Climax Molybdenum
A Freeport-McMoRan Company

Climax Mine
Highway 91 - Fremont Pass
Climax, CO 80429
Phone (719) 486-7718
Fax (719) 486-2251

April 18, 2022

Mr. Ben Wilson
benjamin.r.wilson@usace.army.mil
Submitted via Email

RE: Climax Mine, Permit SPK-2013-00045, Request for Modification to Individual Permit & Mitigation Plan

Dear Mr. Wilson,

Climax Molybdenum Company – Climax Mine (Climax) is requesting to modify its individual permit SPK-2013-000045 and associated mitigation plan. Please find attached our full request with attachments to support the request.

We appreciate your review of the request and look forward to your approval. Please contact me at 719-486-7525 if you need additional information.

Sincerely,

Diana Kelts
Environmental Manager

Attachment

Climax Molybdenum
A Freeport-McMoRan Company

SPK-2013-00045

Request for Modification to Individual Permit & Mitigation Plan

McNulty Gulch Overburden Storage Facility

Lake & Summit Counties, Colorado

April 14, 2022

Climax Mine
11236 Hwy 91 – Freemont Pass
Climax, CO 80429
719-486-2150

SGM
118 W Sixth St, Suite 200
Glenwood Springs, CO 81601
970.384.9040
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1.0 INTRODUCTION AND REQUEST FOR PERMIT MODIFICATION

On July 28, 2017, Climax Molybdenum Company was issued a Department of the Army Section 404 permit (SPK-2013-00045) for the construction of the McNulty Gulch Overburden Storage Facility (OSF) at Climax Mine. The OSF provides capacity for 200 metric tons of overburden materials to be stored outside of the active mining area in the McNulty Gulch drainage; this authorized overburden storage allows Climax to continue mining operations targeting the recovery and processing of molybdenite ore.

The OSF was planned to fill (resulting in loss) a total of 16.08 acres of wetlands and 0.4 acres of intermittent and perennial channels in McNulty Gulch. As required, the final compensatory mitigation and monitoring plan was submitted in 2017 (Bikis Water Consultants [BWC] 2017). This Plan was prepared consistent with the "2015 Regional Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division" (2015 Guidelines), the Final Mitigation Rule (33 CFR Parts 325a and 332, and 40 CFR Part 230), and the USACE Regulatory Guidance Letter No. 08-03.

The Plan called for a phased approach to providing wetland mitigation based on projected impacts to wetlands in McNulty Gulch, with Phase 1 being the construction of 8.668 acres of wetlands at the Lake Irwin mitigation site to compensate for 3.96 acres of wetland impact, based on a USACE-prescribed mitigation ratio of 2.2:1. Phase I mitigation site at Lake Irwin was completed in 2018 and as of the end of 2021, Climax has completed three years of monitoring and reporting for the mitigation site.

The permit required that authorized work be completed by July 31, 2022, with the opportunity to request a time extension. At this time, work in the OSF has filled 3.88-acres of wetlands, and 0.008 acres of non-wetland waters in McNulty Gulch; Climax is planning to fill the remaining 12.2 acres of wetlands and 0.39 acres of other non-wetland waters in the next (up to) five years. Due to COVID-19 and resulting economic impacts, Climax mining operations have slowed and development of the OSF has also been delayed. With mining operations increasing again, Climax is now needing to secure mitigation for Phase 2 and Phase 3of the OSF development plan.

The objective of the mitigation is to fully replace the aquatic resources (wetlands) impacted by the OSF project. The Plan envisioned that this would be accomplished by creating wetlands of similar function and value at the Phase I Lake Irwin site, and/or providing wetlands at the Lake Irwin Phase 2 and Phase 3 mitigation site, and/or using in-lieu fee mitigation (such as participating in the Western Slope In-lieu Fee Program) or purchase of mitigation credits at an approved mitigation bank).

Climax is requesting two items in this Request for Modification to their permit:

1. **Request for Permit Time Extension.** As stated, COVID-19 resulted in delayed development of the OSF. Climax is requesting a five-year extension of the permit from July 31, 2022, to July 31, 2027.
2. **Request for Modification to Mitigation Plan.** Recently the National Forest Foundation has acquired approval for their Colorado Western Slope In-Lieu Fee Program (ILF Program) and associated Program Instrument (SPK-2014-01100), authorizing the NFF to sell Advanced Credits. The ILF Program's Blue-Eagle Service Area covers the OSF facility area, and Climax is requesting to modify the Mitigation Plan to purchase 26.66 acres of wetland credits and 0.1 acres (450 linear feet) of non-wetland stream credits at this approved mitigation bank.

Figure 1 is a vicinity map which shows the location of the project area, and **Figure 2** shows the locations of the OSF and the ILF Program's Soda Creek mitigation site.

1.1 Project Information

- Project Name:
  Climax Mine Overburden Storage Facility Expansion
- Army Corps Action ID:
  SPK-2013-00045
- Project Sponsor:
  Climax Molybdenum
  c/o Diana Kelts, Environmental Manager
  11236 Hwy 91 – Fremont Pass
  Climax, CO 80429
  Phone: 719-486-7525
  Email: dkelts@fmi.com
- Agent:
  SGM
  c/o Eric Petterson
  118 W Sixth Street, Suite 200
  Glenwood Springs, Colorado 81601
  Phone: 970-309-5190
  Email: ericp@sgm-inc.com
- Project Description:
  McNulty Gulch Overburden Storage Facility Expansion
- Nature of Activity:
  Permanent fill of gulch with overburden material
- Regulatory Action:
  Request to Modify Permit for time extension and use of Mitigation Bank
- ESA Coordination:
  No Resources Present, see Appendix C
- Historic Properties:
  No adverse effects, see Appendix D
- Tribal Consultations:
  Completed in 2017
- Wild & Scenic Rivers:
  None
- Water Quality Certification:
  Certification No. 4383, see Appendix E
- Legal Description of Project Area:
  Section 1, Township 8 South,
  Range 79 West,
  6th Principal Meridian
- Latitude/Longitude of Investigation Area:
  N 39 23 4.475° Latitude,
  -W 106 10 35.788° Longitude
- Aquatic Resources:
  54.4 acres of delineated wetlands
  0.66 acres of non-wetland WoUS
  16.08 acres of wetland impacts (fill)
  0.4 acres of non-wetland WoUS impacts (fill)
- Local Waterway Name:
  McNulty Gulch
- Hydrologic Unit Code:
  CO 140100020301, Upper Tenmile Creek

Figure 1. Project Area

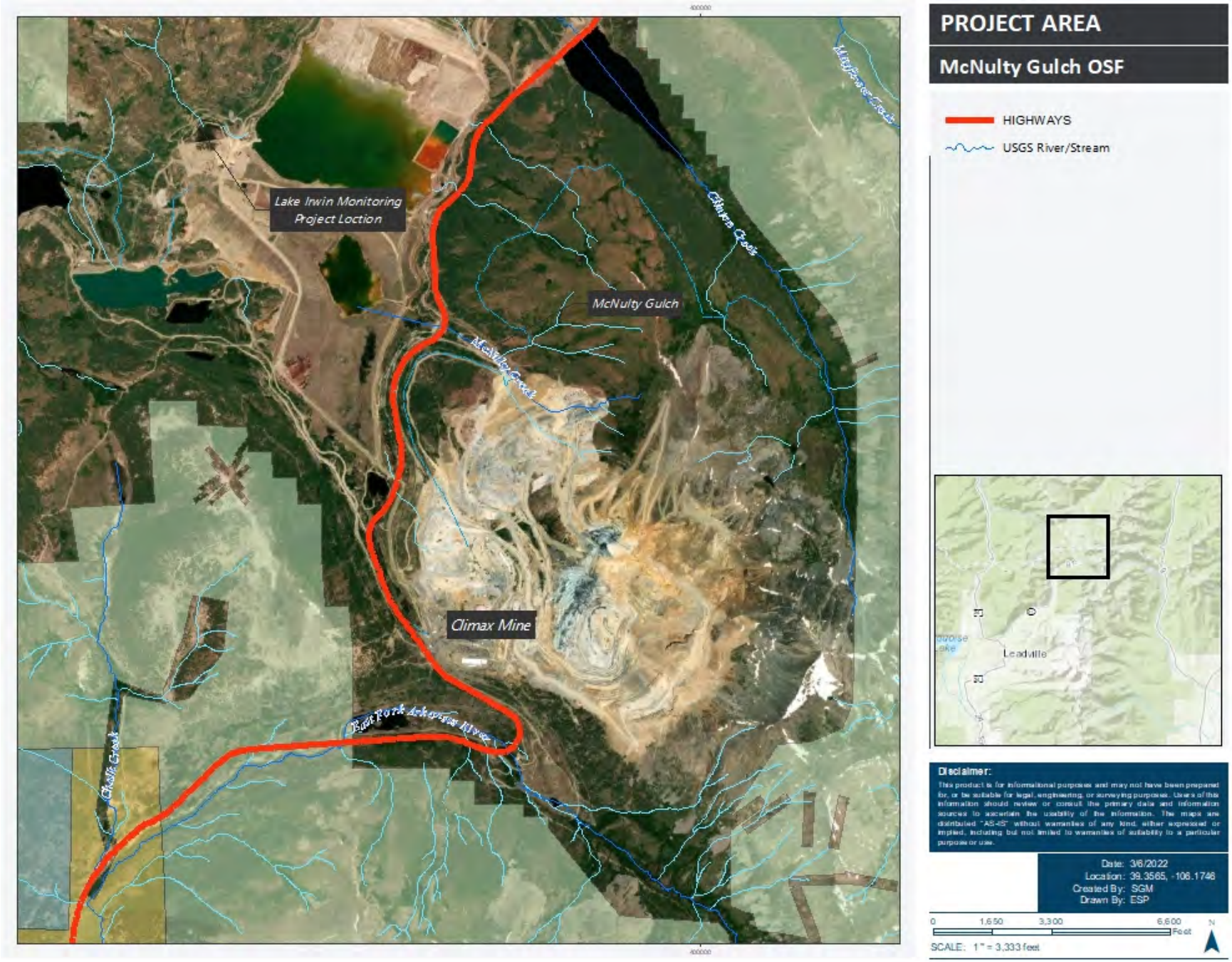
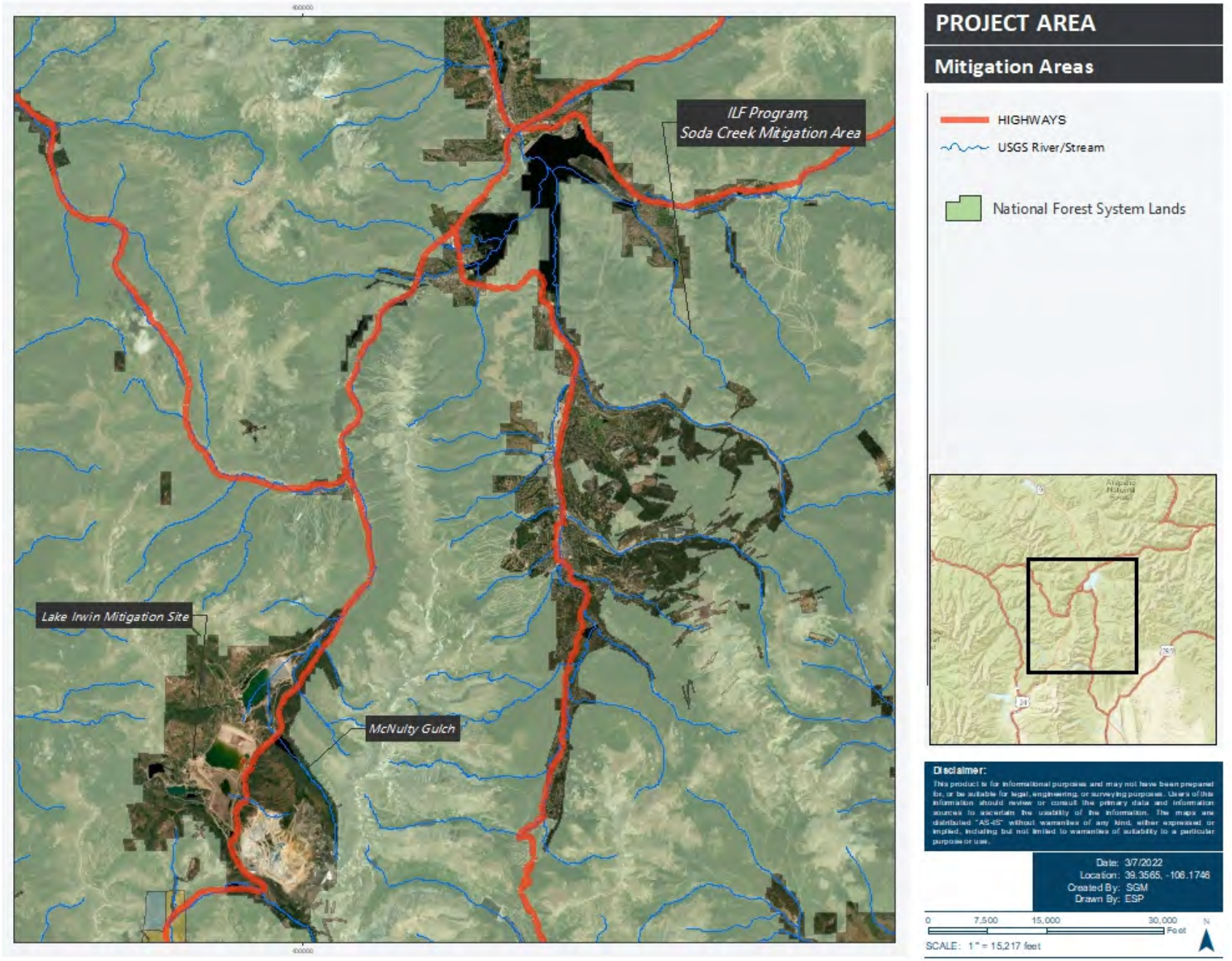


