New Mexico Abandoned Mine Land Program

Chloride Flat-Cooper Shaft Subsidence Project

AMLIS Key: NM000237

Categorical Exclusion – Detailed Explanation Document

Site Overview: The Chloride Flat-Cooper Shaft (historically known as the 76 Lode mine shaft) Subsidence Project(Project) is located in Grant County, New Mexico, approximately 2 miles northwest of Silver City, New Mexico within the Chloride Flat Mining District (Parcel Number 3-082-102-503-300, 76 Lode Mine-MS 61, embracing portions of Section 32 and Section 33, Township 17 South, Range 14 West, N.M.P.M., in the county of Grant, State of New Mexico). The proposed project includes backfilling one dangerous opening in an area that was previously safeguarded in 1987 during the Mine Adit & Shaft Closure at Chloride Flat, Silver City, NM (NM Abandoned Mine Land Bureau Project, 1987). The Area of potential effect (APE) for the project consists of 1.1 acres and is situated on private land owned by Martha S., and Thomas V. Cooper of Grant County, New Mexico with an approximate elevation of 6300 ft (See map: Appendix 1).

Previous and current compliance: Prior to previous safeguarding efforts, an Environmental Assessment (EA) for the project area was prepared by the New Mexico Abandoned Mine Land Program (NM-AML) for the 1987 Mine Adit & Shaft Closures at Chloride Flat which analyzed potential environmental impacts associated with the project. NM-AML has prepared this Categorical Exclusion for the current Chloride Flat-Cooper Shaft Subsidence Project for compliance with the OSMRE NEPA process pursuant to 43 CFR 46.215(33).

Cultural Resources Survey, Agency and Tribal Consultations: A full-coverage pedestrian survey was performed on April 23, 2024, by the University of New Mexico Office of Contract Archaeology (OCA) under the supervision of OCA archaeologists. The survey documented one site, a previously recorded historic archaeological site, LA 54916. As a result, the NM-AML will avoid the site and the proposed undertaking will result in no adverse effect to historic properties.

Consultation letters were sent to eight (8) tribes (Acoma Pueblo, Fort Sill Apache Tribe, Hopi Tribe, Isleta Tribe, Mescalero Apache Tribe, Navajo Nation, White Mountain Apache Tribe, the Zuni Pueblo on March 15th, 2024; however, no responses were received. In addition to tribal consultation, a consultation letter was sent to the New Mexico State Historic Preservation Office (NM-SHPO) who provided concurrence with the NM-AML determination on August 21st, 2024 that the proposed mine safeguarding activities will result in no adverse effects. No further mitigation measures were recommended beyond what was stated in the consultation letters by either of the eight (8) tribes or NM-SHPO(Appendix 2).

Public Involvement: Public involvement for the proposed action included posting a bilingual (English and Spanish) public notice flyer (Appendix 3) along with the Categorical Exclusion and other supporting documentation on the State of New Mexico Energy, Minerals, and Natural Resources Department,

Mining and Minerals Division website under the public notices link (www.emnrd.nm.gov/mmd/public-notices). Additionally, a bilingual (English and Spanish) advertisement including links to the Categorical Exclusion and public notice was published in the *Silver City Daily Press* in both print and online versions requesting public comment/input during the 14-day comment period from ending September 20th, 2024; however, no responses were received.

Biological Conditions and Consultation:

NM AML staff conducted desktop analyses of the APE on May 23rd, 2024, for potential effects of the project on the landscape. In compliance with the Section 7 of the Endangered Species Act a desktop review was completed by NM-AML utilizing the USFWS Information for Planning and Consultation tool (IPaC), the New Mexico Department of Game and Fish Environmental Review Tool (ERT), Biota Information System of New Mexico (BISON-M), and The New Mexico Rare Plant Technical Council (NMRPTC) to determine any potential effects on the natural landscape and potential wildlife inhabitants. Additionally, Bat Conservation International (BCI) was contracted to conduct a subterranean bat habitat survey of the feature to determine presence or absence of bats and suitability of the habitat located within the feature. Based on the information generated from the desktop reviews and survey, several lists summarizing the plant and animal species that could occur have been compiled documenting species of concern, presence of suitable habitat for each species, likelihood of occurrence, and potential for adverse effect. (Appendix 4,5,6). The NMRPTC identified one state listed plant species (Mimbres Figwort) with the possibility of occurrence in the project area (Appendix 7). No critical habitat was identified by the USFWS, NMDGF or BCI and no adverse effects to wildlife or critical habitats are anticipated.

Prior to construction, NM-AML will conduct quadrat surveys for presence/absence of plants and wildlife in the project area and will relocate individuals outside the project area if needed, to mitigate any potential for effect by the proposed undertaking. Additionally, NM-AML will conduct Burrowing Owl surveys (suggested by the ERT) by qualified AML staff utilizing the Colorado Parks and Wildlife Burrowing Owl survey protocol (Appendix 8). Further, during construction, NM-AML staff will minimize any tree or shrub removal and surface disturbance during construction to mitigate any effects on future plant and wildlife habitat on the site.

Hazard and Protection, Public Health and Safety: Due to the proximity of project to the residence of the landowner, and the established county road, this subsidence feature poses an extreme hazard to the health and safety of the landowner and public.

Proposed Scope of Work:

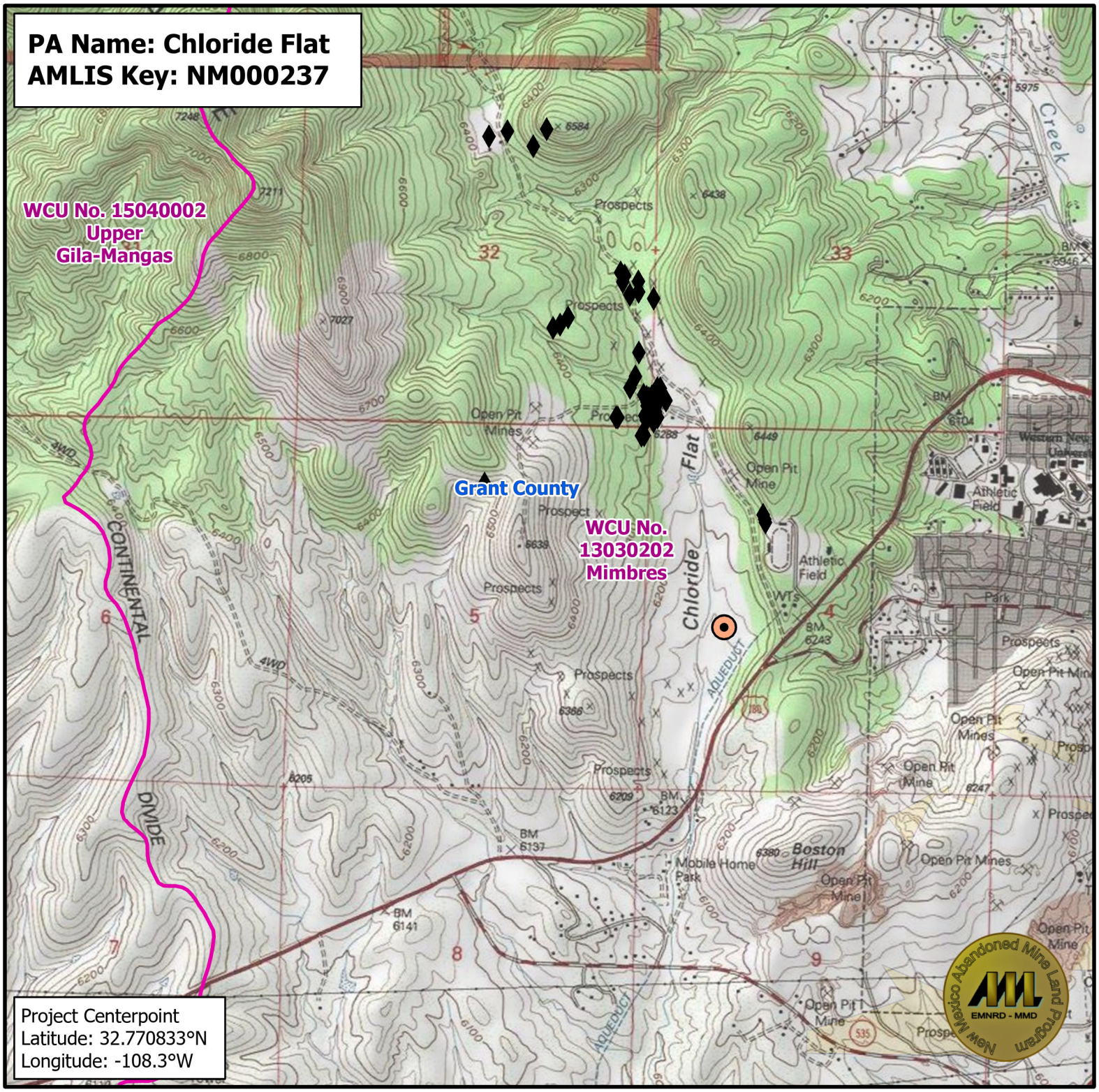
Equipment required: Includes, but is not limited to; Pickup trucks, Skid steers, dump trucks, wheelbarrows, and shovels.

Closure/ Safeguard Methods:

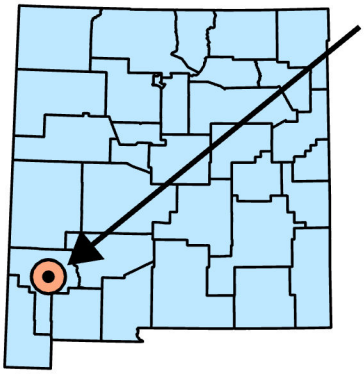
- Surface disturbance will be localized to the immediate vicinity of the closure and access routes only.

- Imported fill will be acquired from a private source and utilized to minimize the surface disturbance of the project area and to backfill the feature to the height of the surrounding elevation.
- Imported fill will be temporarily staged near the feature immediately adjacent to the existing road and then placed in the feature mechanically using a skid steer or by hand using wheelbarrows and shovels.
- Reseeding and mulch by hand broadcasting on any disturbed areas around the backfilled feature with a NM-AML approved native seed mix and application rate.
- Obliterate, roughen, reseed, and mulch the surface of any compacted areas created overland by mechanized equipment, wheelbarrows, and foot traffic from the road to the feature.

Appendix 1: Map of Project Area



0 0.25 0.5 1 Miles



E-AMLIS Pad Centerpoint

Mine Feature

AMLIS Watershed Unit

County

N
W E
S

Date: 9/5/2024
Scale: 1:24,000
PCS: NAD 1983 Albers
Datum: North American 1983

Attachment 2: Tribal and SHPO Consultation

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Fuge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Mr. Steven Cancho
Tribal Historic Preservation Officer (THPO)
Pueblo of Acoma
P.O. Box 309
Acoma Pueblo, NM 87034
scancho@poamail.org

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Mr. Cancho-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive

pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the Pueblo of Acoma would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the Pueblo of Acoma may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

Concurrence: _____ Date: _____

For: Tribal Historic Preservation Officer – Pueblo of Acoma

Comments: _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Fuge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Chairwoman Lori Gooday-Ware
Fort Sill Apache Tribe of Oklahoma
Rt. 2, Box 121
Apache, OK 73006

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Chairwoman Gooday-Ware-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the Fort Sill Apache Tribe would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the Fort Sill Apache Tribe may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

Concurrence: _____ Date: _____

For: Chairwoman Lori Gooday-Ware – Fort Sill Apache Tribe of Oklahoma

Comments: _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Guge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Mr. Stewart Koyiyumptewa
Director
Cultural Preservation Office
Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039
skoyiyumptewa@hopi.nsn.us

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Mr. Koyiyumptewa-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive

pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the Hopi Tribe would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the Hopi Tribe may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

Concurrence: _____ Date: _____

For: Director Stewart Koyiyumptewa – Cultural Preservation Office, Hopi Tribe

Comments: _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Guge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Dr. Henry Walt
Tribal Historic Preservation Officer (THPO)
Pueblo of Isleta
P.O. Box 1270
Isleta, NM 87022
henryj@toast.net

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Dr. Walt-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive

pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the Pueblo of Isleta would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the Pueblo of Isleta may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

Concurrence: _____ Date: _____

For: Dr. Henry Walt – Tribal Historic Preservation Officer, Pueblo of Isleta

Comments: _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Fuge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Ms. Holly Houghton
Tribal Historic Preservation Officer (THPO)
Mescalero Apache Tribe
P.O. Box 227
Mescalero, NM 88340
holly@mathpo.org

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Ms. Houghton-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive

pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the Mescalero Apache Tribe would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the Mescalero Apache Tribe may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

Concurrence: _____ Date: _____

For: Tribal Historic Preservation Officer - Mescalero Apache Tribe

Comments: _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Guge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Mr. Richard M. Begay
Tribal Historic Preservation Officer (THPO)
Navajo Nation
Historic Preservation Department
P.O. Box 4950
Window Rock, AZ 86515
r.begay@navajo-nsn-gov

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Mr. Begay-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive

pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the Navajo Nation would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the Navajo Nation may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

Concurrence: _____ Date: _____

For: Mr. Richard M. Begay – Tribal Historic Preservation Officer, Navajo Nation

Comments: _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Guge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Mr. Mark Altaha
Tribal Historic Preservation Officer (THPO)
White Mountain Apache Tribe
P.O. Box 1032
Fort Apache, AZ 85926
markaltaha@wmat.nsn.us

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Mr. Altaha-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive

pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the White Mountain Apache Tribe would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the White Mountain Apache Tribe may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

Concurrence: _____ Date: _____

For: Mr. Mark Altaha – THPO, White Mountain Apache Tribe

Comments: _____

White Mountain Apache Tribe

Office of Historic Preservation
PO Box 1032
Fort Apache, AZ 85926
Ph: (928) 338-3033 Fax: (928) 338-6055

To: Andrew Zink – Cultural Resource Manager New Mexico Abandon Mine Land

Date: March 21, 2024

Re: *Proposed Cooper Property Subsidence Abandoned Mine Safeguarding Project*

……

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the project dated; March 14, 2024. In regards to this, please refer to the following statement(s) below.

