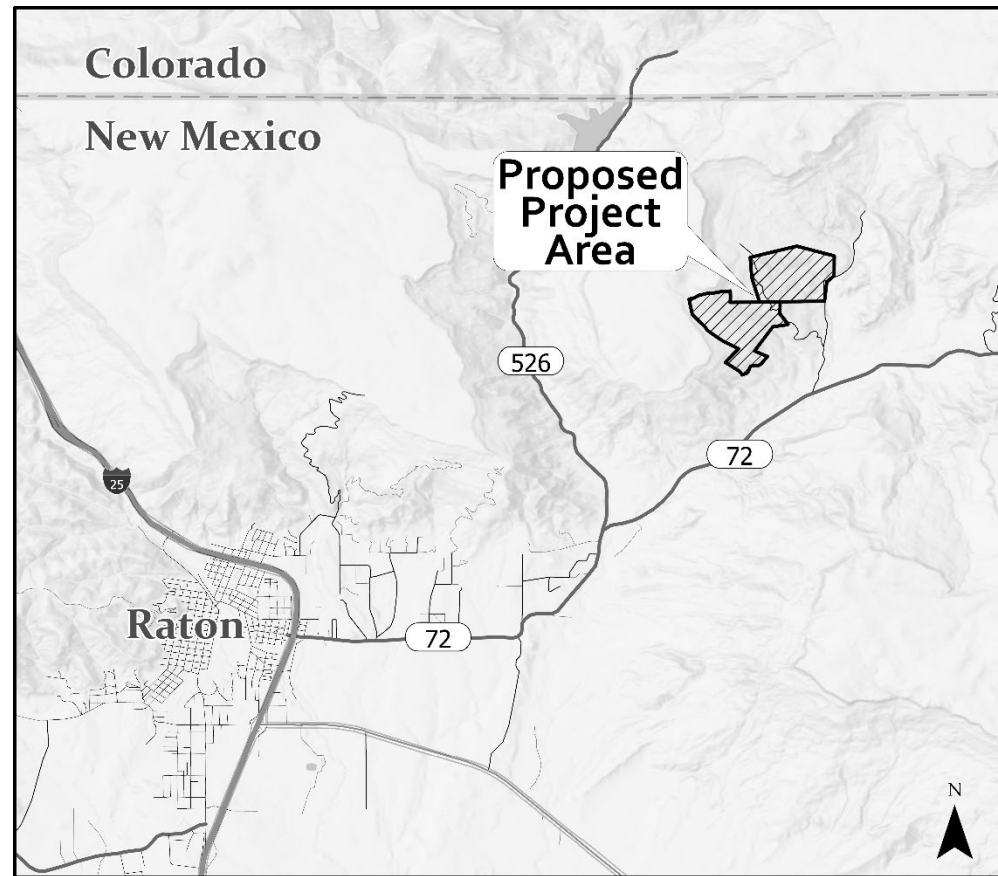


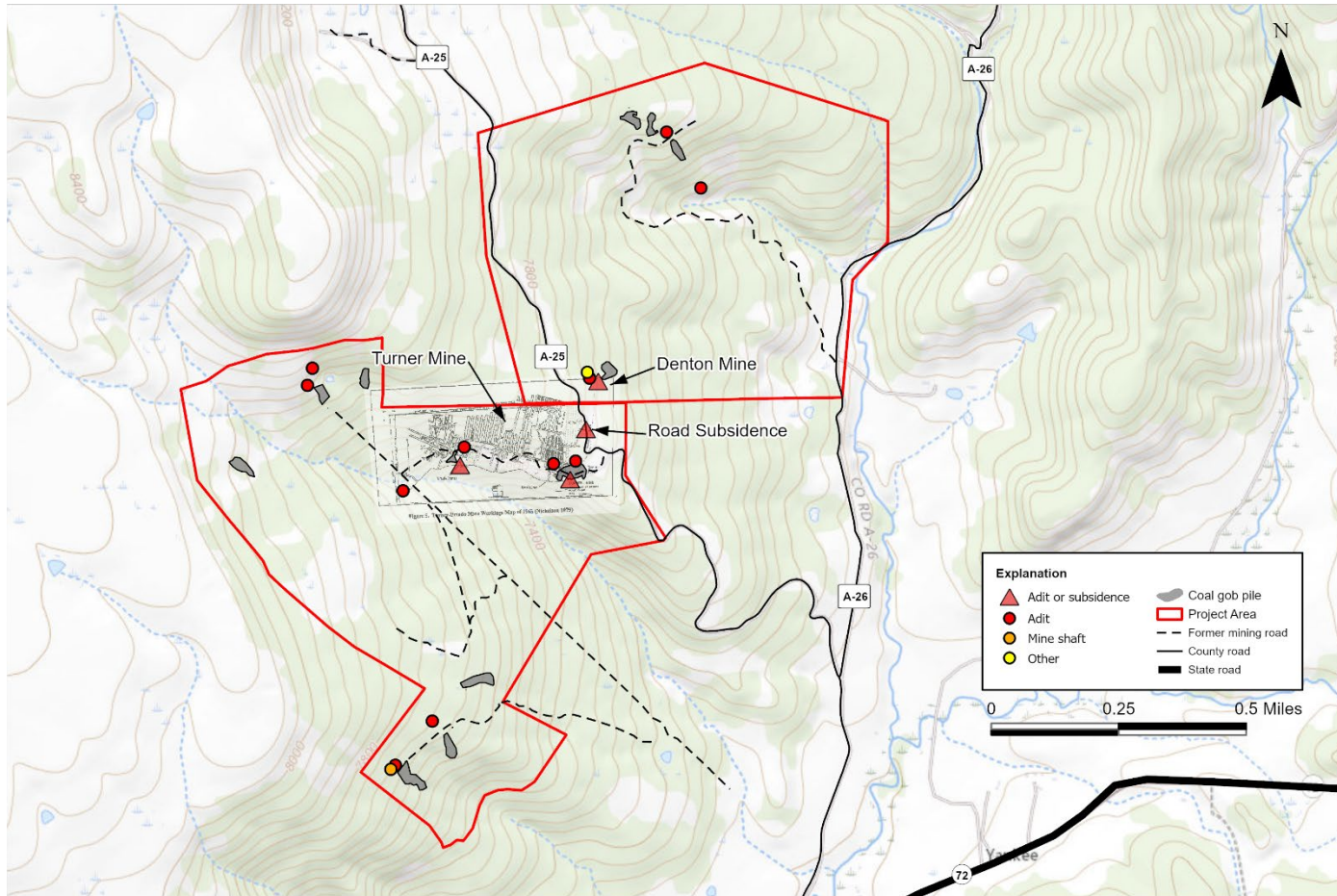


Yankee Canyon Mine Safeguarding Project Public Meeting June 8, 2023

Project Location



Project Area



Project Team

- Abandoned Mine Land Program: Mike Tompson, AML Program Manager, Yeny Maestas, Project Manager, Laurence D'Alessandro, Project Manager, Lloyd Moiola, Environmental Manager; James Hollen, NEPA Coordinator
- Daniel B. Stephens & Associates: Jean-Luc Cartron, Project Manager/NEPA and Natural Resources Lead, Julie Kutz, Biologist/NEPA Specialist, Ken Brinster, NEPA Specialist
- Okun Consulting Solutions: Adam Okun, Cultural Resources Expert

National Environmental Policy Act

- Under the National Environmental Policy Act, federal agencies and their representatives are required to assess the environmental effects of their proposed actions prior to making decisions
- A draft Environmental Assessment has been prepared with an analysis of potential impacts on the natural and human environment of Yankee Canyon and its surrounding area
- Public review and participation are an important component of NEPA

Project Purpose and Need

- The purpose of the project is to safeguard against historical mining feature hazards throughout the Project Area
- County Road A-25 has been closed due to subsidence likely caused by historic mining. There is a need to stabilize it before it can be reopened.
- Unprotected mine features need to be safeguarded to protect against hazards
- Exposed gob piles need to be reclaimed because they can threaten water quality and may combust spontaneously, leading to an elevated risk of fire.