Figure 2. Mitigation Areas



2.0 DOCUMENTATION OF CURRENT CIRCUMSTANCES

As part of the proposed permit modification request (i.e., permit extension and modification of the mitigation plan for use of the ILF program), the USACE requested that Climax provide documentation of ongoing work in McNulty Gulch, the progress at the Lake Irwin Mitigation Site, and other current circumstances which may be germane to the proposed permit modification. This section provides the requested information for USACE review.

2.1 Completed Actions in McNulty Gulch

At this time Climax has completed topsoil salvage operations in Area 2W and has also completed installation of water controls (to capture and redirect surface flows around the area of overburden storage, and to capture infiltration water).

Approximately 3.96 acres of PSS wetlands have been filled in Area 2W by these activities as of the early winter 2021. Please see **Figure 3** of this area.

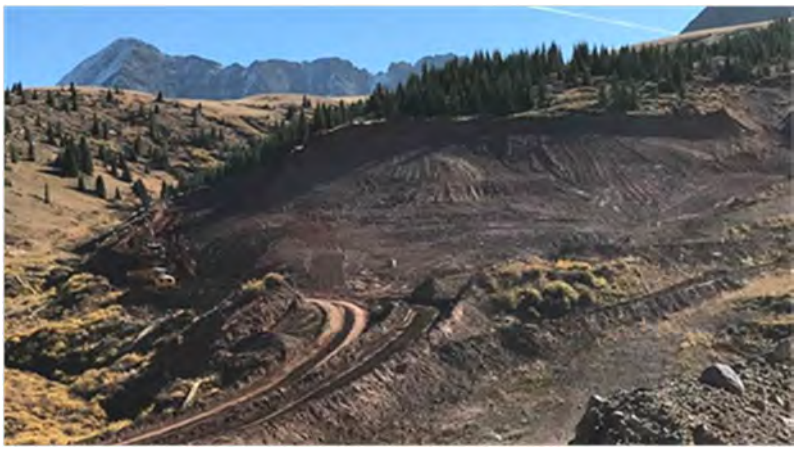
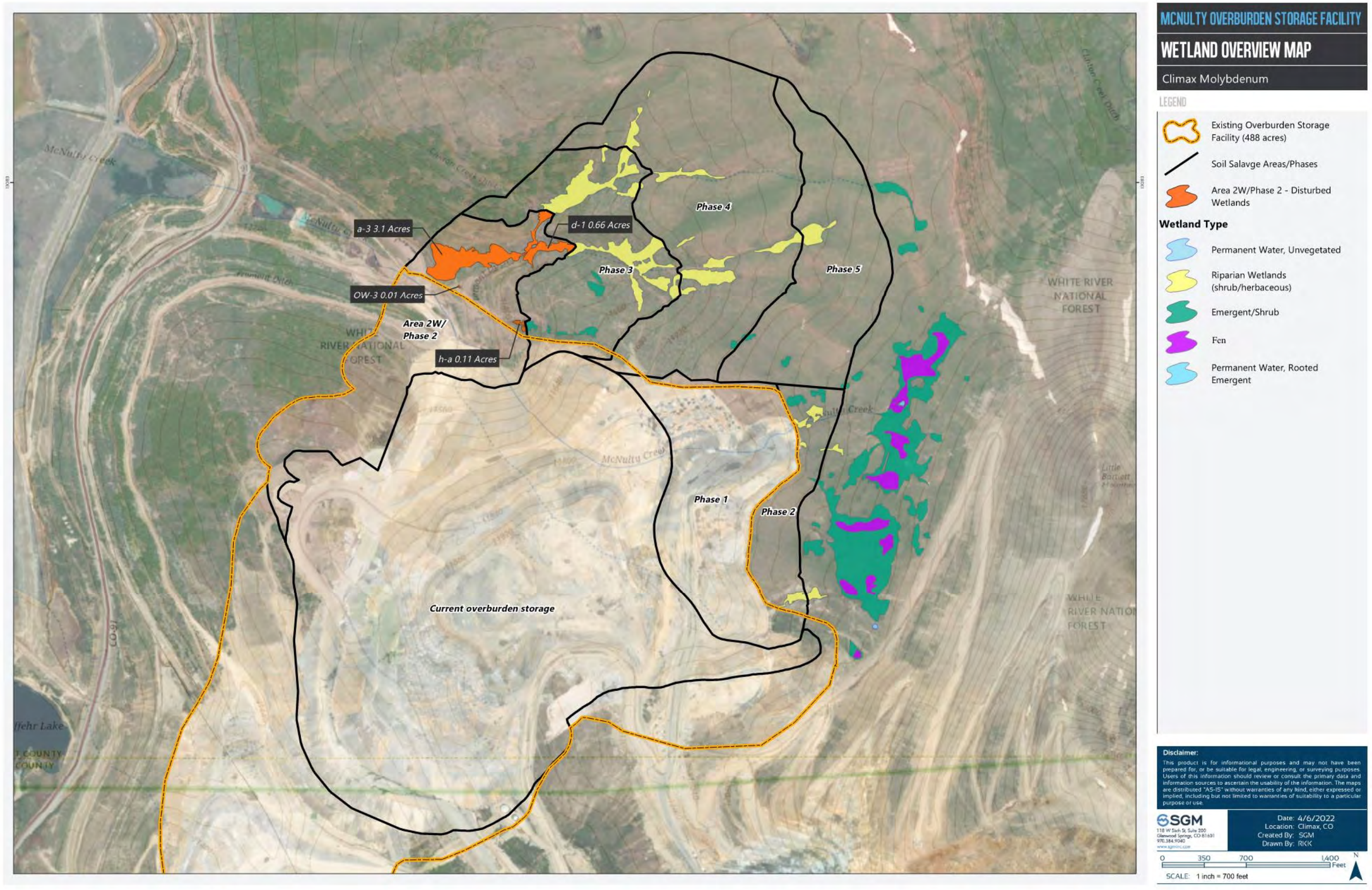


Photo of topsoil salvage operations in McNulty Gulch Area 2W

Figure 3. Work Completed in Area 2W McNulty Gulch, Winter 2021-2022



2.2 Completed Work at Lake Irwin Mitigation Site

As detailed in the Department of Army permit and the mitigation plan (Final Compensatory Mitigation and Monitoring Plan—Version 2.0 Climax Mine Overburden Storage Facility Expansion, [BWC 2017]; "Mitigation Plan"), Climax and the USACE contemplated several options for mitigation, including the Colorado River Conservation Reserve (CRCR) wetland mitigation bank, the NFF Colorado Western Slope In-Lieu Fee Program (ILF Program), permittee responsible mitigation projects located off-site in Summit County, and permittee-responsible mitigation on Climax property. At the time of permit issuance, CRCR and the ILF Program were not available, and off-site projects in Summit County were not viable. Therefore, Climax and the USACE approved the mitigation work at the Lake Irwin mitigation site. As the ILF Program is now available, Climax is requesting a modification to the permit and mitigation plan to purchase up to 35 advance credits to mitigate their fill of the remaining 12.12 acres of wetlands and 0.4 acres of other non-wetland waters in McNulty Gulch in the next two years.