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the above proposed abandon mine safeguarding project, at the Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.

Please be advised, we have reviewed the information provided, we have determined the proposed remediation project will have ***"No Adverse Effect"*** to the tribe's traditional cultural properties and/or historic properties. It is not necessary to send the final cultural resources report.

Thank you for the continued tribal engagement and consultation, and collaborations in protecting and preserving places of cultural and historical importance.

Sincerely,

Mark Altaha

White Mountain Apache Tribe – THPO
Historic Preservation Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Guge
Acting Cabinet Secretary

Dylan Fuge
Acting Deputy Secretary

Albert Chang, Director
Mining and Minerals Division

March 14, 2024

Mr. Kurt Dongoske
Tribal Historic Preservation Officer (THPO)
Pueblo of Zuni
Zuni Heritage and Historic Preservation Office
P.O. Box 1149
Zuni, NM 87327
kdongoske@gmail.com

RE: *Proposed Abandoned Mine Safeguarding Project, Cooper Property Subsidence within the Chloride Flats Mining District near Silver City, New Mexico.*

Dear, Mr. Dongoske-

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the historic Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Figure 2). The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have shapefiles boundaries in the NMCRIS Map Service database that overlap with the APE. Of these two sites, the site form for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program is requesting an intensive

pedestrian block survey of the APE, updates to the previously recorded site(s), and the recording of any new sites that may be encountered during survey.

If the Pueblo of Zuni would like a copy of the culture resource report once the inventory is completed, please sign the provided signature block below and return the signed letter to the AMLP. Any comments the Pueblo of Zuni may have on the proposed AMLP safeguarding undertaking can be added to the space provided below.

For additional information, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
Cultural Resource Manager
New Mexico Abandoned Mine Land Program
Energy, Minerals and Natural Resources Department
8801 Horizon Blvd. NE, Suite 260
Albuquerque, NM 87113

Enclosures: 1.) Figure 1. Subsidence Feature
2.) Figure 2. Project Area Map & Proposed APE

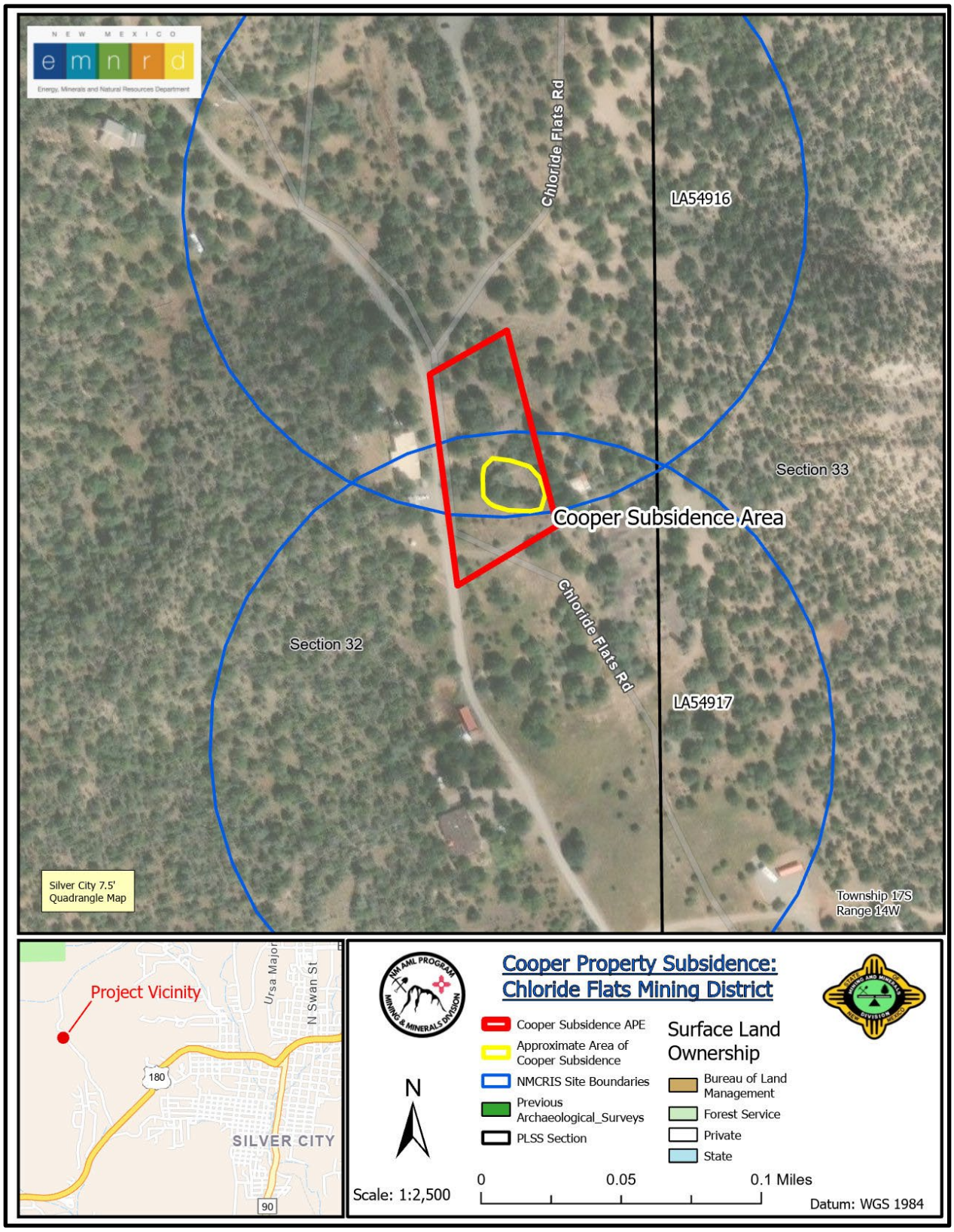
Concurrence: _____ Date: _____

For: Mr. Kurt Dongoske – THPO, Pueblo of Zuni

Comments: _____

Figure 1. Subsidence Feature Field Photo

Figure 2. Project Area Map



State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Melanie Kenderdine
Cabinet Secretary Designate

Ben Shelton
Acting Deputy Secretary

Albert Chang,
Director,
Mining and Minerals Division

August 12, 2023

HPD Log 123104
Received
8/12/2024

Mrs. Michelle Ensey
State Historic Preservation Officer (Interim)/
State Archaeologist
Historic Preservation Division
407 Galisteo Street, Suite 236
Bataan Memorial Bldg.
Santa Fe, NM 87501
michelle.ensey@dca.nm.gov

RE: *Archaeology of the New Mexico Abandoned Mine Land Program: Cultural Resources Inventory of 1.1 Acres of Chloride Flat near Silver City, Grant County, New Mexico. (NMCRIS 155558)*

Dear Mrs. Ensey,

The New Mexico Abandoned Mine Land Program (AML), in partnership with the U.S. Department of the Interior (USDI), Office of Surface Mining Reclamation and Enforcement (OSMRE), is conducting preliminary environmental studies for safeguarding activities of a subsidence feature (Figure 1) associated with the Chloride Flats Mining District. The proposed project area is in Grant County, approximately .5 miles west of Silver City, New Mexico, within Township 17S, Range 14W, Section 32. The project area is within USGS Silver City 7.5' quadrangle. The proposed Area of Potential Effect (APE) covers approximately 1.1 acres. Surface ownership is private, owned by Martha S., and Thomas V. Cooper (Attachment 1). The APE is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. As a federally funded program this proposed AML undertaking is subject to Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (NHPA) (54 U.S.C. 300101 et seq.) and its implementing regulations (36 CFR Part 800: Protection of Historic Properties, as revised August 2004).

Only one previous NMCRIS activity has been documented that involves the current APE. NMCRIS Activity No. 12561 was an archaeological reconnaissance survey conducted by the Center for Anthropological Studies (CAS) for the AML Program in 1986. This reconnaissance resulted in the documentation of several archaeological sites, two of which, LA 54916 and LA 54917 have 'filler'

Figure 2.) Subsidence/Shaft – LA 54916 Feature 4: Facing South

boundaries in the NMCRIS Map Service database that overlap with the APE. The area mapped by Ward and Mead in 1986 involving these site areas lacks site boundaries (Figure 2). Of these two sites, the site description for LA 54916 appears to have documented the area involved with the current APE. Because this past survey does not meet current standards in accordance with CPRC rule 4.10.15 NMAC; *Standards for Survey and Inventory*, 1/1/2006. and because noticeable changes have occurred to features since this 1986 inventory, the AML program contracted the Office of Archaeological Studies (OCA) of the University of New Mexico (UNM) to complete an intensive pedestrian block survey of the APE, updating any previously recorded site(s), and recording of any newly encountered sites.

The above referenced report (NMCRIS 155558) is the result of OCA's survey and inventory for cultural resources within the Cooper property and the Chloride Flat Mining District. OCA's report is currently uploaded to the NMCRIS database along with the associated site form and appropriate

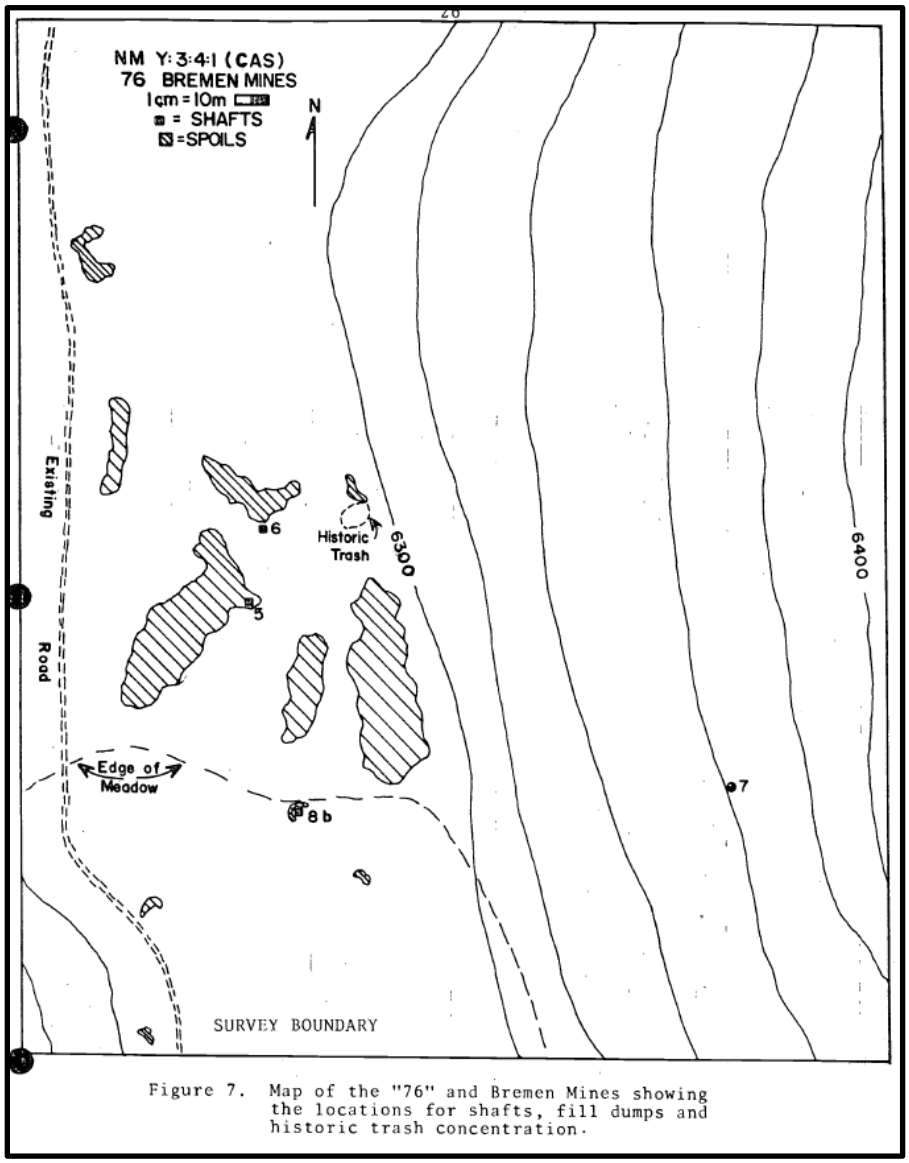


Figure 2.) Mapped site location involving LA 54916 (Ward and Mead, 1986)

shapefiles. The full-coverage pedestrian survey was performed on April 23, 2024, under the supervision of OCA archaeologists Tim Wester, Evan Sachse, and Alexander Kurota. Only one site, a previously recorded historic archaeological site, LA 54916, was documented.