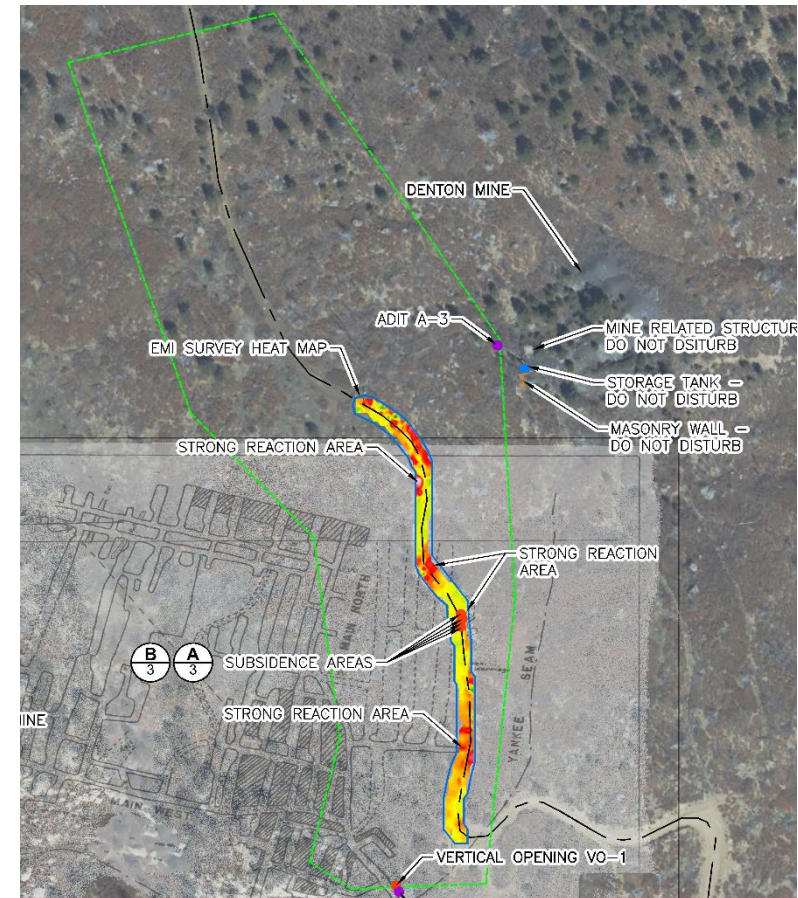
B ADIT A-2
SCALE: NONE



A COUNTY ROAD A-25 SUBSIDENCE FEATURE
SCALE: NONE

Safeguarding Project (Phase 1)

- County Road A-25. The project would further investigate then repair areas on road where subsidence features are identified.
 - Investigation by geotechnical drilling performed to characterize subsurface conditions. Drill holes placed every 20 to 30 feet.
 - Repair by backfilling conducted through drilling and injection of a water, sand and cement grout mixture. Grout would be injected into voids beneath and adjacent to the road.
- Closure of three adits near CR A-25



CR A-25 Subsidence (Trihydro, 2023)

Safeguarding Project (Phase 2)

- Closure of all other mine openings (gates, cupolas, backfill, polyurethane foam (PUF) plugs, gated culverts)
- Stabilization of gob piles on state lands and on private land with owners' consent



Stabilization of steep slopes on coal gob piles is needed to prevent mine waste from entering adjacent ephemeral channels.