Table 1. Wetland Impacts and Mitigation Acreage Summary

Permitted fills (OSF impacts)	Mitigation requirements (2.2:1 ratio)	Currently Impacted Wetlands/Waters	Remaining Un-impacted Wetlands/Waters	Lake Irwin Phase 1 mitigation	Remaining Wetland Mitigation Requirements (2.2:1 ratio)
16.08 acres wetlands	36.18	3.96	12.12	8.75	27.43
0.04 acres non-wetland waters	0.1	0	0.4	0	0.1
Totals	**36.28**	**3.96**	**12.56**	**8.75**	**27.53**

The final design of Phase 1 at Lake Irwin was completed by TetraTech in the spring of 2017. The earthwork was started in the summer of 2017 and was completed in early August 2018. A combination of containerized herbaceous wetland plants and containerized willows and willow cuttings were installed. The willows were obtained from the area of the OSF expansion in McNulty Gulch in late spring of 2018, and prepared and treated for planting later in the summer. The objective of the mitigation was to fully replace the aquatic resources (wetlands) impacted by the OSF. This would be accomplished by creating wetlands of similar function and value at the Lake Irwin site and providing wetlands at the other areas included in the Mitigation Plan if available and feasible (e.g., future phases could include participation in the ILF Program).

While the snowpack at the mine was close to average in the spring of 2018, it was warmer than normal so that runoff occurred earlier and was shorter than usual. The result was that the Lake Irwin site was relatively dry during June and July which facilitated completion of the earthwork but was not conducive for wetland plant installation. As a result, planting was delayed until the site could be saturated with a combination of pumping and natural monsoonal moisture. The plant materials installed in 2018 are shown in **Table 2**. It was not possible to install all the required plants in 2018 so additional plantings occurred in 2019. Please see **Figure 4** for as-build drawings of the Phase 1 mitigation site at Lake Irwin.

Table 2. Installed Plant Species – Phase 1

Common Name	Species	Type	Quantity
Beaked sedge	*Carex utriculata*	10ci	3,456
Tufted Hairgrass	*Deschampsia caespitosa*	10ci	509
Water Sedge	*Carex aquatilis*	10ci	4,185
Baltic Rush	*Juncus arcticus*	10ci	379
		Total	**8,529**
Planeleaf willow	*Salix planifolia*	Cutting	2,600
Short fruit willow	*Salix brachycarpa*	Cutting	3,100
Mountain Willow	*Salix monticola*	Cutting	300
		Total	**6,000**

Notes:
ci=10 cubic inch containers
Cuttings were obtained locally and rooted prior to planting

As of the summer of 2021, the percent cover of vegetation at the Lake Irwin site has dramatically improved, with vegetation cover more than doubling since 2020. Current vegetation cover is now around 50% to 72.5% (transect and plot data, respectively), with 85% of the species being ≥FAC (SGM 2021). There is still variation of moisture conditions at the site due to waters failing to disperse evenly across the site, which may have a minor impact on plant establishment, but it is not likely significant at this time.

A number of volunteer willow starts were noticed, and planted willows continue to out-perform the willow stakes, which was expected. Natural or "volunteer" establishment of the site by other wetland species has continued to expand in 2021. Noxious weed and undesirable species cover is very limited. See **Appendix A** for a copy of the 2021 Mitigation Monitoring Report, which details current site conditions.

2.3 Continuation of Monitoring and Maintenance at Lake Irwin

The USACE permit requires monitoring of the mitigation site and submittal of an annual monitoring report for at least 5 years following construction of the mitigation, or until the performance standards in the Mitigation Plan are met (which ever period is longer). If performance standards are met in 2023, no additional monitoring would be required. In addition, the USACE has stipulated that it is necessary to demonstrate continued success of the mitigation for three consecutive years without human intervention (the period for which can be concurrent with the 5-year monitoring period). The performance standards included in the Plan for the mitigation are shown below in **Table 3** (from BWC 2017).

Table 3. Lake Irwin Mitigation Performance Standards

PS No.(2)	Scientific Name	Standard	Target	Measure
21	Hydrologic	Saturated soil	≥ 90% of site has saturated soil	Soil pits, visual
			≥ 50% of growing season	
27	Vegetation	Dominance of hydrophytes	≥ 80% cover of hydrophytic species	Plots and transects
26	Vegetation	Tree and shrub survival	≥ 60% survival planted species	Counts
29	Vegetation	Weeds	< 10% cover is upland weeds.	Plots and transects

Notes:
NRCS = National Resources Conservation Service
PS = Performance Standard
FACWet = Functional Assessment of Colorado Wetlands

Footnotes:
1) As determined using the Regulatory Program Uniform Performance Standards Compensatory Mitigation Requirements (12505-SPD) for the South Pacific Division, based on site characteristics and FACWet analysis.
2) Per attachment 12505.1.

2.4 Financial Assurances for Lake Irwin Mitigation Site

The Lake Irwin mitigation site is covered under Climax Molybdenum's existing reclamation bond of $91,011,850. It is covered under two bonds:

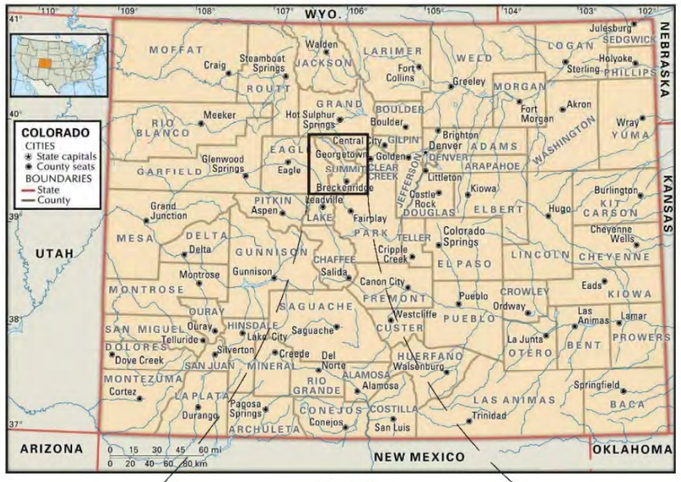
- #1 – U.S Specialty Insurance Company – Bond #1000830852
- #2 – Liberty Mutual – Bond #024007400

2.5 Declaration of Conservation Covenants and Restrictions

Per the permit, Climax is required to record a Declaration of Conservation Covenants and Restrictions (CC&Rs) depicting the compensatory mitigation areas as required in Special Condition 4 of the permit. On May 23, 2019, Summit County recorded a Declaration of Restrictive Covenants whereby Climax declared that the Phase 1 Lake Irwin mitigation site is bound by covenants prohibiting activities which could impact the function and values of the mitigation site. Please see **Appendix B** for a copy of this document.

Figure 4. Lake Irwin Mitigation Area As-Built Drawings

LAKE IRWIN MITIGATION WETLAND
PHASE 1 COMPLETION - 2018 AS-BUILT DRAWINGS
SUMMIT COUNTY, COLORADO



KEY MAP
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DRAWING INDEX	
DRAWING No.	TITLE
18–01	COVER SHEET, VICINITY MAP, GENERAL NOTES, AND SHEET INDEX
18–02	PHASE 1 GRADING PLAN
18–03	PHASE 1 GRADING CROSS–SECTIONS
18–04	PHASE 1 TYPICAL SECTIONS AND DETAILS

SURVEY REFERENCE DATA:
1. PRE–CONSTRUCTION MAPPING BASED ON AERIAL SURVEY FROM NOVEMBER 2017, PROVIDED BY CLIMAX.
2. 2018 AS–BUILT SURVEY DATA PROVIDED BY INTERMOUNTAIN ENGINEERING IN SEPTEMBER 2018.

REGIONAL LOCATION MAP
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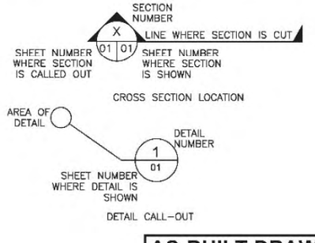
LOCATION MAP
NOT TO SCALE