The Chloride Flat Mining District is known to produce copper and gold but made its largest contribution to this region with its silver production. The silver-rich deposits in the project's vicinity were exploited by individuals and commercial mining companies between ~1870 and the early 1940s with peak activity occurring between 1918 and 1937. Silver interest in the Chloride Flat Mining District ebbed-and-flowed (bonanza mining) with silver prices and Federal government purchasing programs, and since 1940 silver mining has been nearly nonexistent. Although mining for silver is in the past, the decades of mining activity resulted in a landscape peppered with dangerous historic mining openings including shafts, adits, prospect pits, and trenches.

LA 54916 is an Anglo, US Territorial to New Mexico Statehood–WWII historic archaeological site dating from A.D. 1873 to A.D. 1944 and is associated with the relatively well known ’76 Lode’ and Bremen Chloride Flat mines which operated between 1873 and 1944. OCA refrained from providing a NRHP eligibility recommendation leaving the site’s NRHP eligibility *unevaluated* until the time the full extent of the site can be documented. OCA explains, “*Due to private land access limitations, the full extent of the previously recorded site boundary was not surveyed. The site absolutely extends beyond the scope of our current project area and has not been fully redocumented. Moreover, the site appears to have undergone minimal change since [AMLP] reclamation work in 1986, although only one artifact was documented in our project area. In addition, the site yields significant representation of the early silver mining operations near silver city. This is because the “76” and Bremen Chloride Flat mines were major producers of silver in the region during the late 19th and early 20th centuries. Further, this is reinforced by the presence of Feature 4, the main mine shaft of the “76” mine. Since the site was not fully recorded, we believe it should receive a NRHP eligibility recommendation of Unevaluated.”* The AML concurs an incomplete documentation does not allow for a thorough evaluation of a site’s NRHP eligibility and like OCA, AML recommends the site’s NRHP be maintained as *Unevaluated* until the time it can receive full documentation.

Internal AML records do suggest the feature receiving treatment (Figure 1) was initially backfilled during our program’s 1986 remediation and is one of several mine shafts associated with the 76 Lode Mine (8b in Figure 2.). Since AML’s work in 1986, the feature has subsided resulting in the current 20+ft. deep hazard. The current recording, and AML observations of the project area, suggest the site lacks integrity due to the passage of time and AML’s past activities at this location. There is no new information to suggest the site has increased in its significance since last recorded. This site could be a contributing resource to what is currently an undefined historic mining district associated with the Late Nineteenth to Early-Twentieth Century silver mining of the Chloride Flats Mining District.

No previous NRHP eligibility determination is on record but, in Ward and Mead's (1986, p.86) cultural resource report (NMCRIS 12561), *Chloride Flat and Boston Hill Historic Mining Districts: An Archaeological Reconnaissance near Silver City, New Mexico*, it is stated that, "*No prehistoric remains were encountered. The observed mining features do not appear to be of any present-day historical value. For the most part they consist of dangerous and unsightly ground openings that should be backfilled to protect the general public*". The authors went on to recommend archaeological clearance for the AML's proposed reclamation project that took place in 1986. As the project was completed as proposed, there is an assumption the sites at Chloride Flats were deemed to lack integrity and/or historic significance, and potentially thought of as *Not Eligible* for listing in the NRHP. As approval was provided by the State regulatory agency (SHPO), based on a Finding of No Significant Impact (FONSI), it is believed the project was approved as either a *No Effect* or a *No Adverse Effect* undertaking.

AML projects are designed to help protect the public from the hazards associated with abandoned mines by safeguarding shafts, adits, subsidence areas, and other physical openings associated with the mining landscape. Project activities do not include the razing or destruction of structures. The proposed project is concerned with a single subsidence feature, Feature 4 of LA 54916.
In general, AML safeguards mine features that are eight (8) feet or more in depth or length, which descend into the ground surface. AML safeguarding activities include a variety proposed methods such as mechanically or manually filling mine openings with surrounding waste material or

installation of polyurethane foam plugs (PUF) and building structural barriers that restrict human access such as locking gates, bat cupolas, steel mesh, grates, or other wildlife compatible closures. These safeguarding measures minimize exposure of hazardous abandoned mine openings to the public, while also working to preserve cultural manifestations and wildlife habitat, if present. The current activity proposes to import fill materials to mechanically backfill the subsidence feature (Table 1). The intent is to minimize impacts by not using existing waste rock from the site location. If existing waste rock is used, AML will leave residual waste rock and recontour these materials in place.

Table 1.) Proposed Safeguard Method

LA Number	OCA Feature No.	Safeguard Method	Feature Type
54916	Feature 4	Backfill Subsidence/shaft - fill with imported fill materials and potentially PUF. Potential for use of on-site waste materials and recontouring residual waste rock	Subsidence/ Mine Shaft

AML will use Chloride Flats Road to access the feature scheduled for closure. From the road, AML anticipates a short overland route will be utilized to access the feature which is located less than 30 meters from Chloride Flats Road. AML archaeological staff will flag all avoidance areas and overland routes for mechanical equipment to access mine features. These procedures will be adhered to regardless of the site's NRHP eligibility to protect the site's visual and informational integrity since the site could contribute to a potential historic Chloride Flats Mining District.

The Pueblo of Acoma, Pueblo of Isleta, Fort Sill Apache, Hopi Tribe, Mescalero Apache, White Mountain Apache, and the Pueblo of Zuni were sent consultation letters regarding the proposed undertaking and the impending cultural resource survey on March 15, 2024. As of this letter, the AML program has not received any interest from the tribes.

Following the above protocol, the AML maintains that the proposed undertaking will result in ***no adverse effect to historic properties***. The AML is seeking concurrence from SHPO on the AML's NRHP site eligibility determination for LA 54916 recorded during NMCRIS 155558, and our program's project effect assessment. Accordingly, please review OCA's report and site forms and provide AML with any comments, recommendations, or corrections. The report (NMCRIS 155558) and site form have been uploaded to the NMCRIS database and can be downloaded for your review.

If you would like additional information or have any questions, please feel free to contact me by email at andrew.zink@emnrd.nm.gov or by phone at 505-490-7379.

Sincerely,

Andrew Zink
AMLP Cultural Resources Manager
EMNRD-MMD

CC: Geoff Cunnar, Ph.D. (HPD Archaeological Review)
Lloyd Moiola (AMLP Environmental Manager)
Matthew Peralta (AMLP Project Manager)
James Hollen (NEPA Coordinator)

Attachments: 1.) Project Area Map and APE

Uploaded in NMCRIS:
- Report: Activity No. 155558
- LA 140552 Site Form

Concurrence: ___ G. Cunnar _____ Date: _8/21/2024_____

For: New Mexico SHPO

Comments: _____

References Cited:

Ward, Albert E and earl S. Mead
1986 *Chloride Flat and Boston Hill Historic Mining Districts: An Archaeological Reconnaissance near Silver City, New Mexico.* NMCRIS 12561. Center for Anthropological Studies, for New Mexico Abandoned Mine Lands Program.

Attachment 1

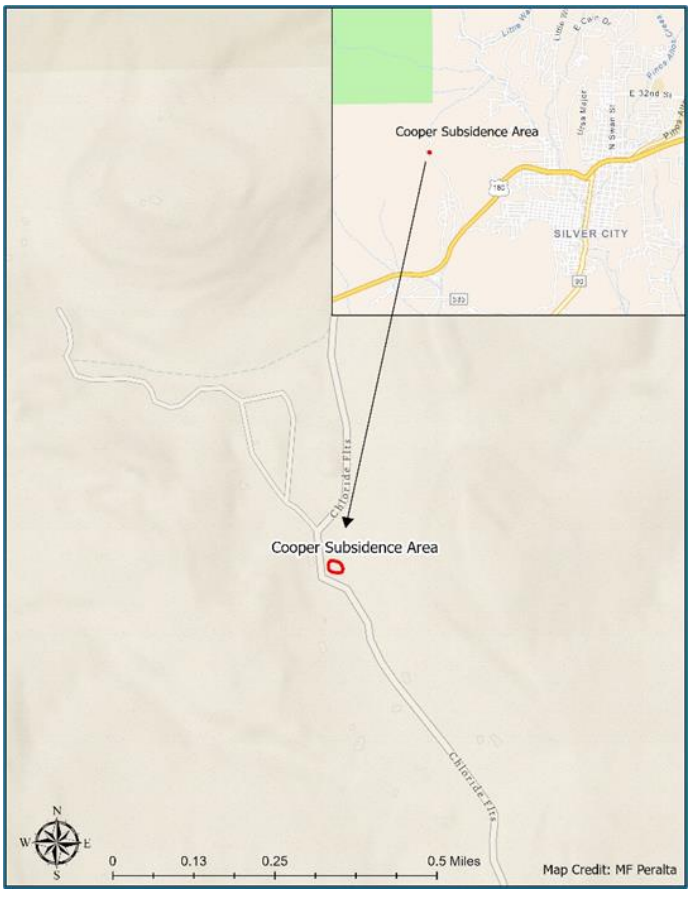
Appendix 3: Public Involvement

Chloride Flat Safeguarding Project

The State of New Mexico Abandoned Mine Land Program (NM-AML) is proposing to implement mine safeguarding measures within the Chloride Flat mining district near Silver City, NM. Physical hazards associated with the abandoned mine feature in the proposed project require safeguarding measures to protect the public from such hazards. A Categorical Exclusion (CE)has been prepared with cultural and biological consultations to identify any potential effects the project will have on the landscape and wildlife in the area.

Project Description:

The proposed project is located approximately 6 miles to the northwest of Silver City, NM in Grant County on privately owned land. The proposed safeguarding project is a backfill of an existing shaft that was previously safeguarded in 1984 by the NM-AML that has since subsided. The Area of Potential Effect (APE) is approximately 1.1 acres in total.



You are invited to review the draft CE and provide comments on the project at the following link: https://www.emnrd.nm.gov/mmd/public- notices/ Public comments will be accepted until September 30th, 2024. You may contact James Hollen at james.hollen@emnrd.nm.gov or (505) 231-8332 with questions, or for more information.

Thank you for your interest.

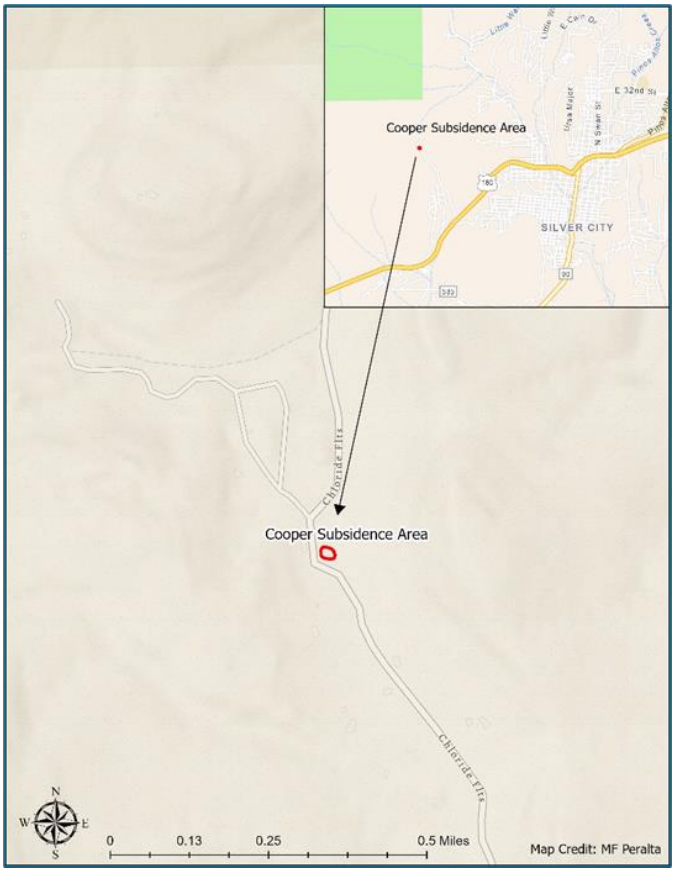
State of New Mexico Abandoned Mine Land Program

Proyecto de Salvaguarda de Cloruro Plano

El Programa de Tierras Mineras Abandonadas del Estado de Nuevo México (NM-AML, por sus siglas en inglés) propone implementar medidas de protección minera dentro del distrito minero de Chloride Flat, cerca de Silver City, NM. Los peligros físicos asociados con la mina abandonada en el proyecto propuesto requieren medidas de salvaguardia para proteger al público de dichos peligros. Se ha preparado una Exclusión Categórica (CE) con consultas culturales y biológicas para identificar los efectos potenciales que el proyecto tendrá sobre el paisaje y la vida silvestre de la zona.

