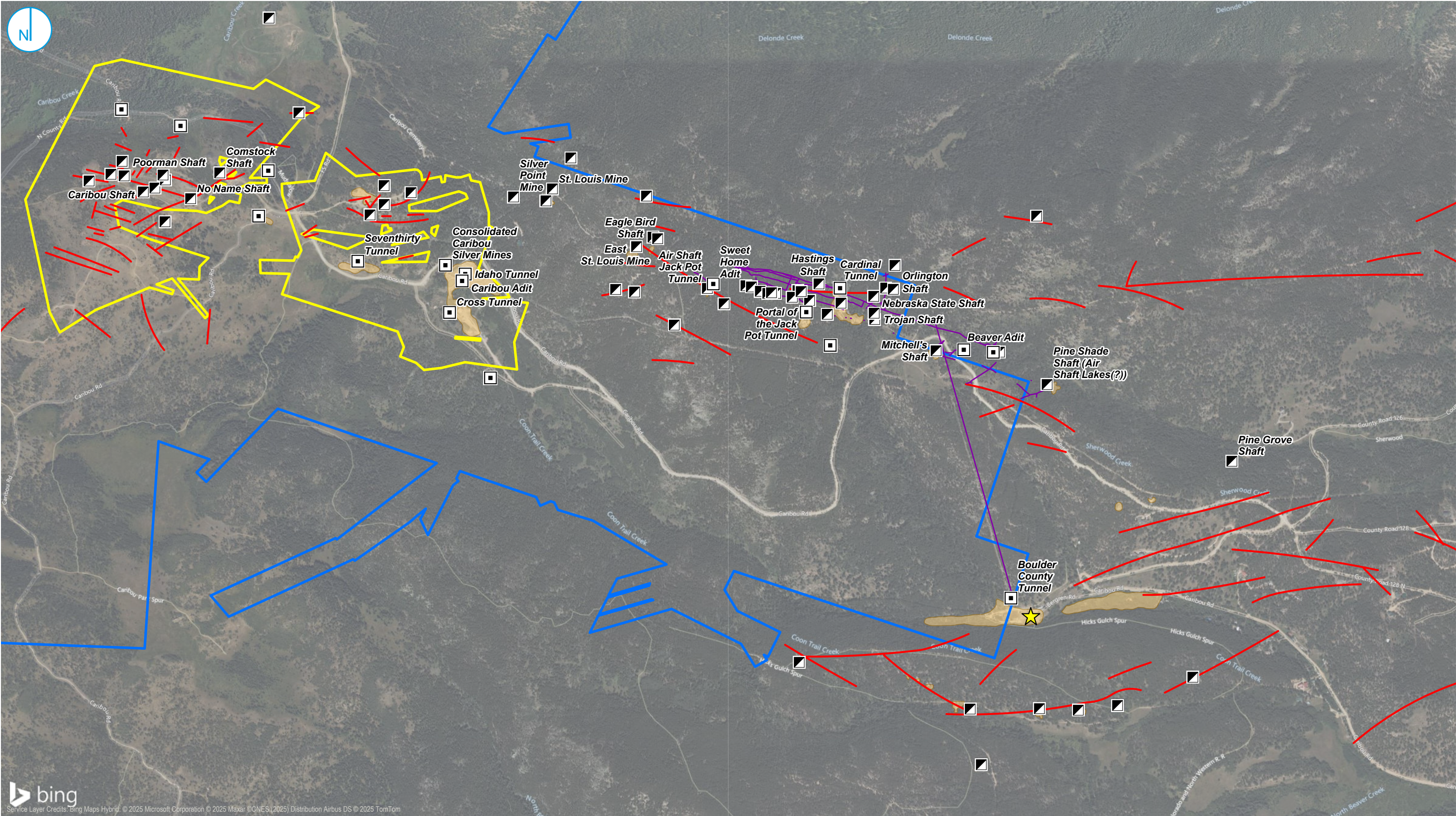
REGIONAL GEOLOGIC CONTEXT

FIGURE 02

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

Cardinal Mill
Nederland, Colorado





- ★ Approximate Location of Cardinal Mill
- Adits
- ▣ Shafts
- Mine Workings
- Vein
- Tailings Piles
- Permit Boundary
- Claims Boundary