GENERAL LEGEND/SYMBOLS

EXISTING CONTOURS

EDGE OF EXISTING ROAD



AS-BUILT DRAWING
DRAWING REVISED TO AS–BUILT CONDITIONS IN ACCORDANCE WITH MARK–UPS PROVIDED BY OTHERS

ENGINEER'S SEAL

AS–BUILT DRAWING:
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REFERENCE

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A Freeport-McMoRan Company

Issued by:
TETRA TECH
3801 Automation Way, Suite 100
Fort Collins, Colorado 80525
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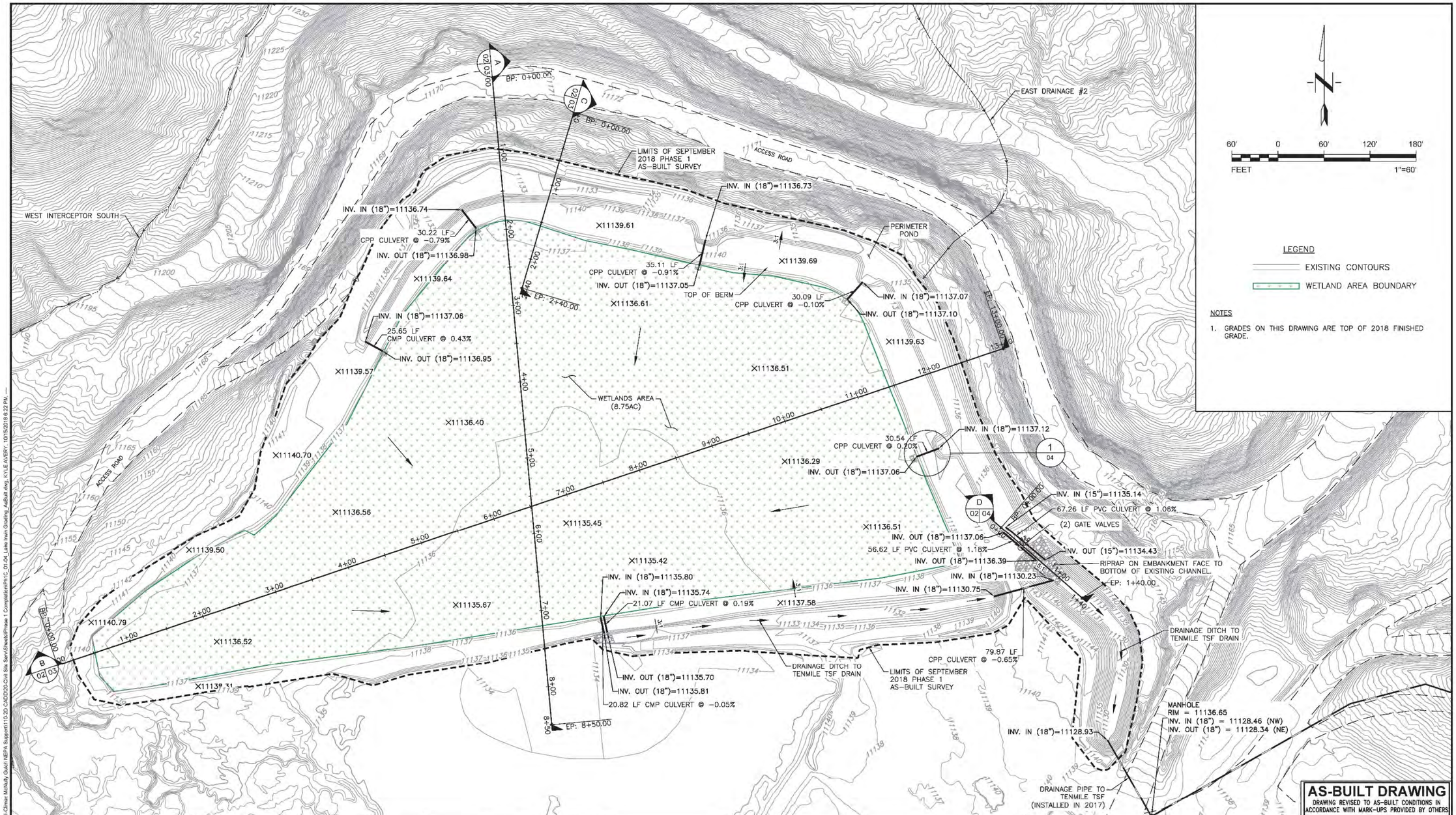
LAKE IRWIN MITIGATION WETLAND
PHASE 1 COMPLETION - 2018 AS-BUILT
COVER SHEET, VICINITY MAP,
GENERAL NOTES, AND SHEET INDEX

1 REVISION

Project: LAKE IRWIN MITIGATION WETLAND PHASE 1 COMPLETION - 2018
Project no.: 117-8126003
Location: CLIMAX, CO
Date: 10/01/2018
18-01
SHEET 01 OF 04



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LAKE IRWIN MITIGATION WETLAND
PHASE 1 COMPLETION - 2018 AS-BUILT
PHASE 1 GRADING PLAN

1 REVISION

Project: LAKE IRWIN MITIGATION WETLAND PHASE 1 COMPLETION - 2018	Project no.: 117-8126003
Location: CLIMAX, CO	Date: 10/01/2018

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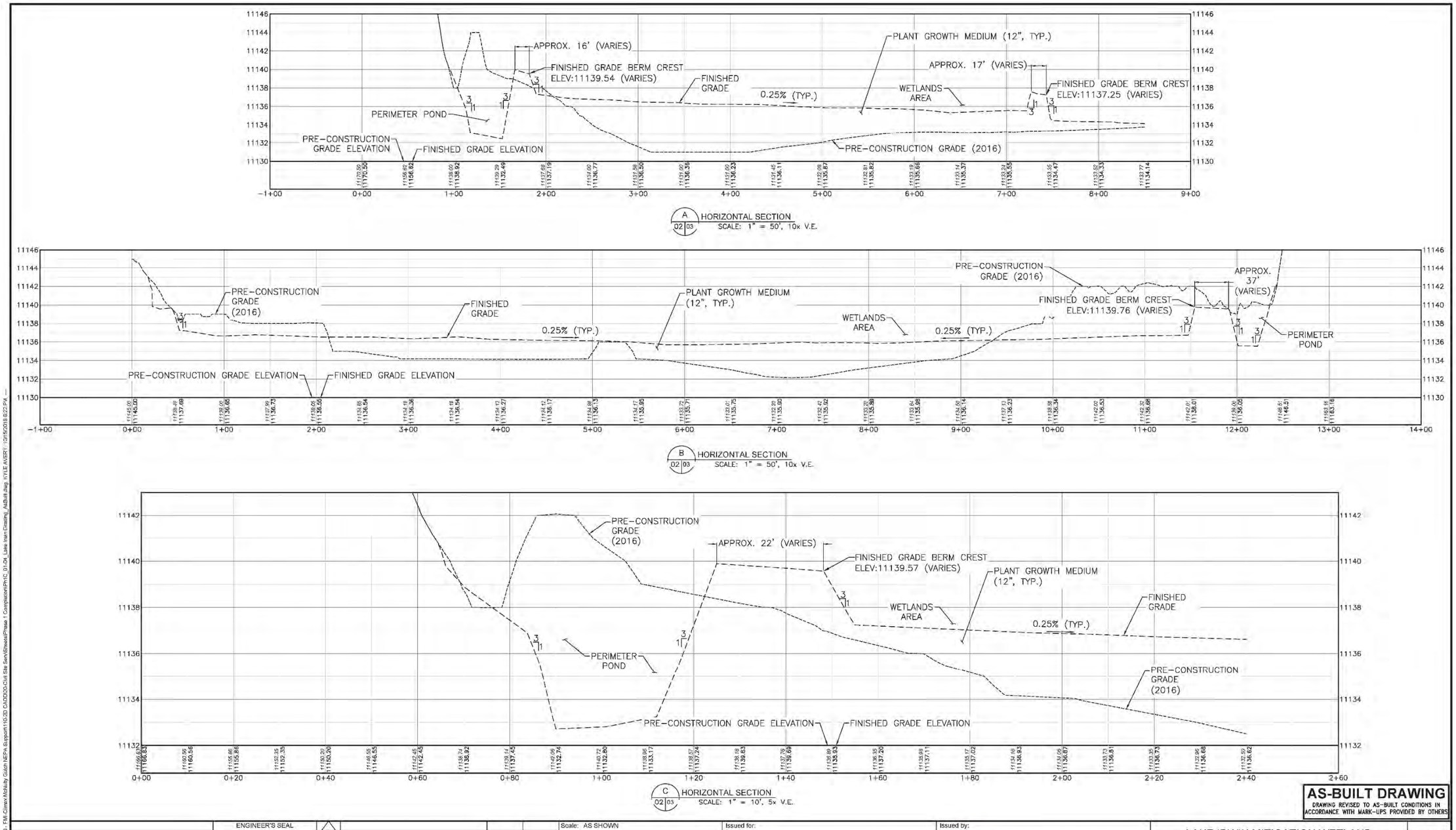
SHEET 02 OF 04



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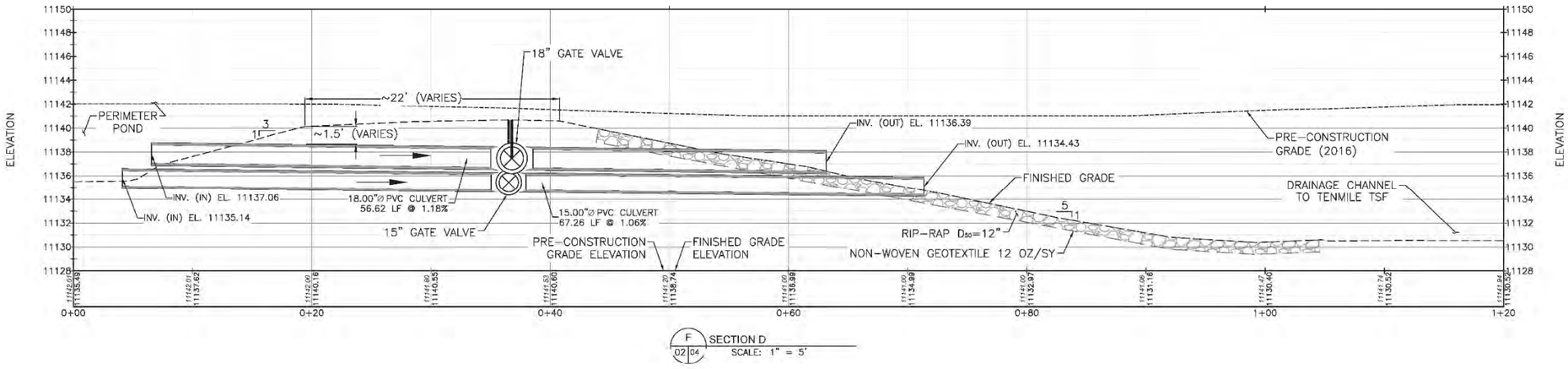
LAKE IRWIN MITIGATION WETLAND
PHASE 1 COMPLETION - 2018 AS-BUILT
PHASE 1 GRADING CROSS SECTIONS

1 REVISION

Project: LAKE IRWIN MITIGATION WETLAND PHASE 1 COMPLETION - 2018
Project no.: 117-8126003
Location: CLIMAX, CO
Date: 10/01/2018

18-03
SHEET 03 OF 04



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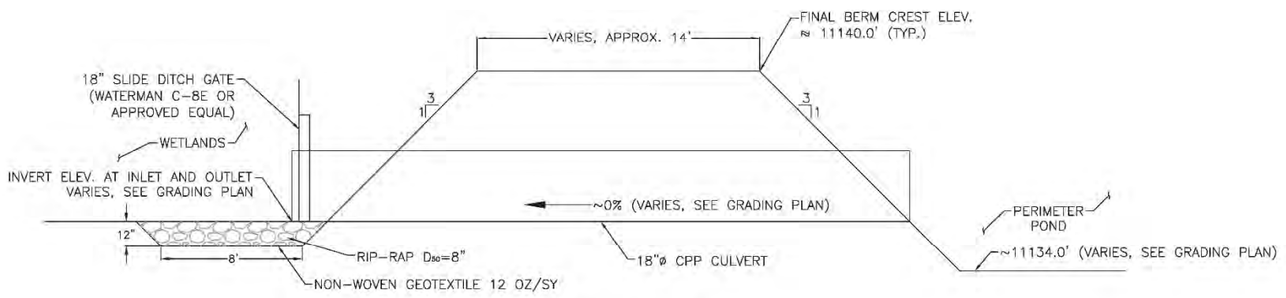

1 / 04 PIPE OUTLET TO WETLANDS TYPICAL SECTION
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AS-BUILT DRAWING
DRAWING REVISED TO AS-BUILT CONDITIONS IN ACCORDANCE WITH MARK-UPS PROVIDED BY OTHERS

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REVISIONS

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LAKE IRWIN MITIGATION WETLAND
PHASE 1 COMPLETION - 2018 AS-BUILT
PHASE 1 TYPICAL SECTIONS AND DETAILS

1 REVISION

Project: LAKE IRWIN MITIGATION WETLAND PHASE 1 COMPLETION - 2018
Project no.: 117-8126003
Location: CLIMAX, CO
Date: 10/01/2018

18-04
SHEET 04 OF 04

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3.0 REVIEW OF OTHER RESOURCES

At the request of the USACE, a review of other environmental resources and circumstances was conducted, as these would be germane to a permit modification. The information provided above and below documents that there have been no significant changes in the circumstances related to the original issuance of the section 404 permit on July 28, 2017 for the construction of the OSF, meaning that the procedures of 33 C.F.R. § 325.2, including issuance of a public notice, are not applicable to the requested permit extension and modification of the mitigation plan. *See* 33 C.F.R. § 325.6(d).