<u>Descripción del proyecto</u>:

El proyecto propuesto está ubicado aproximadamente a 6 millas al noroeste de Silver City, NM en el condado de Grant en un terreno de propiedad privada. El proyecto de salvaguardia propuesto es un relleno de un pozo existente que fue salvaguardado previamente en 1984 por el NM-AML y que desde entonces ha disminuido. El Área de Efecto Potencial (APE) es de aproximadamente 1.1 acres en total.



Se le invita a revisar el borrador del CE y proporcionar comentarios sobre el proyecto en el siguiente enlace: https://www.emnrd.nm.gov/mmd/public- Se aceptarán avisos/ comentarios públicos hasta el 30th de septiembre de 2024. Puede comunicarse con James Hollen al james.hollen@emnrd.nm.gov o al (505) 231-8332 si tiene preguntas o para obtener más información.

Gracias por su interés.

Programa de Tierras Mineras Abandonadas del Estado de Nuevo México

Appendix 4: USFWS Biological Consultation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542

In Reply Refer To: 05/22/2024 17:37:25 UTC
Project Code: 2024-0094300
Project Name: Chloride Flat-Cooper Shaft Safeguarding Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act as amended (16 USC 668-668(c)). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area, and to recommend some conservation measures that can be included in your project design.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the ESA of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the ESA is to provide a means whereby threatened and endangered species and

the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (NEPA; 42 USC 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico State agencies. These lists, along with species information, can be found at the following websites.

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program: https://www.emnrd.nm.gov/sfd/rare-plants/

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html, integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

In addition to responsibilities to protect threatened and endangered species under the ESA, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 CFR 10.12 and 16 USC 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a Federal nexus) or a Bird/Eagle Conservation Plan (when there is no Federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds. We also recommend review of the Birds of Conservation Concern list (https://www.fws.gov/media/birds-conservation-concern-2021) to fully evaluate the effects to the birds at your site. This list identifies migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent top conservation priorities for the Service, and are potentially threatened by disturbance, habitat impacts, or other project development activities.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 thereby provides additional protection for both migratory birds and migratory bird habitat. Please visit https://www.fws.gov/partner/council-conservation-migratory-birds for information regarding the implementation of Executive Order 13186.

We suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State protected and at-risk species fish, wildlife, and plants.

For further consultation with the Service we recommend submitting inquiries or assessments electronically to our incoming email box at nmesfo@fws.gov, where it will be more promptly routed to the appropriate biologist for review.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

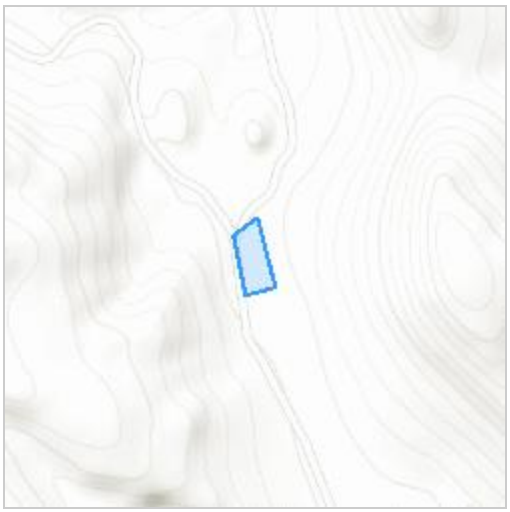
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

PROJECT SUMMARY

Project Code: 2024-0094300
Project Name: Chloride Flat-Cooper Shaft Safeguarding Project
Project Type: Surface Reclamation - Non Energy Materials
Project Description: The NM Abandoned Mine Land Program is proposing to safeguard a hazardous abandoned mine feature in an already existing disturbed area. The Cooper shaft subsidence project includes one feature(Cooper Shaft) and located approximately 2.5 miles outside of the city limits of Silver City, New Mexico(Parcel Number 3-082-102-503-300, 76 Lode Mine-MS 61, embracing portions of Section 32 and Section 33, Township 17 South, Range 14 West in the county of Grant, State of New Mexico).
The proposed Area of Potential Effect(APE) covers approximately 1.1 acres. The area of potential effect (APE) is determined in consultation with project managers and engineers, and accounts for the planned mine remediation and environmental concerns, including cultural resources. Surface ownership is private, owned by Martha S., and Thomas V. Cooper of Grant County, New Mexico. The area of concern is located immediately adjacent to the landowners place of residence. To minimize any potential effect to wildlife in the area, work will be completed outside of all migratory bird nesting seasons. For the purposed safeguarding project, the NM AML proposes backfilling the existing subsidence in the disturbed area with adjacent waste rock and fill, or imported fill, to within approximately three feet of the immediate surrounding elevation. Constant disturbance at this location is present due to routine property owner activity at the residence. Cultural Resource Consultation: DCA (University of New Mexico) was contracted to complete a pedestrian survey at the site which was previously determined as not-eligible by the New Mexico State Historic Preservation Office (SHPO).

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@32.78472645,-108.3046910725489,14z



Counties: Grant County, New Mexico

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Northern Aplomado Falcon *Falco femoralis septentrionalis* Population: U.S.A (AZ, NM) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1923	Experimental Population, Non-Essential
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

AMPHIBIANS

NAME	STATUS
Chiricahua Leopard Frog *Rana chiricahuensis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1516	Threatened

FISHES

NAME	STATUS
Chihuahua Chub *Gila nigrescens* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/7156	Threatened
Gila Trout *Oncorhynchus gilae* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/781	Threatened
Loach Minnow *Tiaroga cobitis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6922	Endangered
Spikedace *Meda fulgida* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6493	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: New Mexico Energy, Minerals, and Natural Resources Department
Name: Matthew Peralta
Address: 8801 Horizon Blvd NE
City: Albuquerque
State: NM
Zip: 87112
Email matthew.peralta@emnrd.nm.gov
Phone: 5058191955

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Office of Surface Mining Reclamation and Enforcement

You have indicated that your project falls under or receives funding through the following special project authorities:

- BIPARTISAN INFRASTRUCTURE LAW (BIL) (OTHER)

Appendix 5: NMDGF Biological Consultation

PROJECT INFORMATION

Project Title:	Chloride Flat-Cooper Shaft Safeguarding Project
Project Type:	MINING, Mine Reclamation
Latitude/Longitude (DMS):	32.784711 / -108.304675
County(s):	GRANT
Project Description:	Exploratory

REQUESTOR INFORMATION

Project Organization:	
Contact Name:	Matthew Peralta
Email Address:	matthew.peralta@emnrd.nm.gov
Organization:	New Mexico Energy Minerals and Natural Resources Department - Mining and Minerals Division - Abandoned Mine Lands
Address:	8801 Horizon Blvd NE, Albuquerque NM 87112
Phone:	5058191955

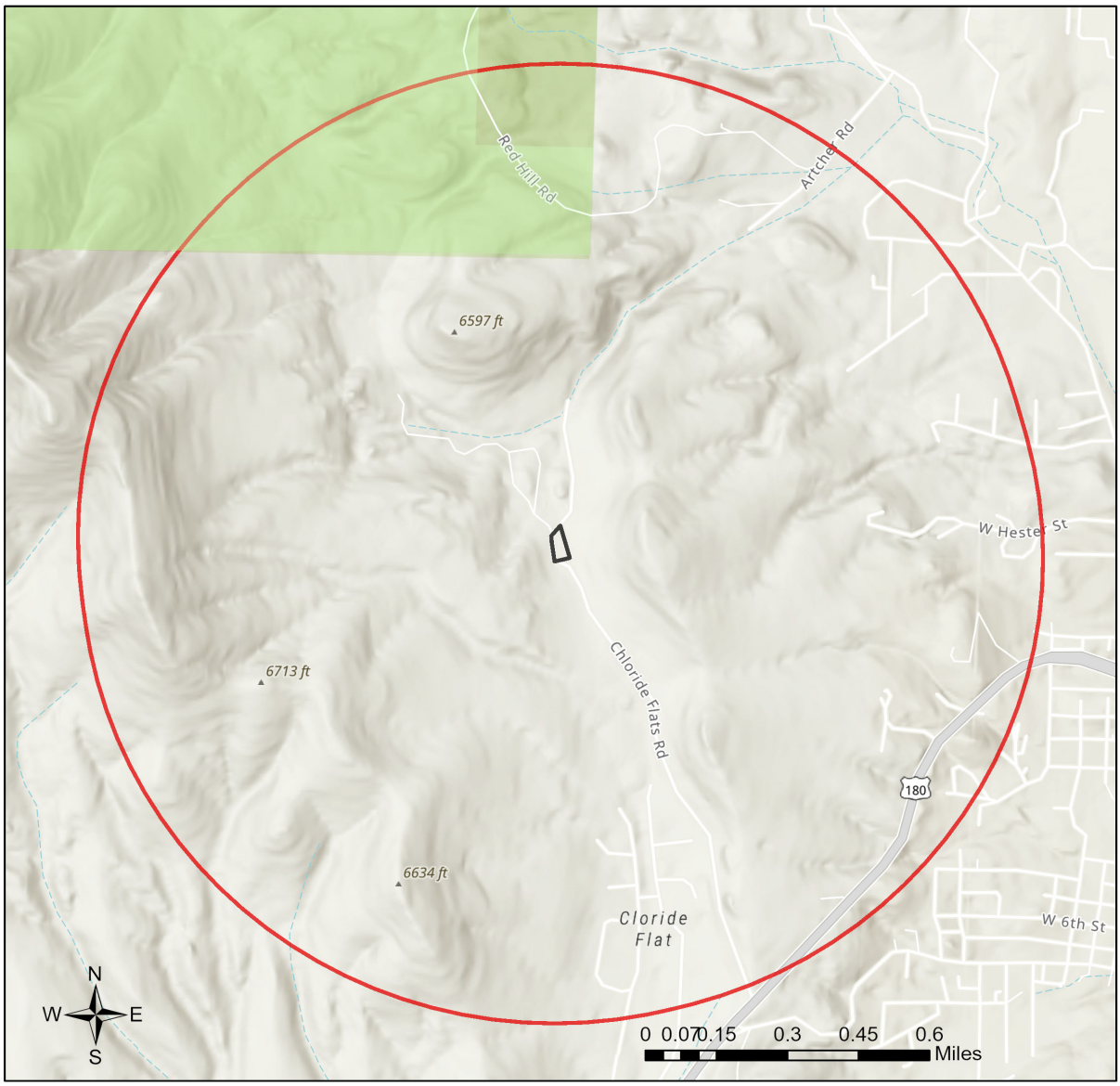
OVERALL STATUS

The information contained within this report comprises the recommendations of the New Mexico Department of Game and Fish (Department) for management and mitigation of proposed project impacts to wildlife and habitat resources; see the Project Recommendations section below for further details. No further consultation with the Department is required based on the project's location and, with implementation of mitigation measures described in the Project Recommendations section below, no adverse effects to wildlife or important habitats are anticipated. However, a Department biologist may be in touch within 30 days if they determine that further review is required.