Typical AML Reclamation/Closures



Revegetated gob pile (Dillon Canyon)



Rock bulk-headed culvert with bat-friendly gate. Cemented rocks assist with blending into landscape

Typical AML Closures



Bat and wildlife friendly gate enclosure



Culvert with bat and wildlife-friendly gate

Affected Environment

- Topics Evaluated in the Environmental Assessment:
 - Cultural Resources
 - Water Resources
 - Vegetation
 - Wildlife
 - Special Status Species
 - Topography/Geology/Soils
 - Land Use
 - Human Health and Safety
 - Socioeconomic/Environmental Justice



Impacts of the Proposed Project

- All elements of the affected environment are evaluated and included in full in draft EA
- Supporting studies are included or referenced in the EA



Analysis of Impacts: Cultural Resources

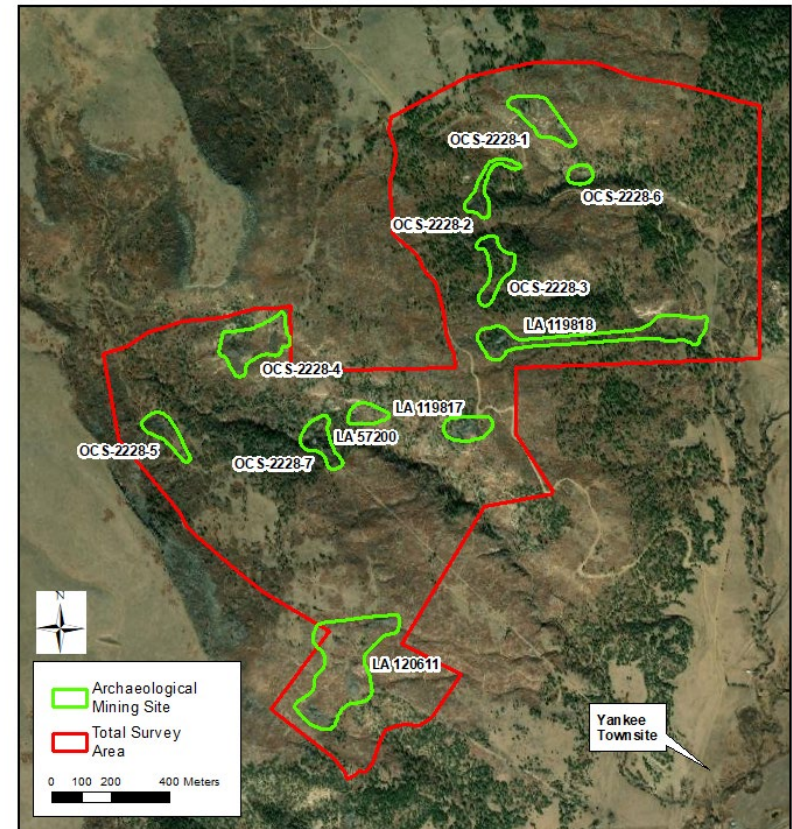
- An archaeological survey was conducted in Oct-Nov 2022 to document historic mining features and help the project comply with the National Historic Preservation Act and other historic preservation laws.
 - 582 acres were surveyed
 - 138 separate mining features and hundreds of historic artifacts were documented
 - Coal waste (gob) pile is the most common feature type, but many other types are present
 - Features are related to assaying, extraction, processing, transport, and supporting activities

| FEATURE TYPE | COUNT | FEATURE TYPE | COUNT |
|-----------------------|-------|----------------------|------------|
| Coal Gob Pile | 35 | Ore Cart | 2 |
| Structure Foundation | 19 | Road-Related Feature | 2 |
| Adit | 10 | RR Grade | 2 |
| Open Cut/Pit | 8 | Structure (Extant) | 2 |
| Fence | 7 | Tramway Feature | 2 |
| Car Body | 4 | Prospect Pit | 2 |
| Waste Rock Platform | 4 | Machine Platform | 2 |
| Landform Modification | 4 | Privy/Depression | 2 |
| Wall | 4 | Ramp | 2 |
| Midden | 3 | Bridge | 1 |
| Tramway Segment | 3 | Corral | 1 |
| Entrance (Shaft/Vent) | 3 | Graffiti Panel | 1 |
| Reservoir/Tank | 3 | Well | 1 |
| Concrete Bin | 2 | Tipple Foundation | 1 |
| Developed Spring | 2 | Utility Pole | 1 |
| Trail/Road | 2 | Wood Concentration | 1 |
| TOTAL | | | 138 |