3.1 Federally Listed Threatened or Endangered Species

The activities in McNulty Gulch and at Lake Irwin have previously been reviewed in 2017 for compliance with the Endangered Species Act, and concurrence was received from the U.S. Fish and Wildlife Service at that time. Seven federally listed species and one Candidate species were evaluated for their occurrence on or adjacent to the project area, per the USFWS Threatened and Endangered species list provided by the IPaC database (USFWS 2022; **Appendix C**). Based on this analysis, the USFWS identified the Canada lynx (*Lynx canadensis*), bonytail chub (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), razorback sucker (*Xyrauchen texanus*), monarch butterfly (*Danaus plexippus*), Uncompahgre fritillary butterfly (*Boloria acrocnema*), and Penland alpine fen mustard (*Eutrema penlandii*) as potentially occurring in the area. There is no designated Critical Habitat in the project area.

Canada Lynx – Threatened. This species occurs in closed canopy conifer forests with low, sweeping branches, deep snows, and an abundance of their preferred prey, the snowshoe hare (*Lepus americanus*). The project area in McNulty Gulch has been cleared of all timber, and operations are ongoing. There would be no new impacts associated with the request to extend the current permit, beyond impacts which have already been consulted on. Mining operations, use of the OSF, and continued monitoring of the Lake Irwin mitigation area would have no new habitat impacts not previously consulted on. Use of the ILF Program is not an action that would result in new impacts for which there has not been previous consultations. As the permit modifications requested would not result in new effects, a determination of "No Effect" is warranted for potential impacts to the Canada Lynx and their habitats.

Gray Wolf – Endangered. The Gray Wolf, being a keystone predator, is considered an integral component to ecosystems to which it typically belongs. The wide range of habitats in which wolves can thrive reflects their adaptability as a species, and includes temperate forests, mountains, tundra, taiga, and grasslands. Gray wolves hunt in packs, targeting larger prey, such as deer, elk, and moose. Gray wolves were originally listed as a subspecies or as regional populations of subspecies in the contiguous United States and Mexico. In 1978, the USFWS reclassified the gray wolf as an endangered population at the species level (*C. lupus*) throughout the contiguous United States and Mexico, except for the Minnesota gray wolf population, which was classified as threatened. Gray wolf populations in Idaho and Montana were delisted due to recovery in 2011. In 2021, gray wolves were documented as reproducing, and thus as continuously occupying habitat in Colorado, and in 2022 the USFWS listed the gray wolf as Endangered in Colorado. Critical habitat for this species is outside of Colorado.

USFWS guidance states that lone, dispersing gray wolves may be present throughout the state of Colorado. The proposed permit modification does not involve a predator management program, which is a key item of interest for consultation with USFWS. The project area is not within the occupied range of the known pack in Colorado but does occur within potentially suitable habitat. The project would have no activities which would meaningfully impact the ability for wolves to disperse through the area and would have no meaningful impact on prey populations. At this time there are no known gray wolves in the greater Mosquito/Tenmile Ranges, and this project would have "No Effect" on the gray wolf or their ability to forage, disperse, or reproduce in the greater area, and there are no predator management programs associated with Climax operations.

Colorado River Endangered Fish - Endangered. The USFWS identified the bonytail chub, Colorado pikeminnow, humpback chub and the razorback sucker as potentially occurring or being affected from activities in the project area. These species occur in lower elevation, larger rivers associated with the Colorado River. The Colorado pikeminnow and razorback sucker have mapped Critical Habitat extending up the Colorado River to the Highway 13 bridge in Rifle. Potential activities in the project area would not occur in the Colorado River and would not discharge sediments into the river; the project area is approximately 140 river miles upstream from designated Critical Habitat, and all discharges from McNulty Gulch are captured by Climax's water treatment system.

There would be no new water depletions as a result of extending the permit. It is not anticipated that the project would result in any measurable or meaningful impacts to occupied habitats downstream or would measurably or meaningfully impact the listed fish. Given these factors, the modification to the permit would have "No Effect" on the listed Colorado River endangered fish species and their Critical Habitats.

Monarch Butterfly – Candidate. Candidate species are not afforded full protection under the ESA; however, the USFWS encourages their consideration in environmental planning, and the USFWS regulatory guidance indicates that Candidate species should be treated similarly to Proposed species regarding inter-agency consultation requirements. Informal consultation is requested when a provisional "is likely to jeopardize" determination is reached for a Candidate species (USFWS 1998).

Monarch butterfly adults feed (i.e., gather nectar) from a variety of flowering plant species. However, the monarch butterfly only lays eggs and larvae only feed on milkweeds (*Asclepias* spp.). The western population overwinters in various coastal sites in central and southern California, and central populations overwinter in Mexico. Monarchs have multiple generations during their migrations; the second, third and fourth generations return to their northern locations in the United States and Canada in the spring.

The project area is not known to support any milkweeds; in general, the project area is much too high in elevation to support this species of plant, and no monarch butterfly migration routes are known to pass through the project area.

The permit modification is not likely to jeopardize this Candidate species. USFWS consultation is not required by ESA for Candidate species where an action is not likely to jeopardize the species' existence.

Uncompahgre Fritillary Butterfly - Endangered. This small butterfly is associated with large patches of snow willow (*Salix nivalis*) above 12,400 feet, which provide food and cover. This species has been found only on northeast facing slopes, which are the coolest and wettest microhabitats available. Snow willow is a larval food plant, which adults take nectar from a wide range of flowering alpine plants. The upper reaches of McNulty Gulch support patches of snow willow, and the USFWS service considers the Tenmile Range as within the species range. No surveys for this species are known to have occurred in the project area.

There is suitable habitat for this species in the project area, and the project area is within the range of the species. It is possible that this species occurs within or near the project area. Consultations for this project have already occurred with the USFWS, and a permit modification would not authorize the change in the size or scale, or operations within the OSF or increase activities within potential habitats in upper McNulty Gulch. The permit modification would extend the time of activities within the OSF, but this would not result in any additional direct impacts to potentially suitable habitats. Therefore, the previous determination of "may affect, is not likely to adversely affect" would still be valid.

Penland Alpine Fen Mustard – Threatened. This diminutive species occurs only in alpine meadows above 11,800 feet in the Mosquito Range. Plants are most often found along east facing, gentle slopes and basins receiving moisture by slow-melting snowfields above. However, they can also be found in dryer locations. In either habitat, they are often rooted in tufts of mosses or hidden among short grasses. This species is threatened by activities that damage its sensitive habitat or alter local hydrology. The Mosquito Range is a draw for recreation, especially in the summer months, and recreation activities such as off-road vehicle use

(including winter travel), camping, hiking, and roads could pose a threat to this species and its habitat. Land development, including ski areas and mining, may also have an impact on the species. In addition, it is not fully understood how climate change will affect the species or the habitat in which it resides. Given that the species already resides at elevation extremes where there is nowhere to migrate higher and given that the species is dependent on snowmelt and wet conditions, this species is likely vulnerable to anticipated climate trends. No surveys for this species are known to have occurred in the project area.

There is suitable habitat for this species in the project area, and the project area is within the range of the species. Surveys for this species in 2015 failed to detect is presence in the project area when surveys were conducted in the fall (Tetra Tech 2015). Consultations for this project have already occurred with the USFWS, and a permit modification would not authorize the change in the size or scale, or operations within the OSF or increase activities within potential habitats in upper McNulty Gulch. As currently described, the permit modification would not introduce new impacts to potentially suitable habitats, and the previous determination of "may affect, is not likely to adversely affect" would still be valid.

3.2 Cultural Resources

In 2016, Western Cultural Resource Management, Inc. (WCRM) conducted Class III cultural resource inventory of the OSF area, to satisfy the 404 permit requirements, and to comply with Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (54 U.S.C. § 300101 et seq.), which requires the location, recordation, and evaluation of cultural resources according to the criteria outlined in 36CFR Part 800 for inclusion of significant resources in the National Register of Historic Places (NRHP)(**Appendix D**).

The Class III surveys in 2013 and 2014 inventoried 270.24 acres of the 471.17-acre project area. Due to previous disturbance in some areas and 30 percent or greater slopes in other areas (i.e., severe slopes are dangerous to survey and less likely to yield intact cultural deposits), 200.93 acres of the project area were not surveyed.

Within the project area, two previous surveys had been conducted in the 1970s (McNamara and Jennings 1979; Ward-Williams 1974). During the reconnaissance survey conducted by Colorado State University's Laboratory of Public Archaeology (LOPA) (McNamara and Jennings 1979), two previously recorded cultural resources (5ST114 and 5ST133) were recorded; 5ST114 was designated as a prehistoric open lithic site and 5ST133 was designated as a cobble concentration with an unknown cultural affiliation. LOPA conducted additional work at 5ST114 in 1980 (Arthur and Jennings 1980) and 1981 (Arthur 1981) to map, bore, and excavate the site. No further work was conducted by LOPA at 5ST133. The survey conducted by the Office of the State Archaeologist and documented by the USFS (Ward-Williams 1974) did not yield evidence of cultural resources within the portion of the project area it covered.