About this report:

- This environmental review is based on the project description and location that was entered. The report must be updated if the project type, area, or operational components are modified.
- This is a preliminary environmental screening assessment and report. It is not a substitute for the potential wildlife knowledge gained by having a biologist conduct a field survey of the project area. Federal status and plant data are provided as a courtesy to users. The review is also not intended to replace consultation required under the federal Endangered Species Act (ESA), including impact analyses for federal resources from the U.S. Fish and Wildlife Service (USFWS) using their Information for Planning and Consultation tool.
- This report contains information on wildlife species protected under the ESA and the Wildlife Conservation Act (WCA), Species of Greatest Conservation Need (SGCN), and Species of Economic and Recreational Importance (SERI). Species listed under the ESA are protected from take at the federal level and under the WCA are protected from take at the state level. SGCN are identified in the State Wildlife Action Plan (SWAP) for New Mexico; all of these species are considered to be of conservation concern but not all of them are protected from take at the state or federal level. The harvest of all SERI is regulated at the state level. The Department has no authority to designate critical habitat for species listed under the WCA; only the USFWS can designate critical habitat for species listed under the ESA.
- The New Mexico Environmental Review Tool (ERT) utilizes species observation locations and species habitat suitability models, both of which are subject to ongoing change and refinement. Inclusion or omission of a species within a report cannot guarantee species presence or absence within your project area. To determine occurrence of any species listed in this report, or other wildlife that may be present within your project area, onsite surveys conducted by a qualified biologist during appropriate, species-specific survey timelines may be necessary.
- The Department encourages use of the ERT to modify proposed projects for avoidance, minimization, or mitigation of wildlife impacts. However, the ERT is not intended to be used in a repeatedly iterative fashion to adjust project attributes until a previously determined recommendation is generated. The ERT serves to assess impacts once project details are developed. The New Mexico Crucial Habitat Assessment Tool, the data layers from which are included in the ERT, is the appropriate system for advising early-stage project planning and design to avoid areas of anticipated wildlife concerns and associated regulatory requirements.

Chloride Flat-Cooper Shaft Safeguarding Project



- Buffered Project Boundary
- Project_Boundary
- Bureau of Land Management
- City Land
- County Land
- Department of Defense
- Department of Energy
- NM Department of Game & Fish
- NM State Forestry Division
- NM State Parks
- National Park Service
- Private
- State Land Office
- State of New Mexico
- Tribal Land
- U.S. Army Corps of Engineers
- U.S. Bureau of Reclamation
- U.S. Department of Agriculture
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Natural Resources Conservation Service

NHNM, USGS, USFS, US Census Bureau, NMDGF
Esri, NASA, NGA, USGS, FEMA
Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS

Special Status Animal Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Arizona Toad	Anaxyrus microscaphus			SGCN		USFS R3 SCC	BLM SENSITIVE
Mountain Treefrog	Hyla wrightorum			SGCN			
Plains Leopard Frog	Lithobates blairi			SGCN			BLM WATCH
Chiricahua Leopard Frog	Lithobates chiricahuensis	LT		SGCN	Sensitive Species		
American Bittern	Botaurus lentiginosus			SGCN			BLM WATCH
Aplomado Falcon	Falco femoralis		E	SGCN			
Peregrine Falcon	Falco peregrinus		T	SGCN			BLM WATCH
Flammulated Owl	Otus flammeolus			SGCN			BLM WATCH
Elf Owl	Micrathene whitneyi			SGCN			BLM WATCH
Western Burrowing Owl	Athene cunicularia hypugaea			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Mexican Spotted Owl	Strix occidentalis lucida	LT		SGCN			
Common Nighthawk	Chordeiles minor			SGCN			
Lucifer Hummingbird	Calothorax lucifer		T	SGCN	Sensitive Species		
Elegant Trogon	Trogon elegans		E	SGCN	Sensitive Species		
Lewis's Woodpecker	Melanerpes lewis			SGCN		USFS R3 SCC	BLM WATCH
Gila Woodpecker	Melanerpes uropygialis		T	SGCN	Sensitive Species	USFS R3 SCC	
Williamson's Sapsucker	Sphyrapicus thyroideus			SGCN			
Bank Swallow	Riparia riparia			SGCN			
Pinyon Jay	Gymnorhinus cyanocephalus			SGCN		USFS R3 SCC	BLM SENSITIVE
Clark's Nutcracker	Nucifraga columbiana			SGCN			
Juniper Titmouse	Baeolophus ridgwayi			SGCN		USFS R3 SCC	BLM WATCH
Pygmy Nuthatch	Sitta pygmaea			SGCN			
Western Bluebird	Sialia mexicana			SGCN			

Special Status Animal Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Mountain Bluebird	Sialia currucoides			SGCN			
Sprague's Pipit	Anthus spragueii			SGCN			BLM SENSITIVE
Loggerhead Shrike	Lanius ludovicianus			SGCN		USFS R3 SCC	BLM WATCH
Gray Vireo	Vireo vicinior		T	SGCN	Sensitive Species	USFS R3 SCC	BLM WATCH
Virginia's Warbler	Leiothlypis virginiae			SGCN			BLM SENSITIVE
Lucy's Warbler	Leiothlypis luciae			SGCN			BLM WATCH
Black-Throated Gray Warbler	Setophaga nigrescens			SGCN			BLM WATCH
Grace's Warbler	Setophaga graciae			SGCN		USFS R3 SCC	BLM WATCH
Red-Faced Warbler	Cardellina rubrifrons			SGCN		USFS R3 SCC	
Painted Redstart	Myioborus pictus			SGCN			
Black-Chinned Sparrow	Spizella atrogularis			SGCN			BLM WATCH
Vesper Sparrow	Pooecetes gramineus			SGCN			
Thick-billed Longspur	Rhynchophanes mccownii			SGCN			BLM SENSITIVE
Chestnut-Collared Longspur	Calcarius ornatus			SGCN			BLM SENSITIVE
Cassin's Finch	Haemorhous cassinii			SGCN			BLM WATCH
Evening Grosbeak	Coccothraustes vespertinus			SGCN			
Spotted Bat	Euderma maculatum		T	SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Pale Townsend's Big-Eared Bat	Corynorhinus townsendii pallescens			SGCN	Sensitive Species	USFS R3 SCC	BLM SENSITIVE
Black Bear	Ursus americanus			SGCN			
Jaguar	Panthera onca	LE		SGCN			
Mountain Lion	Puma concolor			SGCN			
Elk	Cervus canadensis			SGCN			

Special Status Animal Species Potentially within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI	USFS	USFS SCC	BLM
Mule Deer	Odocoileus hemionus			SGCN			
Pronghorn	Antilocapra americana			SGCN			
Sonoran Mud Turtle	Kinosternon sonoriense			SGCN			
Gila Monster	Heloderma suspectum		E	SGCN			BLM SENSITIVE
Bunch Grass Lizard	Sceloporus slevini		T	SGCN	Sensitive Species		BLM WATCH
Rock Rattlesnake	Crotalus lepidus			SGCN			
Arizona Black Rattlesnake	Crotalus cerberus			SGCN			BLM WATCH

Common Name hyperlink takes you to species account in bison-m.org; Scientific Name hyperlink takes you to information in NatureServe Explorer; ESA = Endangered Species Act, C = Candidate, LE = Listed Endangered, LT = Listed Threatened, XN = Non-essential Experimental Population, for other ESA codes see this website; WCA = Wildlife Conservation Act, E = Endangered, T = Threatened; SERI = Species of Economic and Recreational Importance; SGCN = Species of Greatest Conservation Need; USFS = U.S. Forest Service, Sensitive Species = A species likely to occur on USFS lands that is of concern for a potential reduction in population viability; SCC = Species of Conservation Concern; BLM = Bureau of Land Management, BLM SENSITIVE = A species that occurs on BLM lands and whose viability is at risk, BLM WATCH = Species that may be added to the sensitive species list in future pending new information regarding species status.

Project Recommendations

Burrowing owl (*Athene cunicularia*) may occur within your project area. Burrowing owls are protected from take by the Migratory Bird Treaty Act and under New Mexico state statute. Before any ground disturbing activities occur, the Department recommends that a preliminary burrowing owl survey be conducted by a qualified biologist using the Department's burrowing owl survey protocol. Should burrowing owls be documented in the project area, please contact the Department or USFWS for further recommendations regarding relocation or avoidance of impacts.

Your project is on or near a section of road that has experienced comparatively high incidence of wildlife-vehicle collisions. Coordinate with the New Mexico Department of Transportation to consider implementing mitigation actions that are appropriate to your project area and planned action to reduce wildlife-vehicle collisions. These may include but are not limited to: installation of wildlife-proof fencing; installation of wildlife passages such as arch culverts or overpasses; and installation of animal detection systems.

Disclaimers regarding recommendations:

- The Department provides technical guidance to support the persistence of all protected species of native fish and wildlife, including game and nongame wildlife species. Species listed within this report include those that have been documented to occur within the project area, and others that may not have been documented but are projected to occur within the project vicinity.
- Recommendations are provided by the Department under the authority of § 17-1-5.1 New Mexico Statutes Annotated 1978, to provide "communication and consultation with federal and other state agencies, local governments and communities, private organizations and affected interests responsible for habitat, wilderness, recreation, water quality and environmental protection to ensure comprehensive conservation services for hunters, anglers and nonconsumptive wildlife users".
- The Department has no authority for management of plants or Important Plant Areas. The New Mexico Endangered Plant Program, under the Energy, Minerals, and Natural Resources Department's Forestry Division, identifies and develops conservation measures necessary to ensure the survival of plant species within New Mexico. Plant status information is provided within this report as a courtesy to users. Recommendations provided within the ERT may not be sufficient to preclude impacts to rare or sensitive plants, unless conservation measures are identified in coordination with the Endangered Plant Program.
- Additional coordination and/or consultation may also be necessary under the federal ESA or National Environmental Policy Act (NEPA). Further site-specific mitigation recommendations may be proposed during ESA consultation and/or NEPA analyses or through coordination with affected federal agencies.

Appendix 6: Bat Conservation International(BCI) Biological Consultation

BAT CONSERVATION INTERNATIONAL

TO: Chris Teske
AML Coordinator
Las Cruces District
Bureau of Land Management
Las Cruces, New Mexico

FROM: Subterranean Team, Bat Conservation International

Alexi Kimiatek	Shawn Thomas
Subterranean Specialist	Subterranean Team Manager
Flagstaff, Arizona	Olympia, Washington

SUBJECT: Report on Old Turner Ranch Abandoned Mine Bat Surveys
SURVEY DATES: August 3, 2021

OVERVIEW:

This biological survey project assessed abandoned mines in northern New Mexico managed by the New Mexico Bureau of Land Management (BLM). The AML features surveyed are located about 2.5 miles west of Silver City, NM, just north of Highway 180. All sites were surveyed by Bat Conservation International (BCI) staff following standardized protocols and safety procedures for the purpose of providing subterranean biological data, and closure recommendations. The field project resulted in internal bat surveys being conducted on six distinct features, comprising six openings to the surface (Figure 1). Ten additional features on the original Task Request were removed based on reconnaissance by the field partner from New Mexico Energy, Minerals and Natural Resources Department (EMNRD). Bat habitat assessments and closure recommendations are provided for all features. The full survey results can be referenced on the following pages.

ACKNOWLEDGEMENTS:

BCI wishes to thank Chris Teske (BLM) for initiating the project and providing logistical support. Special thanks to James Hollen (NEPA Coordinator, EMNRD) for providing on-site assistance with the field survey.

All surveys conducted by BCI Subterranean Team staff: Alexi Kimiatek, Dillon Metcalfe, and Jim Rolf. This report was authored by Alexi Kimiatek and Dillon Metcalfe.