Documented Mining Feature By Type

Survey Results

- 11 different clusters defined as archaeological sites
- Yankee Mines and small family operations are represented
- Sites date from 1905 to 1960s
- Four of the mines had been documented in the past



Historic Mining Features

- Below are examples of historic mining features
- AML will work to preserve significant features where feasible



Coal Gob Piles on Steep Slope



Car Body



Tipple Structure Remains



Mine Opening

Cultural Resources: Avoidances

- Four sites are recommended as eligible for listing on the National Register of Historic Places
- On eligible sites, specific features will be avoided with suitable buffers during mine remediation, and all project activities at these sites should be monitored by a permitted archaeologist.
- One other site with intact mining infrastructure requires similar avoidances and monitoring

Analysis of Impacts: Land Use

- The area is rich in natural resources, with abundant wildlife including game species such as elk and deer. County Road A-25 is used by hunters and provides access to private ranches and hunting lodges in the region.
- Lands are also used for livestock grazing.



Analysis of Impacts: Land Use

- Repair of CR A-25 would have a negative, short-term impact on land use because of limited road access during construction
- It would have a positive long-term impact by allowing the road to be reopened under safe conditions.
- The non-implementation of the project would have negative impacts in the long term.
- Safeguarding measures would be on county-maintained roads, private property and state land. Access agreements would be in place prior to construction.
- No other land use would be impacted by the Proposed Project



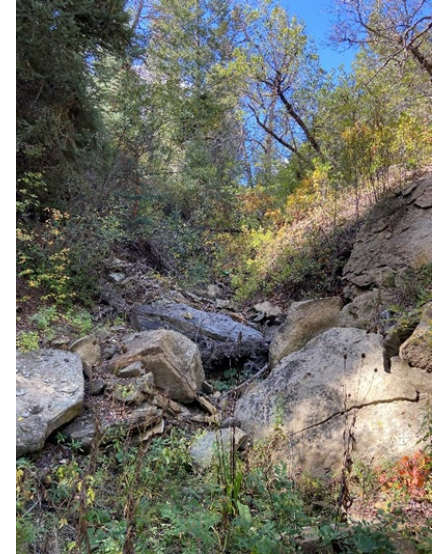
Analysis of Impacts: Biological Resources

- Bat compatible closure and timing would mitigate impacts to bats
- No threatened or endangered species have the potential to occur in the project area, therefore no impact
- Mitigation measures for migratory birds such as construction timing will be implemented
- Surveys for wildlife usage of mine features will be conducted prior to closure of mine features
- Potential positive, long-term impact on vegetation with revegetation of gob piles using native species
- Minimum short-term impacts on soils and vegetation with mitigation measures in place
- No long-term impacts to biological resources with implementation of mitigation measures



Analysis of Impacts: Other Resources

- Potential positive, long-term impact on downstream water quality
- Positive impact on human health and safety
- Short-term positive impact on socioeconomics
- Positive impact on environmental justice through improved access on CR A-25 and improved water quality
- No impact to topography, geology or soils



Impacts Conclusion

- Proposed Project (Proposed Action Alternative)
 - With mitigation measures in place, No Significant Impact was found
- No Action Alternative
 - Ranges from no impact to negative impact

Any Questions?

- For questions or additional information, please contact:
 - Lloyd Moiola, <Lloyd.Moiola@emnrd.nm.gov>, 505-629-3757
 - James Hollen, <James.Hollen@emnrd.nm.gov>, 505-231-8332 OR
 - Mike Thompson P.E., <Mike.Tompson@emnrd.nm.gov>, 505-690-8063
- Draft Environmental Assessment and Supporting Studies are posted on the AML website at:
<https://www.emnrd.nm.gov/mmd/public-notice/>
- To submit comments, please email jcartron@geo-logic.com, call 505-353-9190, or mail to DBS&A, c/o Jean-Luc Cartron
6020 Academy NE, Suite 100
Albuquerque, NM 87109
- Please provide comments by July 8, 2023 - Thank you!