Class III surveys of the project area were conducted by WCRM in 2013 and 2014, revisiting the locations of 5ST114 and 5ST133 and recorded six new sites (5ST1476 – 1478, 5ST1484.1, 5ST1485.1, and 5ST1486.1) and four new isolates (5ST1479 – 1481 and 5ST1487). A total of 40 historic features (UH02 – 03, 09, 11, 13 – 25, 26a, 26b, 27 – 29, 32a, 32b, 32c, 33, 34a, 34b, 35 – 38, 40 – 44, and Roads 1, 2 and 3) were also located, mapped, and described as per the requirements of the Colorado Office of Archaeology and Historic Preservation (OAHP) (OAHP 2007:18-19) for minor historic features. All of the resources, either revisited or newly recorded, are recommended not eligible for inclusion in the NRHP.

Since 2016, there have been no changed circumstances in the project area, aside from previously permitted activities, including salvaging of topsoils in McNulty Gulch, construction of water diversion structures, and subsequent deposition of overburden materials. At Lake Irwin, the construction of the Phase I mitigation area has also been completed. The modification to the permit to extend the timeframe of OSF activities, and use of the ILF would not require additional cultural resource surveys, and the permit modifications would not result in an adverse effect to historical properties.

3.3 401 Certification

The CDPHE Water Quality Control Division completed a review of the OSF project for compliance with Clean Water Act Section 404 compliance and antidegradation review pursuant to Regulation No. 31, Basic Standards and Methodologies for Surface Water (5 CCR 1002-31). Based on this review, the CDPHE issued a Regular Certification in accordance with 5 CCR 1002-82.5(A)(2) for the OSF expansion in McNulty Gulch on September 22, 2016. The certification applies to both the construction and operation of the project. Please see **Appendix E** for a copy of the certification letter.

On February 8, 2022, Climax consulted with the CDPHE regarding the status of the 401 certification. On February 8, 2022, CDPHE indicated that they reviewed the original 401 certification and associated material and stated that the original 401 certification is still valid and will cover the five year extension for the project.

3.4 Public Interest Review

As requested, we reevaluated the Public Interest Review Criteria (33 CFR Part 320.4), which is intended to assess whether the proposed project is in the "public interest". The benefits of the permit extension and modification to the mitigation plan are weighed against the anticipated consequences.

An evaluation of the public interest review factors listed in 33 CFR Part 320.4 was considered for the permit extension and modification of the mitigation plan. A detailed description of the permit extension, and modification to utilize the ILF Program is included in this application. The proposed modification (i.e., permit extension and modification of the mitigation plan to use the ILF Program) is assessed in terms of its likely impact on the review factors.

The following briefly describes the evaluation of factors for the alternatives.

- Conservation. The proposed modification would not adversely affect the conservation of resources. Use of the ILF Program would benefit conservation through creation and enhancement of larger, complete and interrelated wetland areas, located on public lands with high recreational and water resource values (natural moderation of floods, water quality maintenance, and ground water recharge).
- Economics. The use of the ILF Program is similar to Permittee Responsible Mitigation at Phase 2 and Phase 3 of the Lake Irwin mitigation area. Denial of the request to extend the permit timeframe would have a negative impact on the local economy since this would preclude expansion of the OSF and would result in mine closure.
- Aesthetics. Visual impacts would not be impacted by the proposed modifications. Use of the ILF Program would have a higher aesthetic value as the mitigation would occur on public lands, in an area of historic degradation.
- Environmental Concerns. There would be no increase in direct impacts to wetlands in McNulty Gulch. Indirect impacts at the OSF would be extended, given the additional timeframes needed.
- Wetlands. There would be no new wetland impacts. Wetland creation at Lake Irwin would be moved to wetland creation at the Soda Creek area, in an area that would have higher wetland value and greater opportunity to provide natural biological functions (including food chain production, general habitat and nesting, spawning, rearing and resting sites for aquatic or land species).
- Cultural Values. There would be no new impact on cultural values.
- Fish and Wildlife. No new direct impacts to wildlife would occur; indirect impacts to wildlife around the OSF would be extended for five years while the OSF construction continues.
- Flood Hazards. No new flood hazards would be created; flood hazards associated with the OSF would continue on their current trajectory. Mitigation at the Soda Creek site would help improve

natural drainage characteristics, sedimentation patterns, water purification, and enhancement of a larger interrelated wetland area.

- Flood Plain Values. Flood plain values would not be affected, and mitigation at the Soda Creek site would improve local flood attenuation and erosion.
- Land Use. Local land use would not be affected; no additional wetland creation would occur at Lake Irwin. Wetland creation would rather occur at Soda Creek, which is managed by the US Forest Service.
- Navigation. Navigation would not be affected by the proposed modifications.
- Shore Erosion. Shore erosion would not be affected by the proposed modifications.
- Recreation. Lake Irwin mitigation area and the OSF are located on land owned by Climax with no public access. The ILF Programs' Soda Creek mitigation area occurs on public lands, with higher public values.
- Water Supply and Conservation. Water supply or conservation would not be affected, however the rerouting of Lake Irwin discharge waters to the Eagle River basin would restore historic flows from the Robinson Tailings area back to the original basin. Mitigation at the Soda Creek site would improve drainage characteristics, sedimentation patterns, and reduce erosion issues in an important water supply watershed.
- Water Quality. Water quality would not be affected. Mitigation at Soda Creek would improve water quality for an important water supply watershed.
- Energy Needs. Delegated energy needs would not be affected.
- Safety. The proposed modifications do not pose a threat to public safety.
- Food and Fiber Production. The proposed modifications would not affect this factor since there is no agriculture in the area.
- Mineral Needs. Mineral needs would not be affected.
- Property Ownership. Property ownership would not be affected.
- General Needs and Welfare. General needs and welfare would not be affected.

In summary, modifications to the existing permit to extend the timeline and utilize the ILF Program for mitigation would have minor negative impacts, similar in scope and scale to what was considered in the original permit.

Use of the ILF Program's Soda Creek site would have greater cumulative benefits on aquatic resources by improving wetland conditions in a larger interrelated wetland system, which would have greater benefits to wildlife, water quality, scenic and recreational values, and water supply and conservation.

4.0 USE OF NATIONAL FOREST FOUNDATION ILF PROGRAM WETLAND MITIGATION

The use of the National Forest Foundation's Colorado Western Slope ILF Program was contemplated in the Mitigation Plan and Section 404 permit (SPK-2013-00045). In fact, the use of the ILF Program was the preferred mitigation option in the Mitigation Plan (see page 2, Final Compensatory Mitigation and Monitoring Plan; BWC 2016), with permittee-responsible mitigation at Lake Irwin as the second choice. However, in 2017 the ILF Program did not have an approved bank instrument and was not approved to sell credits in a timeframe that would allow Climax to meet their mining schedule needs. The mitigation plan further stated that if the ILF Program was available in the future, purchases of credits could be pursued.

The ILF's mitigation site is in the Soda Creek basin (HUC 140100020401 – Dillon Reservoir), which is within the ILF Program's Blue-Eagle Service Area. The ILF Program is authorized to transfer up to 50 Wetland Advance Credits and 5,000 Stream Advance Credits (**Appendix F**).

The Soda Creek project is located 15.6 miles northeast of the OSF, at an elevation of approximately 9,200 feet (approximately 2,000 feet lower in elevation than McNulty Gulch), within upper montane community types on the White River National Forest. Both the OSF site and Soda Creek are tributary to the Blue River (both sites are within the 8th-level HUC, 14010002 – Blue River). At Soda Creek, the ILF Program is proposing to create 74-acres of wetland reestablishment, and 5-acres of wetland enhancement, and 3,670 linear feet of intermittent stream restoration.

The Soda Creek mitigation work would create upper montane willow (Palustrine Scrub-Shrub [PSS]) and Palustrine Emergent (PEM) wetlands, which would consist of the same dominant plant species as what occurs at McNulty Gulch (e.g., *Salix planifolia, S. monicola, S. dummondiana, S. wolfii, Carex utriculata, C. aquatilis, C. microcarpus, Juncus arcticus*, etc.).

The Soda Creek site would provide a functionally similar PSS/PEM wetland types and would provide a more suitable site to compensate for OSF-impacted stream acreage than the Lake Irwin Phase 2 and Phase 3 sites. The Soda Creek site would further be more beneficial to the aquatic resource given its connectivity to existing streams, wetlands and riparian features, and would cumulatively add more benefit to the basin by reestablishing wetlands and stream features in a severely degraded system, as opposed to constructed wetlands at the Lake Irwin Phase 2 and Phase 3 sites.

Climax is therefore requesting authorization to modify the mitigation plan to authorize the purchase of 27.43 acres of wetland credits and 0.1 acres (450 linear feet) of non-wetland stream credits from the ILF Program.

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APPENDIX A – 2021 LAKE IRWIN MITIGATION MONITORING REPORT

Climax Molybdenum
A Freeport-McMoRan Company

2021 Lake Irwin Monitoring Report

OVERBURDEN STORAGE FACILITY EXPANSION

USACE Project No. SPK-2013-00045

Lake & Summit Counties, Colorado

September 8, 2021

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Appendix

1.0 SUMMARY

This is the fourth annual wetland mitigation monitoring report for the Lake Irwin Mitigation Site, which provides wetland mitigation for the McNulty Gulch Overburden Storage Facility (OSF) expansion project. This report documents the progress made towards providing the mitigation required to offset impacts from expansion of the OSF at the Climax Mine (Climax) in Summit County, Colorado. As described in the "*Final Compensatory Mitigation and Monitoring Plan—Version 2.0 Climax Mine Overburden Storage Facility Expansion*" (aka "Plan", Bikis Water Consultants [BWC] 2017), mitigation will be provided in a phased approach with Phase 1 being the construction of 8.668 acres of mitigation at the Lake Irwin mitigation site to compensate for 3.960 acres of impact in McNulty Gulch. **Figure 1** is a vicinity map which shows the location of the project area, and **Figure 2** shows the locations of the monitoring sites discussed in this report.

In 2018, Phase 1 of the mitigation was completed, which included site preparation, water management installation, and installation of wetland plants. This resulted in the construction of 8.75 acres of scrub-shrub wetlands at the Lake Irwin site. The 2018 mitigation monitoring plan detailed the construction of these wetlands. In 2019 and 2020, supplemental planting occurred in some areas, and water management systems were fine-tuned to improve water distribution.