Report and photos submitted October 25, 2021

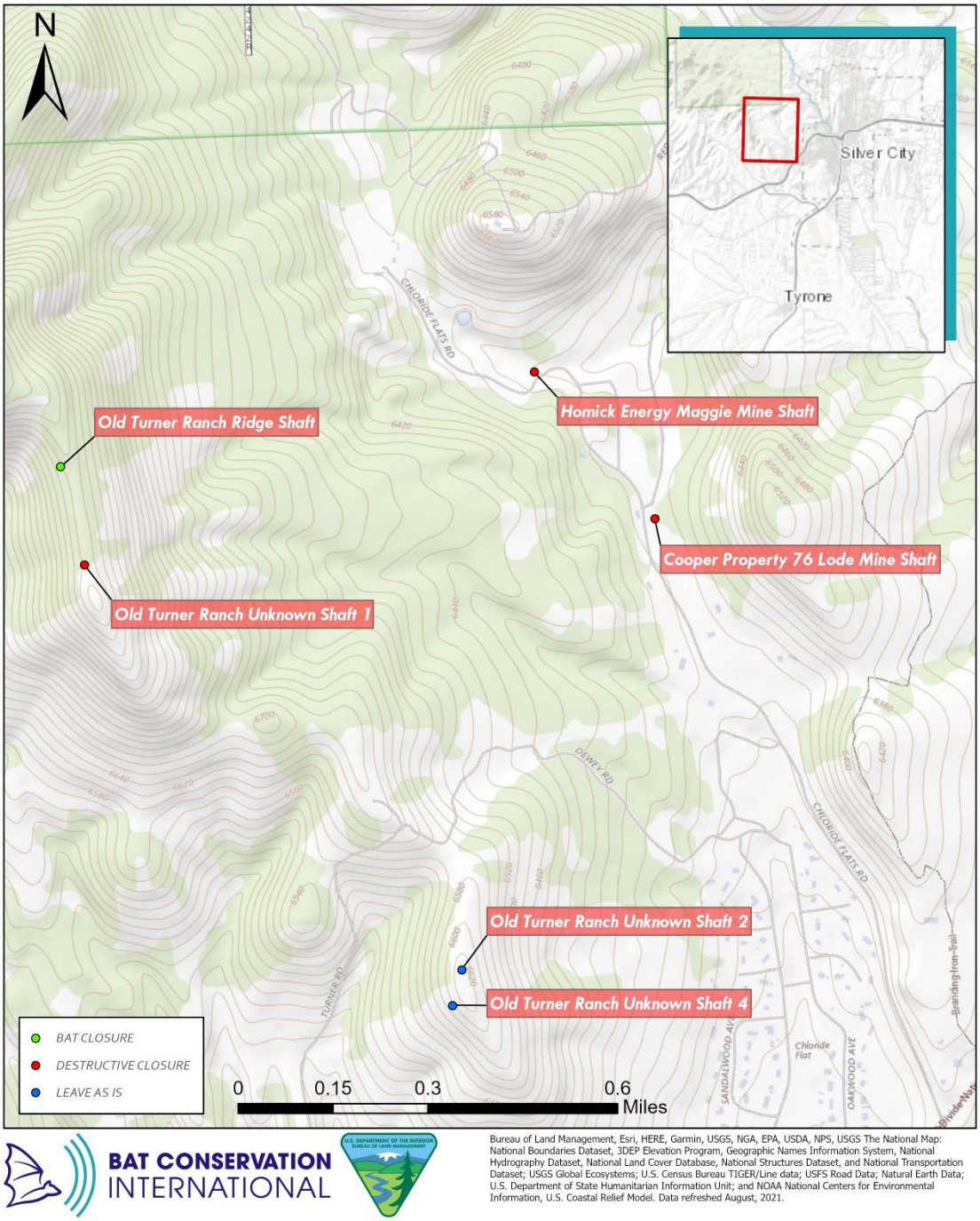


Figure 1: Overview Map of Project Area and Features Surveyed

SECTION 1: SURVEY SUMMARY

BIOLOGICAL SURVEY SUMMARY:
Biological surveys are focused on subterranean habitat, with a primary emphasis on bat use. Surveys attempt to identify bat species present, document other bat sign (e.g., guano, insect parts, roost staining), and determine roost function of the site. Additionally, surveys document other wildlife use of features, evident by live animals, scat, nests, etc. All bat and other wildlife observations inform habitat assessments and closure recommendations.

Bat Use:
Four of the six distinct features[1] that received comprehensive biological surveys offered subterranean habitat. One of these four features contained evidence of use by bats in the form of lightly scattered guano. None of the features contained live bats at the time of this survey.

Bat use of the occupied feature represented light warm season use as a day roost. None of the surveyed features exhibited characteristics suggesting they may also serve as hibernacula.

Other Wildlife Use:
Other observed wildlife sign included mouse (*Peromyscus sp*.) scat, undetermined medium-sized mammal scat, a live snake, and multiple dead snakes.

[1] A distinct feature may consist of a single opening, multiple openings interconnected via underground workings, or closely related surface workings. Each distinct feature, including associated openings, contains shared biological and habitat characteristics and is therefore described by a single survey.

BAT HABITAT ASSESSMENT SUMMARY:

Bat habitat assessments are determined based on observed bats and bat sign, along with physical characteristics of the site such as complexity and extensiveness of workings, portal size and obstructions, ceiling textures that bats select for, hydrological activity (such as seasonal flooding) that may preclude bat use, and any additional observations that may influence bat use of the site. A bat habitat assessment is applied to each distinct AML feature, which may include multiple openings. See Appendix 3 for additional details on assessment classifications. Bat habitat assessments for this project are summarized in Table 1.

Table 1. Bat habitat assessments for distinct AML features surveyed.

Bat Habitat Assessment	# Features
None	2
Poor	3
Marginal	1
Moderate	0
Good	0
Excellent	0
Unknown	0

CLOSURE RECOMMENDATION SUMMARY:

Closure recommendations generally fall into bat-friendly or destructive closure categories and include a seasonal component that recommends the closure to occur either during the warm season, cold season, or at any time. A closure recommendation is provided for each individual opening of an AML feature. See Appendix 4 for additional details on recommendation classifications and Appendix 5 for guidance on conducting exclusion prior to closure. Closure recommendations for this project are summarized in Table 2.

Table 2. Closure recommendations for AML openings surveyed.

Closure Recommendation	Code	# Openings
Bat-compatible closure, any time	BCAT	1
Bat-compatible closure, cold season	BCCS	0
Bat-compatible closure, warm season	BCWS	0
Other wildlife-compatible closure	OWC	0
Destructive closure by any means, any time	DCAT	2
Destructive closure with exclusion, warm season	DCWS	1
No action (leave as is)	LAI	2
Closure Modification, Shoulder Season	CMSS	0
Airflow Compatible Closure	AFCC	0

APPENDICES:

Appendix 1 includes a table summarizing bats and bat use observed, bat habitat assessments, and closure recommendations. Appendix 2 contains selected photos from the survey project. Appendix 3 describes bat habitat assessment classifications. Appendix 4 describes closure recommendation classifications. Appendix 5 provides guidance on bat exclusion methods when recommended for destructive closures.

SECTION 2: FULL SURVEY RESULTS

Unless otherwise noted, all features are driven in moderate- to good-quality rock (qualitative safety assessment), contain good air*, and exhibit minimal signs of post-mining human disturbance. All feature locations are listed as latitude and longitude in decimal degrees.

* Good air is defined as no alarm sounding on the Altair 4x Multi-gas Detector carried during all surveys. The detector measures four gases (oxygen, carbon monoxide, hydrogen sulfide, methane) and alarms for gas levels that fall outside of safe thresholds.

Feature: Cooper Property 76 Lode Mine Shaft
Location: 32.784506, -108.304575
Date: August 3, 2021
Observations: This feature is a 20’ deep subsidence of a backfilled shaft. The collar of the shaft is a wide, loose cone. The subsidence has been partially refilled with brush and earth. This feature offered little to no subterranean habitat, and no bat or other wildlife sign was observed.
Bat Habitat: Poor
Closure Recommendation: Destructive Closure, Any Time (DCAT)

Feature: Homick Energy Maggie Mine Shaft
Location: 32.78793900, -108.30774400
Date: August 3, 2021
Observations: This feature is a 23’ deep shaft with a 3’ prospect drift at the bottom. The shaft features sturdy cribbing at the collar made from large round timbers. No bat sign or any other wildlife sign was observed. Historical cultural artifacts observed included two wooden ladders and additional cribbing inside the shaft.
Bat Habitat: Poor
Closure Recommendation: Destructive Closure, Warm Season (DCWS)
Slow fill is recommended to allow any wildlife present at the time of closure opportunity to vacate.

Feature: Old Turner Ranch Ridge Shaft
Location: 32.78604000, -108.32067000
Date: August 3, 2021
Observations: This feature is a 48’ deep shaft in solid rock with a rock shelf 15’ down. Below the shelf the walls of the shaft were damp and coated in sediment from seasonal water. Bat sign observed included a very light scatter of guano, indicating light use as a day roost. Other wildlife sign observed included live spiders, crickets and flies, mouse scat, medium-sized-mammal scat, and a dead snake. Historical cultural artifacts observed included a wooden ladder, coiled barbed wire, and some timbers at the shaft bottom.
Bat Habitat: Marginal
Closure Recommendation: Bat Compatible, Any Time (BCAT)
A standard bat grate with a removable bar is recommended to allow for future monitoring.

Feature: Old Turner Ranch Shaft 4
Location: 32.77347693, -108.31040604
Date: August 3, 2021
Observations: This feature is a backfilled shaft. Currently the feature consists of a shallow depression (<1') in the ground with signs of disturbance in the surrounding surface rocks. This feature offers no subterranean habitat.
Bat Habitat: None
Closure Recommendation: Leave As Is (LAI)

Feature: Old Turner Ranch Unknown Shaft 1
Location: 32.78378243, -108.32008660
Date: August 3, 2021
Observations: This feature is a 17' deep shaft in solid rock. A small prospect drift extends from the shaft bottom. No bat sign was observed. Other wildlife sign observed included a grasshopper, a live snake, and two dead snakes. Historical cultural artifacts observed included a metal barrel and a wooden stull.
Bat Habitat: Poor
Closure Recommendation: Destructive Closure, Any Time (DCAT)
Slow fill is recommended to allow any wildlife present at the time of closure opportunity to vacate.

Feature: Old Turner Ranch Unknown Shaft 2
Location: 32.77428750, -108.31012586
Date: August 3, 2021
Observations: This feature is a backfilled pit, possibly an old mine shaft. Currently the feature consists of a 3' deep pit with modern garbage, including wires, cables, cinder blocks, and various micro-trash. Historical cans were also observed in the pit. The feature is located near the water storage tank of a rustic cabin along the access road. This feature offers no subterranean habitat.
Bat Habitat: None
Closure Recommendation: Leave As Is (LAI)

APPENDIX 1

Summary of bat survey results and closure recommendations.

Feature[1]		**Live Bats**	**Other Bat Sign**	**Roost Function**	**Bat Habitat**	**Closure Recommendation[2]**
Cooper Property 76 Lode Mine Shaft		none	none	none	Poor	DCAT
Homick Energy Maggie Mine Shaft		none	none	none	Poor	DCWS
Old Turner Ranch Ridge Shaft		none	guano	day roost	Marginal	BCAT
Old Turner Ranch Shaft 4	#	n/a	n/a	none	None	LAI
Old Turner Ranch Unknown Shaft 1		none	none	none	Poor	DCAT
Old Turner Ranch Unknown Shaft 2	#	n/a	n/a	none	None	LAI

*Feature inaccessible; no internal survey conducted.
^Partial internal survey conducted.
#No subterranean habitat available.

[1]Feature: A distinct feature may consist of a single opening, multiple openings interconnected via underground workings, or closely related surface workings. In the "Feature" column, distinct features are separated by solid lines, and associated openings of a feature are separated by dashed lines. A feature contains shared biological and habitat characteristics and is therefore described by a single survey, whereas closure recommendations are unique to each opening.

[2] Closure recommendations:

Destructive Closures
DCAT – destructive closure, any time
DCWS – destructive closure, warm season

Bat-compatible Closures
BCAT – bat compatible, anytime

No Action
LAI – leave as is

APPENDIX 2

Selected photos from the field project. The full set of photos from all features was provided in digital form with this report.

Homick Energy Maggie Mine Shaft: Sturdy timbers support the collar of this mine shaft.
BCI Photo by Dillon Metcalfe

Homick Energy Maggie Mine Shaft: View from the shaft bottom looking up towards the surface.
BCI Photo by Dillon Metcalfe

Old Turner Ranch Unknown Shaft 2: BCI employee Dillion Metcalfe examines the contents of this backfilled mine shaft.

BCI Photo by Alexi Kimiatek

Old Turner Ranch Ridge Shaft: View of the shaft collar.
BCI Photo by Dillon Metcalfe

APPENDIX 3

Bat Habitat Assessment Classifications

Bat habitat is assessed for each feature surveyed and describes the value of that feature for bat use. Determining bat habitat is the primary objective of surveys conducted by the BCI Subterranean Program. Survey of a feature results in seven possible bat habitat classifications: excellent, good, moderate, marginal, poor, no habitat, or unknown. Each of these classifications are described below.

Excellent Bat Habitat

Description

Excellent bat habitat is very rare amongst features surveyed. For a feature to be assessed as having excellent habitat, significant bat use, usually by colonies, must be documented. Typically, this occurs when a large single species roost (>20 bats) is identified using the feature for warm season aggregation, usually in conjunction with substantial guano piles. Bats present in lower numbers but representing multi-species use of three or more species also warrants an assessment of excellent habitat. Bats need not be present to identify excellent habitat, as obvious bat sign such as large guano piles, heavily scattered guano along flyways, and roost staining on ceilings are indicators of significant bat use. Major winter use by bats cannot be confirmed during warm season surveys, though features that exhibit cold temperatures, airflow, and a high diversity of microclimates and roosting habitat can be identified as sites with good potential for serving as hibernacula. Features offering excellent bat habitat usually exhibit striking internal complexity, with extensive workings and possibly multiple levels. Due to the extensiveness of underground workings, these features nearly always offer high quality rock habitat. Exceptions, however, include small features used as maternity sites. Feature stability should be good, with little concern for future collapse that could result in loss of the roost.