0 500 1,000 Feet

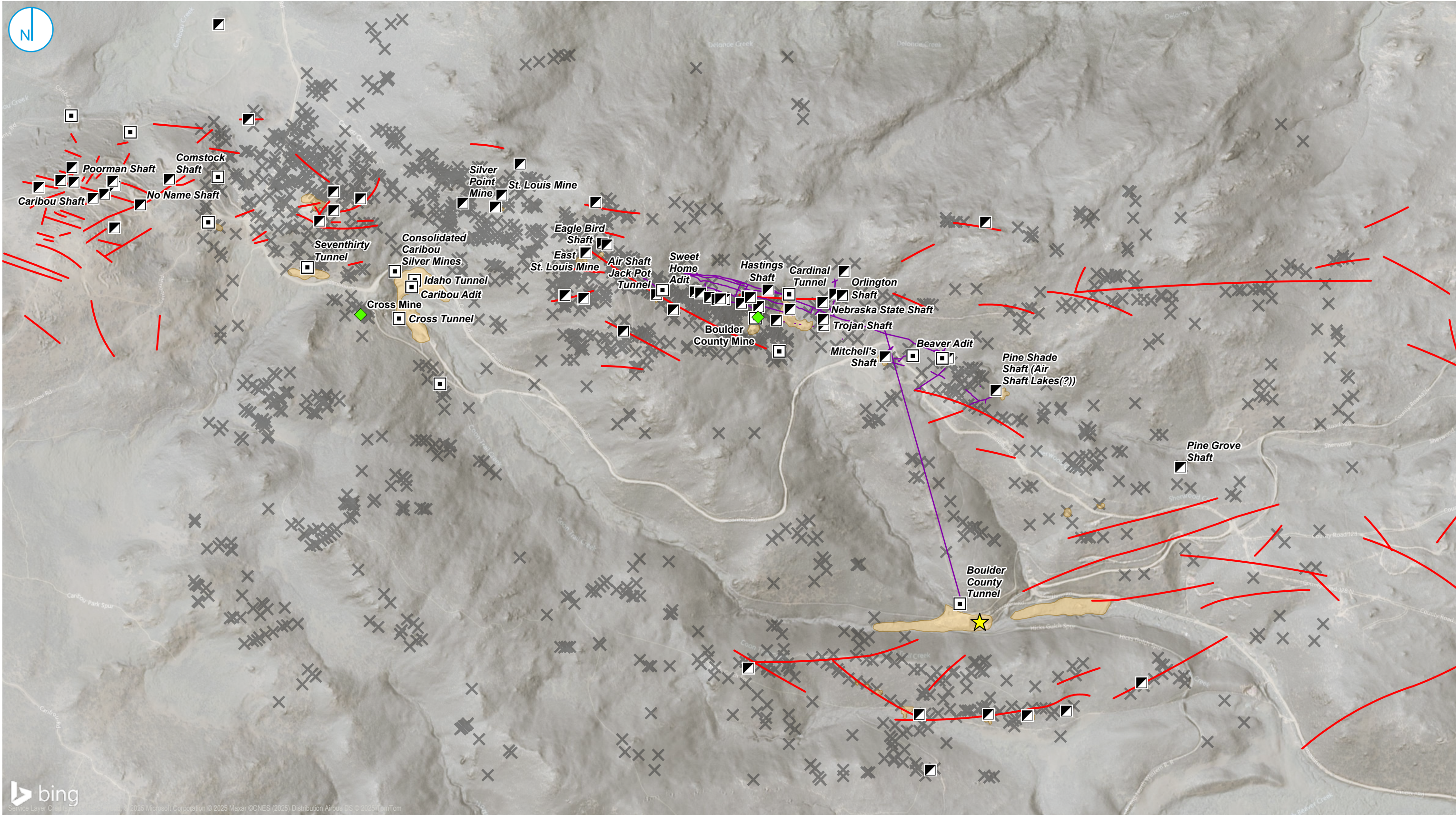
REGIONAL MINING ACTIVITY

FIGURE 03

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

Cardinal Mill
Nederland, Colorado





- ★

 Approximate Location of Cardinal Mill
- ◆

 Mines
- ▣

 Shafts
- ◻

 Adits
- ✕

 Inferred Prospects
- Reconstructed Mine Workings
- Vein
- Inferred Tailings Piles

0 500 1,000 Feet

BOULDER COUNTY HILL MINING ACTIVITY

FIGURE 04

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

Cardinal Mill
Nederland, Colorado



Certificate Of Completion

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Signatures: 1

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Therese Glowacki: tglowacki@bouldercounty.gov

tglowacki@bouldercounty.gov

Parks & Open Space Director

Security Level: Email, Account Authentication (None)

Therese Glowacki: tglowacki@bouldercounty.gov

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Certified Delivery Events

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Timestamp

Carbon Copy Events

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Timestamp

Witness Events

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Notary Events

Signature

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Completed

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Status

Timestamps