This monitoring report for 2021 includes documentation of current vegetation establishment at plots and transects at the Lake Irwin site, and documentation of conditions from fixed photo points. **Figure 2** shows the locations of the plots, transects and photo points. Results from 2021 monitoring indicate a doubling of vegetation coverage and wetland species cover within vegetation plots and along vegetation transects since 2020. Additionally, volunteer wetland plant species, and notably willows (*Salix* spp.) are continuing to infill areas.

2.0 BACKGROUND

Authorization to impact 16.48 acres of wetlands and other waters of the United States (WoUS) for the McNulty Gulch Overburden Storage Facility was issued by the U.S. Army Corps of Engineers (USACE) in 2016 under SPK-2013-00045. As required, the final compensatory mitigation and monitoring plan (BWC 2017) was submitted in 2017. This Plan was prepared consistent with the "2015 Regional Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division" (2015 Guidelines), the Final Mitigation Rule (33 CFR Parts 325a and 332, and 40 CFR Part 230), and the USACE Regulatory Guidance Letter No. 08-03.

The Plan called for a phased approach to providing wetland mitigation based on projected impacts to wetlands in McNulty Gulch, with Phase 1 being the construction of 8.668 acres of wetlands at the Lake Irwin mitigation site to compensate for 3.960 acres of wetland impact in McNulty Gulch, based on a USACE-prescribed mitigation ratio of 2.2:1.

The objective of the mitigation is to fully replace the aquatic resources (wetlands) impacted by the OSF project. This would be accomplished by creating wetlands of similar function and value at the Lake Irwin site and providing wetlands at the other areas included in the Final Mitigation Plan, if available and feasible (e.g., future mitigation could include participation in the Western Slope In-lieu Fee Program or purchase of mitigation credits at an approved mitigation bank).

The USACE permit requires monitoring of the mitigation site and submittal of an annual monitoring report by October 1st of each year for at least 5 years following construction of the mitigation, or until the performance standards in the Plan are met (which ever period is longer). In a November 14, 2018 phone conversation with Matt Montgomery with the Corps Grand Junction office, Climax is allowed up to December 31 to submit the annual report instead of October 1 as stated in Special Condition 6.a of the permit. In addition, the USACE has stipulated that it is necessary to demonstrate continued success of the mitigation for three consecutive years without human intervention (the period for which can be concurrent with the 5-year monitoring period). The ecological performance standards included in the Plan for the mitigation are shown below in **Table 1** (from BWC 2017).

Table 1. Wetland Mitigation Performance Standards

PS No.[2]	Scientific Name	Standard	Target	Measure
21	Hydrologic	Saturated soil	≥ 90% of site has saturated soil	Soil pits, visual
			≥ 50% of growing season	
27	Vegetation	Dominance of hydrophytes	≥ 80% cover of hydrophytic species	Plots and transects
26	Vegetation	Tree and shrub survival	≥ 60% survival planted species	Counts
29	Vegetation	Weeds	< 10% cover is upland weeds.	Plots and transects

Notes:
NRCS = National Resources Conservation Service
PS = Performance Standard
FACWet = Functional Assessment of Colorado Wetlands

Footnotes:
1) As determined using the Regulatory Program Uniform Performance Standards Compensatory Mitigation Requirements (12505-SPD) for the South Pacific Division, based on site characteristics and FACWet analysis.
2) Per attachment 12505.1.

The final design of Phase 1 at Lake Irwin was completed by TetraTech in the spring of 2017. The earthwork was started in the summer of 2017 and was completed in early August 2018. A combination of containerized herbaceous wetland plants and containerized willows and willow cuttings were installed. The willows were obtained from the area of the OSF expansion in McNulty Gulch in late spring of 2018, and prepared and treated for planting later in the summer. More details on the Phase 1 construction, including an as-built drawing, can be found in the 2018 and 2019 mitigation monitoring reports.

As mentioned, supplemental planting of wetland plants occurred in the Phase I area of Lake Irwin in the summer of 2019 and 2020 to fill in small areas where initial plantings were not establishing well. Additional water management, including more dispersed water distribution, supplemental watering, and drainage improvements occurred in 2019 to help assist wetland establishment and continued throughout the summer of 2020.

Figure 1. Project Area

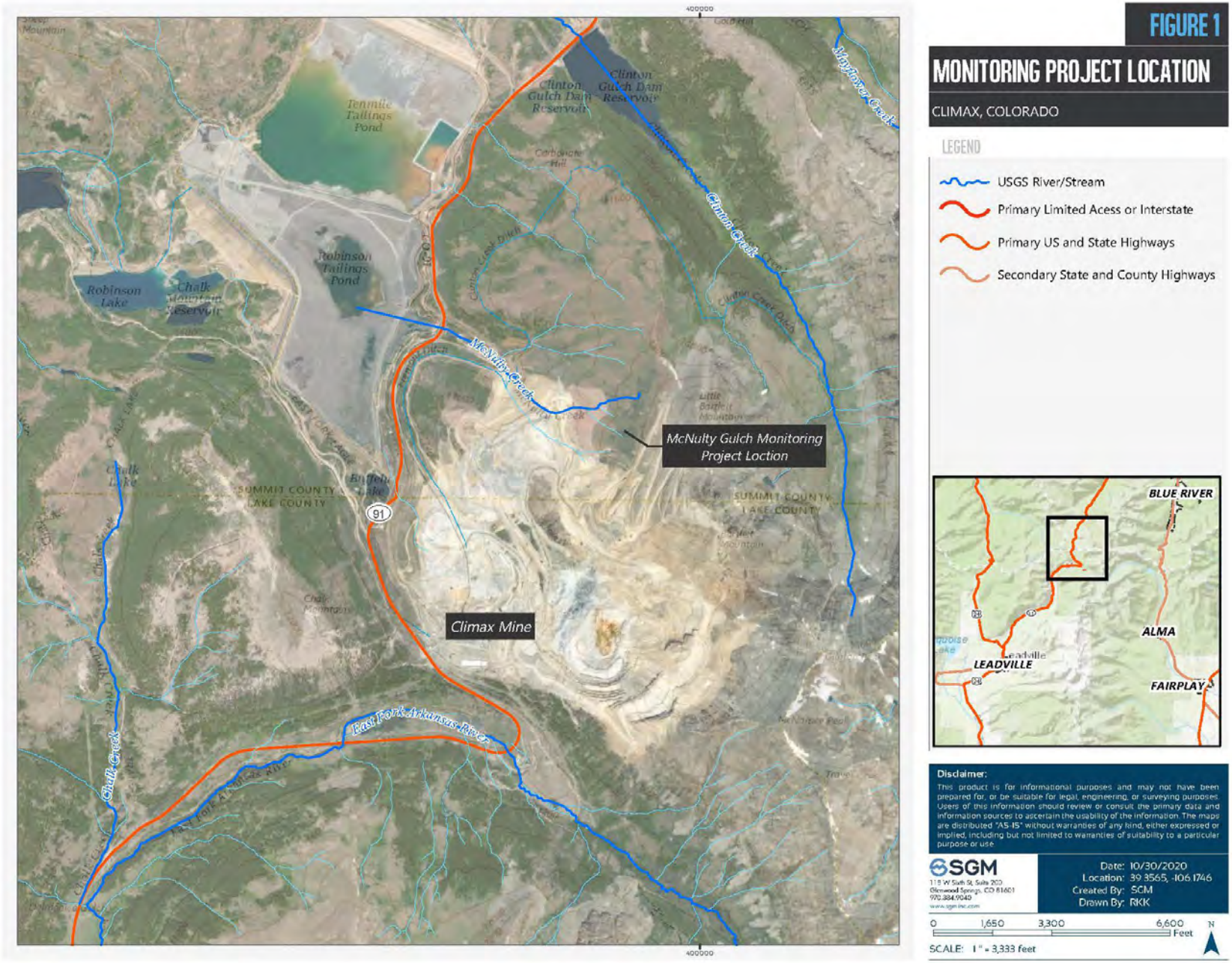
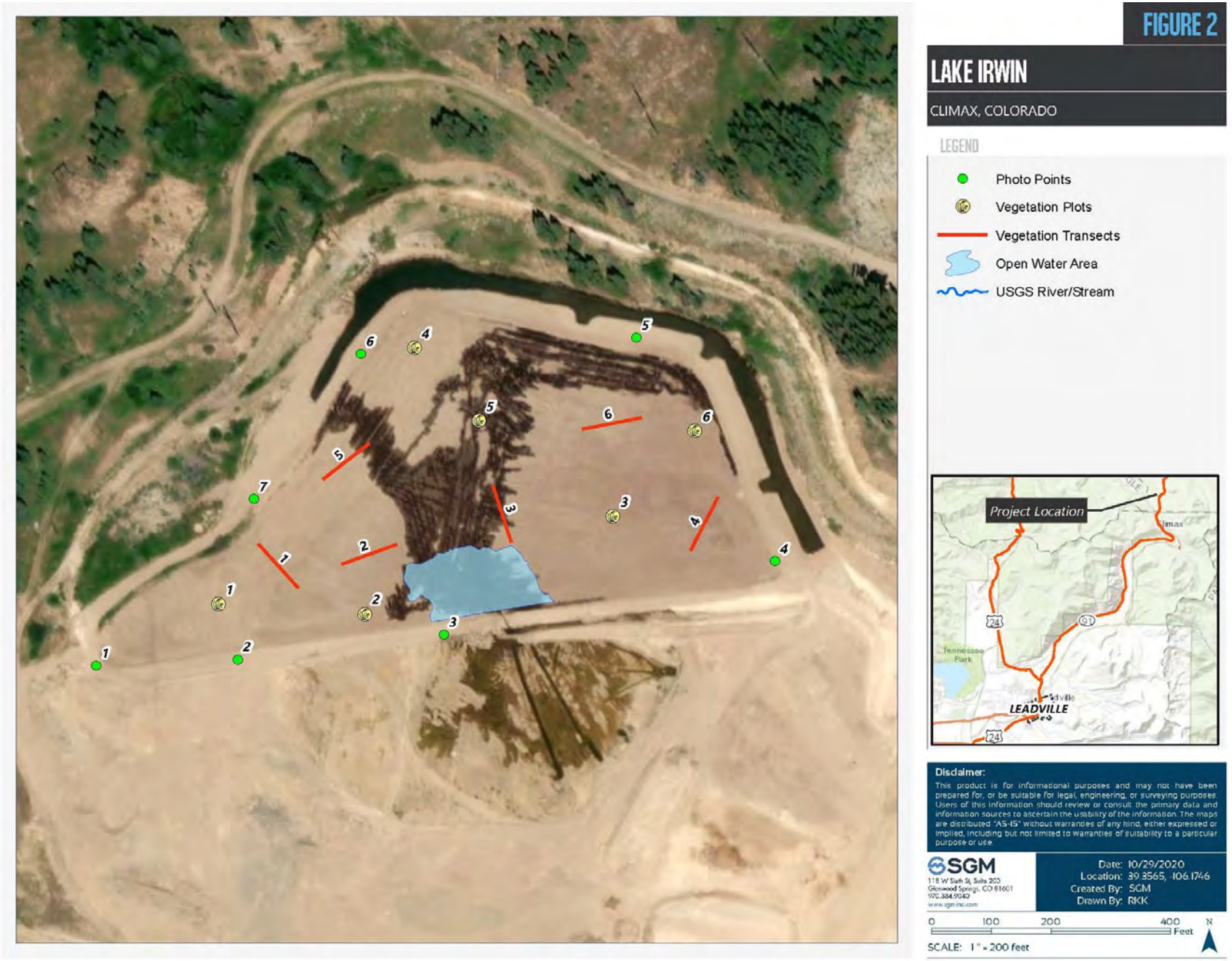


Figure 2. Monitoring Locations



3.0 METHODS

Six 100-foot monitoring transects were established within the Project area in 2018. The transects are marked by t-posts at the start and end. Six, one-square meter, vegetation plots were established in 2018; with some corners marked with t-posts (many of these t-posts have fallen and will need to be replaced in 2022). Seven photo points were established in 2018.