Closure Recommendation

Features with excellent bat habitat should nearly always be recommended for protection (exceptions include imminent collapse or other major safety hazards). To minimize disturbance while bats are using the feature for a critical life cycle phase, bat-friendly closures should occur during the opposite season of primary use. For example, closure of a feature that hosts a maternity colony should occur during the cold season, and closure of a feature that serves as a hibernaculum should occur during the warm season. For features with multiple entrances, closures should protect all openings that are either used for bat access or necessary to preserve airflow patterns.

Good Bat Habitat

Description
Good bat habitat is represented by features that contain clear signs of persistent bat use but do not exhibit the striking evidence of significant use by bat colonies. These features often support use by one or two species of bats that use the site as a day roost or night roost. Bat sign such as guano, either scattered or in small piles, and insect parts are common in these features. The internal workings usually exhibit moderate complexity, with rock habitat quality that meets the specific needs of day or night roosting bats, such as domes, drill holes, and/or a heavily featured back. Feature stability should be good, with little concern for future collapse that could result in loss of the roost.

Closure Recommendation
Features with good bat habitat should nearly always be recommended for protection (exceptions include imminent collapse or other major safety hazards). Bat-friendly closures can usually occur at any time of the year, as bat use of these sites is persistent but dispersed and does not represent significant use for warm season maternity colony aggregation or cold season hibernation. For features with multiple entrances, closures should protect all openings that are either used for bat access or necessary to preserve airflow patterns.

Moderate Bat Habitat

Description
Moderate bat habitat generally refers to features that exhibit some signs of minor bat use or have potential for bat use due to the level of complexity and/or stable microclimate offered within. Moderate habitat features are often occupied by one or two bats, possibly on a seasonal nature, but will not display any signs of significant bat use. Guano, if present, will be lightly scattered, or in no more than a few very small piles representative of solitary bats of a single species. Insect parts may also be present, indicating night roosting. Bat sign may also be completely absent from these features at the time of survey, either due to extremely limited bat use, suspected winter use that cannot be detected during a warm season survey, or feature conditions such as flooding that may cover or destroy evidence of bat use. Complexity of the feature will range from simple, if combined with other signs of bat use, to moderately complex. Feature stability should be relatively stable, and rock habitat quality should offer some level of suitable roosting surface.

Closure Recommendation
Features with moderate bat habitat fall into the "grey area" where bat use is not necessarily prominent enough to immediately warrant a protective closure, yet the possibility for increased future bat use exists. Generally, a bat-friendly closure should be recommended for features with moderate habitat in order to maintain a conservative approach to habitat protection. Furthermore, the context of the feature relative to the surrounding landscape may elevate its importance if few other suitable habitat options are available. Scenarios that may call for destructive closure recommendations on features that meet the criteria for moderate habitat include unstable internal conditions that suggest future collapse/destruction of the feature or areas in which the feature is eclipsed by numerous other features with superior habitat. If a destructive closure is recommended, it must be accompanied by bat exclusion prior to closure.

Marginal Bat Habitat

Description
Features designated marginal bat habitat generally lack bats and bat sign. Less commonly, these features may exhibit signs of very minor, infrequent use. A single bat may be present, but there may be no accompanying signs that would allow detection if the bat was absent. Guano and insect parts, if present, will be very sparsely scattered and require diligence for detection. Complexity of the feature will always be simple, with no substantial workings; however, these features are usually extensive enough to include a dark zone, and the entire feature is not visible from the portal or collar. Marginal features are often short, simple adits or blind and bald shafts. Feature stability can be stable, but often poor rock conditions contribute to marginal habitat. Rock habitat quality will generally be poor to fair, with less than ideal roosting surfaces.

Closure Recommendation
Features with marginal bat habitat are almost invariably recommended for destructive closure due to these features lacking bat sign and/or containing unstable conditions that threaten collapse. Given the possibility for bats to be present in these features, exclusion is required prior to closures occurring in the warm season when bats are active. In rare circumstances, a protective closure may be warranted to allow for the possibility of future bat use, especially if the feature represents one of the only subterranean habitat options in the area.

Poor Bat Habitat

Description
Features classified as poor bat habitat tend to be very small prospects that exhibit no signs of bat use. While these features offer some level of subterranean habitat, the workings are so limited as to offer no true dark zone and no area of stable subterranean microclimate. Usually, the entire feature will be visible from the portal or collar. These features are so small that structural stability is often quite good, but they may also be in a state of collapse. Rock habitat quality can range the entire spectrum, but this assessment is largely irrelevant in such small features that offer little physical area from which bats can select roosting spots that have a stable microclimate.

Closure Recommendation
Features with poor bat habitat are recommended for destructive closure. Due to the lack of bat sign or potential for future bat use, a "DCAT" recommendation is usually warranted on these features.

No Bat Habitat

Description
Assessing a feature as containing no bat habitat means no subterranean habitat is available. No underground workings are present at all, and the feature would present no option for bats to roost in subterranean environments. This scenario occurs for features that are totally collapsed, prospect scrapes, entirely and permanently flooded, or some other similar circumstance. This assessment is also appropriate for portals that are almost entirely sloughed closed and/or overgrown with vegetation such that bats would be unable to access the workings.

Closure Recommendation
With no subterranean component and thus no bat habitat, a "DCAT" recommendation is always warranted. For some features, though, especially those that contain no inherent hazard, a "Leave As Is" recommendation may be most appropriate. This recommendation is most applicable to prospect scrapes and pits that contain no headwall and may be largely overgrown.

Unknown Bat Habitat

Description
If an internal survey cannot be conducted, and underground workings are likely to exist based on observations from the surface, then bat habitat cannot be assessed. This usually occurs when the feature is not accessible due to safety concerns (e.g., wildlife hazards, rock or timber hazards) at the portal or collar. Often, looking into the feature from outside confirms that underground workings are present, though inaccessible. An unknown bat habitat assessment may also be appropriate for some partial internal surveys, when a survey is terminated underground due to safety concerns. In these instances, though, if extensive workings and/or bats and bat sign are observed prior to terminating the survey, then a higher bat habitat classification and feature protection are warranted.

Closure Recommendation
Closures of features with unknown bat habitat should follow conservative recommendations to minimize the possibility of destroying potentially important bat roosts. When possible, bat-friendly closures should be recommended for these features. In cases where destructive closures are more appropriate (e.g., collapse of feature is imminent), exclusion is required prior to closures occurring in the warm season when bats are active.

APPENDIX 4

Closure Recommendation Classifications

Closure recommendations are assigned to each opening of a distinct feature surveyed and prescribe the appropriate remediation strategy for the site. Bat use, other wildlife use, feature stability, and overall nature of the workings are considered when determining the closure recommendations. Survey of a feature usually results in recommendation of a bat-compatible closure or destructive closure for each opening, with a seasonal component to advise suitable timing of the closure. In some cases, openings may warrant other wildlife-friendly closures or recommendation of no action (leave as is). Each of these classifications are described below.

Bat-compatible Closures

Bat-compatible closures are recommended for openings to features that contain bats/bat sign or exhibit characteristics that indicate high potential for bat use. These features warrant protective closures to maintain the bat habitat within and allow for continued bat use. Three seasonal designations are used to recommend appropriate timing of bat-friendly closures:

- BCAT (Bat-compatible Closure, Any Time): "Any time" bat closures are recommended for openings to features in which overall bat use is relatively minor or not confined to any single season.

- BCCS (Bat-compatible Closure, Cold Season): Cold season bat closures are recommended for openings to features that display significant warm season use, typically by a maternity colony of bats. Closure is recommended to occur during the cold season to avoid disturbance of bat colonies, which could potentially lead to abandonment of the site.

- BCWS (Bat-compatible Closure, Warm Season): Warm season bat closures are recommended for openings to features that are documented as hibernacula or exhibit characteristics that indicate high potential for significant cold season use by hibernating bats. Closure is recommended to occur during the warm season to avoid disturbance of hibernating bats, which could potentially lead to bats arousing and burning critical energy reserves.

Airflow Closures

Airflow closures may be recommended for secondary openings to features with multiple openings that access habitat warranting protection. Independent, secondary openings often contribute to the microclimate and habitat suitability of the underground workings via air exchange but may not serve as important access points for wildlife. In these cases, it is appropriate to close these secondary openings in a way to maintain air exchange without preserving access to wildlife.

Other Wildlife-compatible Closures

Protection may also be recommended for openings to features that display significant use by wildlife other than, or in addition to, bats. These closure recommendations are relatively rare, and closure methods are dependent on type of wildlife use. Protection of features may be warranted for use by wildlife including, but not limited to, birds (e.g., owls, vultures), mammals (e.g., cats, foxes, porcupines, ringtails), and reptiles/amphibians (e.g., salamanders).

Closure Modifications

Closure modifications are recommended for existing closures such as bat gates or backfills that do not adequately protect or maintain habitat provided by the feature. In these cases, a modification to the existing closure is recommended to improve wildlife access to habitat assessed at the time of survey. Closure modifications are recommended to provide access to previously inaccessible habitat or to facilitate increased use of existing habitat. Seasonality is also considered in closure modification recommendations to advise suitable timing of the modification.

Destructive Closures

Destructive closures are recommended for openings to features that either offer no bat habitat, contain no evidence of bat use, or exhibit only minor, insignificant bat use. In some cases, destructive closures may also be recommended for secondary openings to features that are protected through bat-compatible closure of primary openings used for wildlife access. Two destructive closure designations are used to recommend appropriate measures based on possible bat use:

- DCAT (Destructive Closure, Any Time): These openings access features that exhibit no signs of bat use or potential for bats to be present and can be destructively closed without conducting exclusion, during any season. This recommendation may also be applied to secondary openings to features protected for wildlife habitat, provided that these openings do not serve any critical function in maintaining wildlife access or suitable habitat conditions.

- DCWS (Destructive Closure, Warm Season): These openings access features that either exhibit signs of minor, insignificant bat use or have the potential for bats to be present during destructive closure. In some cases, other wildlife such as birds may be present, and these animals should also be excluded; alternatively, closure with bat exclusion may be timed for after the nesting season when birds are no longer using the feature. Using appropriate exclusion techniques on the features prior to closure is critical. Exclusion needs to be done during the warm season when bats are active and will be able to escape. See Appendix 5 and refer to “Managing Abandoned Mines for Bats,” published by Bat Conservation International, for guidance on exclusion techniques.

No Action

"Leave as is" treatments are recommended for features that present no inherent safety concerns. A feature with this recommendation is generally either a prospect scrape/trench with no subterranean component, or the portal has completely collapsed, making the feature inaccessible.

APPENDIX 5

Exclusion Guidance as Excerpted from BCI's "Managing Abandoned Mines for Bats"

Timing of Exclusions

The exact timing of exclusions and site closures is best determined locally, given the variability in types of use by different species. As a general rule, bats must be active for exclusions to be effective, so all exclusions should be conducted outside of hibernation season. In general:

- The best time to implement exclusions and portal closures is during late summer or early fall, after cessation of maternity activities and before the onset of hibernation.

- Early-fall closures will best ensure a window for bats to find alternate hibernacula and will give females a full spring season to locate alternate maternity sites.

Exclusions for Destructive Closures

Regardless of the reason for a destructive closure of known or potential bat roosts, steps must be taken to ensure significant bat colonies are not destroyed as a direct result of closure activities. Managers should include adequate exclusions as a routine part of mine reclamation programs to minimize the risk of entombing bats in closed workings. Further, closures should be conducted immediately following exclusion to limit the chance of bats becoming reestablished in the mine. In general, these two guidelines can help determine whether exclusions should be conducted and how intense the exclusion effort should be.

Exclusions Not Required: Exclusions are generally not required if a mine does not offer potential bat habitat, as mutually agreed upon by all partners involved in the mine closure project.

Standard Exclusions: In general, exclusions are recommended at all mines that represent habitat for bats. Given the ephemeral and episodic use of some roosts, it is prudent to err on the side of caution and conduct standard exclusions efforts, especially if significant time has elapsed since biological assessments were conducted.

The use of one-inch mesh material (e.g., chicken wire, polypropylene or similar material) is most often used to exclude bats from a mine. Lighter-weight material may be used for remote mines that require physically transporting the material over long distances or rough terrain. Although this material is very effective for excluding bats, it may also entangle bats and other wildlife. Managers may need to develop a plan to periodically check exclusion materials at sites with large bat colonies or high use by other wildlife to prevent loss of entangled bats, amphibians, reptiles or birds.

Exclusion materials should be maintained for at least three nights prior to portal closure at mines that provide habitat and where little or no bat use has been detected. Simultaneously

covering all external openings with exclusion materials and leaving it in place for at least one week is an effective method for excluding most bat species from roosts. Difficulties in navigating through exclusion materials should cause bats to seek alternate roosts rather than continuing to access the mine through the wire.

For most species, simply spreading exclusion materials across portals will be sufficient to allow bats to exit a mine while effectively discouraging their return. However, not all bats in all roosts across all landscapes will respond in an identical manner. As a general rule, smaller colonies in areas where roosts are abundant tend to quickly abandon roosts after exclusion materials are installed. For example, exclusion materials left in place for three to five nights will usually cause small colonies of Townsend's big-eared bat roosting in small mines in Nevada to abandon the roosts.

END OF SURVEY REPORT

Appendix 7: New Mexico Rare Plant Technicals Council(NMRPTC Biological Consultation

New Mexico State Listed Endangered Plants Species List - Grant County							
Scientific Name	**Common Name**	**NMRPTC**	**State of NM**	**Counties**	**Habitat Requirements**	**Suitable Habitat Present?**	**Likely of Occurence**
Cleome multicaulis	Many-Stemmed Spider-Flower	R	E	GRANT,HIDALGO	Wet, saline or alkaline soils; often in and around alkali sinks, alkaline meadows, or old lake beds.	No suitable habitat in project area	Not likely
Cypripedium parviflorum var. pubescens	Yellow Lady's-Slipper	D	E	CATRON,COLFAX,GRANT, LOS ALAMOS,MORA, SAN JUAN,SAN MIGUEL, SANTA FE	Mesic deciduous and coniferous forest, openings, thickets, prairies, meadows, fens. In New Mexico, sporadic in moist conifer forests at elevations between 5,750 and 11,000ft.	No suitable habitat in project area	Not likely
Peniocereus greggii var. greggii	Night-Blooming Cereus	R	E	DONA ANA,GRANT,HIDALGO, LUNA	Mostly in sandy to silty gravelly soils in gently broken to level terrain in desert grassland or Chihuahuan desert scrub. Typically found growing up through and supported by shrubs, especially Larrea divaricata and Prosopis glandulosa.	No suitable habitat in project area	Not likely
Puccinellia parishii	Parish's Alkali Grass	R	E	CATRON,CIBOLA,GRANT, HIDALGO,MCKINLEY,SAN JUAN,SANDOVAL	Alkaline springs, seeps, and seasonally wet areas that occur at the heads of drainages or on gentle slopes at 800-2,200 m (2,600-7,200 ft) range-wide. The species requires continuously damp soils during its late winter to spring growing period. It frequently grows with Distichlis stricta (salt grass), Sporobolus airoides (alkali sacaton), Carex spp. (sedges), Scirpus spp. (bulrushes), Juncus spp. (rushes), Eleocharis spp. (spike rushes), and Anemopsis californica (yerba mansa).	No suitable habitat in project area	Not likely
Scrophularia macrantha	Mimbres Figwort	R	E	GRANT,LUNA	Steep, rocky, usually north-facing igneous cliffs and talus slopes, occasionally in canyon bottoms; piñon-juniper woodland and lower montane coniferous forest; 2,000-2,500 m (6,500-8,200	Suitable habit present	Possible

Appendix 8: Colorado Division of Wildlife Burrowing Owl Survey Protocol

COLORADO
Parks and Wildlife
Department of Natural Resources

RECOMMENDED SURVEY PROTOCOL AND ACTIONS TO PROTECT NESTING BURROWING OWLS

Western Burrowing Owls (*Athene cunicularia hypugaea*) are commonly found in prairie dog towns throughout Colorado. Burrowing owls require prairie dog or other suitable burrows (e.g. badger, Wyoming ground squirrel) for nesting and roosting. Western burrowing owls breed throughout the western United States, southern Canada, and northern Mexico and winter in the southern United States and throughout Mexico. Colorado's burrowing owls are mostly migratory but overwintering owls have been documented.

Federal and state laws prohibit the harming or killing of burrowing owls and the destruction of active nests. It is quite possible to inadvertently kill burrowing owls during prairie dog poisoning projects, removal of prairie dogs, destruction of burrows and prairie dogs using a concussive device, or during earth moving for construction. Because burrowing owls often hide in burrows when alarmed, it is not practical to haze the birds away from prairie dog towns prior to prairie dog poisoning/removal, burrow destruction, or construction activity. Because of this, Colorado Parks and Wildlife (CPW) recommends surveying prairie dog towns for burrowing owl presence before potentially harmful activities are initiated.

The following guidelines are intended as advice on how to determine if burrowing owls are present in a prairie dog town, and what to do if burrowing owls are detected. These guidelines do not guarantee that burrowing owls will be detected if they are present. However, adherence to these guidelines will greatly increase the likelihood of detection.

Seasonal Timing

Burrowing owls typically arrive on breeding grounds in Colorado in late March or early April, with nesting beginning a few weeks later. Active nesting has been recorded and may be expected from late March through early August. Adults and young may remain at prairie dog towns until migrating to wintering grounds in late summer or early autumn.

Surveys should be conducted during times when burrowing owls may be present on prairie dog towns. Although nesting most commonly occurs March 15th through August 31st, burrowing owls may be present at burrows several months after young have fledged. Therefore, CPW recommends that targeted surveys should be conducted for any activities resulting in ground disturbing destruction or poisoning of burrows between March 15th and October 31st. Note, there is a small chance to encounter burrowing owls in Colorado during the winter. Although CPW does not necessarily recommend surveys between November 1 and March 14, if burrowing owls are known to be present in an area in the winter, CPW's recommendations apply.

Daily Timing

Burrowing owls may be active throughout the day and night; however, peaks in activity in the morning and evening make these the best times for conducting surveys (Conway and Simon 2003). Surveys should be

conducted in the early morning (1/2 hour before sunrise until 10:00 am or until the temperature reaches 80 degrees F, whichever is earlier) and early evening (2 hours before sunset until 1/2 hour after sunset).

Number and locations of survey points

Burrowing owls are most frequently located visually; thus, obtaining a clear view of the entire prairie dog town is necessary. For small prairie dog towns that can be adequately viewed in their entirety from a single location, only one survey point is necessary. The survey point should be selected to provide unobstructed views (with binoculars if necessary) of the entire prairie dog town (burrow mounds and open areas between) and all nearby structures that may provide perches (e.g., fences, utility poles, etc.). For prairie dog towns that cannot be entirely viewed from a single location because of terrain or size, enough survey points should be established to provide unobstructed views of the entire prairie dog town and nearby structures that may provide perches. Survey locations should be separated by approximately 800 meters (1/2 mile), or as necessary to provide adequate visual coverage of the entire prairie dog town.

Number of surveys to conduct

Detection of burrowing owls can be highly variable and multiple visits to each site should be conducted to maximize the likelihood of detecting owls if they are present. At least three surveys should be conducted at each survey point. Surveys should be separated by approximately one week.

Conducting the survey

- Avoid flushing owls prior to initiating survey: Burrowing owls are very likely to either flush or hide in a burrow if approached at distances closer than 200 m, especially if observers are on foot or ATVs (versus within a vehicle). Therefore, the first survey point should be located outside the prairie dog colony, with observers surveying ahead of their route if it is necessary to enter the colony. If observers must exit their vehicle, they should keep a low profile and recognize that flush distance may increase for observers on foot.

- Weather Considerations: Because poor weather conditions may impact the ability to detect burrowing owls, surveys should only be conducted on days with little or no wind (less than 12 mph) and no precipitation or fog.

- Passive surveys: Most burrowing owls are detected visually. At each survey location, the observer should *visually* scan the area with binoculars and then spotting scope, if possible, to detect any owls that are present. Some burrowing owls may be detected by their call, so observers should also *listen* for burrowing owls while conducting the survey.

  Burrowing owls are frequently detected soon after initiating a survey (Conway and Simon 2003). However, some burrowing owls may not be detected immediately because they are inconspicuous, are inside of burrows, or are not present on the site when the survey is initiated. We recommend that surveys be conducted for at least 10 minutes at each survey location.

- Call-broadcast surveys: To increase the likelihood of detecting burrowing owls, if present, we recommend incorporating call-broadcast methods into burrowing owl surveys. Conway and Simon (2003) detected 22% more burrowing owls at point-count locations by broadcasting the primary male (*coo-coo*) and alarm (*quick-quick-quick*) calls during surveys. Although call-broadcast may increase the probability of detecting burrowing owls, most owls will still be detected visually.

We recommend the following 10-minute timeline for incorporating call-broadcast methods (Conway and Simon 2003, C. Conway pers. comm.). The observer should scan the area for burrowing owls during the entire survey period. If the intent is to document which burrows are used for nesting, the initial silent period may need to be lengthened so that observers have the opportunity to note as many owl spatial locations as possible before playing calls (owls may move in response to calls).

- 3 minutes of silence
- 30 seconds call-broadcast of primary call (*coo-coo*)
- 30 seconds silence
- 30 seconds call-broadcast of primary call (*coo-coo*)
- 30 seconds silence
- 30 seconds call-broadcast of alarm call (*quick-quick-quick*)
- 30 seconds silence
- 4 minutes of silence

Calls can be broadcast from cell phone or mp3 player attached to amplified speakers. Calls should be broadcast loudly, but without distortion. Recordings of this survey sequence (mp3) are available for download at: https://cpw.state.co.us/conservation/Pages/CON-Energy-Land.aspx

Note: The mp3 download includes a 6-minute survey sequence (3 passive (silent) minutes followed by 3 minutes of calls) and should then be followed by 4 additional minutes of passive survey.

- Burrow Searches: If owls are detected in the area, surveyors should search areas that the owls are using to document the nest burrows as well as other actively used burrows. Nest burrows generally have dung lining the entrance of the burrow, with prey remains and collected materials outside the entrance. Nest burrows may have whitewash and regurgitated pellets visible, or they may be visible at a more prominent perch location nearby. Also, note that if owls flush from the nest burrow, they may return to the general area, but often will not return to the specific nest burrow when an observer is present. Example photos of nest burrows are available at: https://cpw.state.co.us/conservation/Pages/CON-Energy-Land.aspx

Identification

Adult burrowing owls are small, approximately 9-11 inches. They are brown with white spotting and white barring on the chest. They have long legs in comparison to other owls and are frequently seen perching on prairie dog mounds or other suitable perches (e.g., fence posts, utility poles) near prairie dog towns. Juvenile burrowing owls are similar to adults but have a white/buff colored chest that lacks barring.
General information about burrowing owls is available from the Colorado Parks and Wildlife website:

https://cpw.state.co.us/learn/Pages/SpeciesProfiles.aspx

Additional identification tips and information are available from the Cornell Lab of Ornithology and the U.S. Geological Survey Patuxent Wildlife Research Center websites below:

https://www.allaboutbirds.org/guide/Burrowing_Owl/overview

http://www.mbr-pwrc.usgs.gov/id/framlst/i3780id.html

What To Do If Burrowing Owls Are Present

If burrowing owls are confirmed to be nesting in a prairie dog town (or other suitable burrow), there are two options before proceeding with planned activities:

1. Wait to initiate activities until after October 31st or until it can be confirmed that the owls have left the prairie dog town. Although burrowing owls may not be actively nesting during this entire period, they may be present at burrows several months after young have fledged.
2. If burrowing owls are nesting at the site and waiting to initiate activities is not possible, carefully monitor the activities of the owls, noting and marking which burrows they are using in order to document the nesting burrow. This is not easy to accomplish and will require considerable time, as the owls may use several burrows in a prairie dog town, and their activity footprint spreads as juvenile owls age and begin to use areas farther from the nest. When all active burrowing owl burrows have been located and marked, surface activity can proceed in areas greater than 660 feet (200 meters) from the nest burrow. Activity closer than 660 feet may endanger the owls. If possible, avoid the satellite use burrows as well. If the actual nest burrow cannot be determined, then buffer the entire group of burrows in use. **NOTE: For large industrial disturbances (e.g. drilling rigs, residential construction, etc.), CPW recommends a larger buffer of ¼ mile (1320 feet, 400 meters) from the nest burrow**. CPW recommends no surface disturbance within nesting buffers from March 15th through August 31st.
3. If the planned activity includes active poisoning or killing of prairie dogs (or ground squirrels) or ground-disturbing destruction of burrows, CPW recommends delaying activities until after it can be confirmed that the owls have left the prairie dog colony. CPW recommends surveys of prairie dog towns March 15th through October 31st to confirm absence of burrowing owls.

Reference

Conway, C. J. and J. C. Simon. 2003. Comparison of detection probability associated with Burrowing Owl survey methods. Journal of Wildlife Management 67:501-511.

revised 04/06/2021

END OF DOCUMENT