The start and end points of the transect, the center of the vegetation plots, and the photo points were recorded in the field using sub-meter accuracy GPS units. The transects, vegetation plots, and photo points were located to represent the vegetation communities planted at the Lake Irwin area. The transect and vegetation plots were monitored on August 19, 2021.

3.1 Vegetation Plots

The percent cover of plant species was ocularly estimated in the plots, simplified by evaluating quadrants in the plots and observing one square-foot section areas. One square-foot equals approximately 10 percent of the plot area. All results are summarized in section **4.1. Summary of Vegetation Plot Data.**

3.2 Line-Point Intercept Transect

Vegetative cover was estimated using a line-point intercept method. After stretching a tape along the 100-foot transect, vegetation was evaluated at 1-foot intervals along the tape. At each interval, vegetation was viewed and identified to species. Data were recorded at the center of the transect tape, these data are identified on the data sheets as 100 data points.

Vegetation data included the first species sighted. If no vegetation was present, abiotic surface conditions such as soil, litter, or rock was recorded. If there was multi-layered coverage at the measurement point, with multiple species being sighted, a second recording was listed for the layer of vegetation underneath the first, and a third vegetation species was also recorded if present.

Percent absolute cover was calculated using the first hits only. Therefore, the percent absolute coverage for a given species is the number of first hits on that species divided by the total number of measurements (100 in this case). This includes the abiotic surface; for example, the percent absolute cover of soil is reported.

Percent relative cover is the sum of all hits for a given species (including first, second, and third hits), divided by the total number of vegetation hits on the transect. Abiotic surface is not included in the sum of hit or in the calculation of relative cover. Relative cover is intended to account for the potential for species abundance on the transect, but consistently overtopped by other taller species. All results are summarized in section **4.2 Summary of Transect Data**, and all data sheets are provided in **Appendix D – Transect Data Forms.**

3.3 Photos

Photos were taken at each vegetation plot showing the ground surface and the plot area. A photo was also taken of the ground surface and general vegetation conditions at the start of the transect. All photos are provided in **Appendix C – Photo Points**.

4.0 MONITORING RESULTS SUMMARY

Overall vegetation coverage and wetland species percentage has increased favorably from 2019 to 2021. Wetland species are becoming more established, and visual improvement can be seen by photo comparisons. There is an open ponded area near the south culvert/headgate, with current water depths too deep to allow for successful vegetation establishment. If vegetation coverage in this area does is not improved within the next year, it may be beneficial to bring in additional soil and supplemental planting may be considered.

4.1 Summary of Vegetation Plot Data

In summary, vegetation plots have positively increased in total vegetation coverage to an average of 72.5% (up from 3-10% in 2019 to 4-24% in 2020, to more than doubling to 56-123% in 2021). The percentage of wetland species which are ≥FAC increased from 2019 to 2020 but dropped slightly in 2021 as more volunteer species become established. Vegetation plots have also increased in species diversity, with a notable establishment of native volunteer species. Dominant species in plots includes foxtail (*Alopecurus aequalis* – OBL), water sedge (*Carex aquatilis* – OBL), salt sandspurry (*Spergularia salina* – OBL), and smallwing sedge (*Carex microptera* – FACU).

Table 2. Vegetation Plot Data, 2019 to 2021 Comparison

Veg Plot	Year	Vegetation Coverage	Wetland Species (FAC-OBL)	Dominant Species
1	2021	66%	90%	Water sedge
	2020	14%	93%	Water sedge
	2019	4%	100%	Water sedge
2	2021	30%	100	Water sedge
	2020	4%	100%	Beaked sedge
	2019	7%	71%	Water sedge
3	2021	60%	88%	Salt sandspurry
	2020	20%	100%	Foxtail
	2019	3%	100%	Beaked sedge
4	2021	75%	82%	Shortawn foxtail
	2020	19%	95%	Shortawn Foxtail
	2019	8%	50%	Field horsetail
5	2021	123%	85%	Field horsetail
	2020	14%	88%	Field horsetail
	2019	9%	55%	Alpine bluegrass
6	2021	56%	71%	Salt sandspurry
	2020	24%	88%	Salt sandspurry
	2019	10%	30%	Erect knotweed

Table 3: Vegetation Plots Species Summary for 2021

Species		Wetland Rating[2]	% Composition					
			Plot					
Scientific Name	**Common Name**		**1**	**2**	**3**	**4**	**5**	**6**
Achillea millefolium	Western yarrow	FACU						1
Agropyron sp.	*Agropyron sp.*	NA				1	3	
Agrostis gigantea	Black bent	FAC					10	
Alopecurus aequalis	Shortawn foxtail	OBL	2		11	45	16	1
Carex aquatilis	Water sedge	OBL	14	26	3	3		
Carex heteroneura	Different-nerve sedge	FAC				2		
Carex microptera	Smallwing sedge	FACU	8		7	7	11	
Carex sp. (no seed heads)	*Carex* species	NA						2
Carex utriculata	Beaked sedge	OBL		4		1		
Chamaenerion angustifolium	Fireweed	FACU						
Deschampsia caespitosa	Tufted hairgrass	FACW	5		2	4	8	8
Descurainia sophia	Flixweed	NA					1	
Epilobium ciliatum	Fringed willowherb	FACW	1				5	
Equisetum arvense	Field horsetail	FAC	6		2	4	38	
Frasera ovalis	Wild strawberry	NL						
Geum macrophyllum	Large-leaf avens	FAC						
Juncus balticus	Baltic rush	FACW				1	5	
Juncus ensifolius	Swordleaf rush	FACW	12				3	
Phleum alpinum	Alpine Timothy	FAC	1					
Poa alpina	Alpine bluegrass	FAC	8				2	
Poa pratensis	Kentucky bluegrass	FAC					2	18
Polygonum erectum	Erect knotweed	FACU						
Potamogeton sp.	Pondweed species	OBL			2			
Rumex Ssp.	Dock	FACW	3		4		9	
Salix brachycarpa	Barrenground willow	FACW	2					
Salix monticola	Mountain willow	FACW				4		3
Salix planifolia	Tea leaf willow	OBL			1			
Spergularia salina	Salt sandspurry	OBL			27			24
Symphyotrichum foliaceum	Leafybract aster	FACU				4		
Trifolium repens	White clover	FAC			2		18	
Unknown Forb	Unknown Forb	NA						
Veronica americana	American speedwell	OBL	4		1	3	10	
Bare ground/litter	NA							
Total plant cover:			66	30	62	79	141	57
Percent cover wetland species[3]:			58%	30%	55%	67%	126%	54%

4.2 Summary of Transect Data

In summary, vegetation transects show that in the past year, vegetation coverage has more than doubled across the site, with vegetation coverage now averaging 50 percent. Vegetation has increased in species diversity, and with a notable establishment of native volunteer species; the percentage of ≥FAC species has decreased slightly. Nevertheless, the site is still strongly dominated by hydric species, with an average of 85% of the species being ≥FAC. Dominant species include foxtail (*Alopecurus aequalis* – OBL), water sedge (*Carex aquatilis* – OBL), salt sandspurry (*Spergularia salina* – OBL), tufted hairgrass (*Deschampsia caespitosa* – FACW), and water dock (*Rumex aquatilis* – FACW). Data forms are provided in **Appendix D**.

Table 4. Vegetation Transect Data, 2019 to 2020 Comparison

Transect	Year	Vegetation Coverage	Wetland Species (FAC-OBL)	Dominant Species
1	2021	54%	76%	Foxtail
	2020	24%	92%	Foxtail
	2019	17%	13%	Knotweed
2	2021	50%	87%	Foxtail
	2020	11%	100%	Beaked sedge
	2019	11%	9%	Water sedge
3	2021	35%	100%	Foxtail
	2020	10%	100%	Water sedge
	2019	9%	9%	Beaked sedge
4	2021	55%	87%	Salt sandspurry
	2020	16%	100%	Rumex
	2019	23%	22%	Beaked sedge
5	2021	51%	82%	Horsetail
	2020	18%	100%	Beaked sedge
	2019	27%	26%	Beaked sedge
6	2021	56%	75%	Salt sandspurry
	2020	32%	91%	Foxtail
	2019	24%	20%	Beaked sedge

Table 5: Transect Species Summaries for 2021

Scientific Name	Common Name	Wetland Rating[2]	Percent Composition					
			1	2	3	4	5	6
Agrostis gigantea	Blackbent	FACW	2					
Alopecurus aequalis	Short awned foxtail	OBL	9	19	7	1	9	9
Alopecurus geniculaturs	Marsh meadow foxtail	OBL		3	2			
Carex aquatilis	Water sedge	OBL	2	16	16	3	7	3
Carex microptera	Small wing sedge	FACU		1			2	2
Carex nebrascensis	Nebraska sedge	OBL						
Carex utriculata	Beaked sedge	OBL		2	7		7	2
Corydalis aurea	Golden smoke	NL				1		
Deschampsia caespitosa	Tufted hairgrass	FACW		3	1	12	5	4
Elymus glaucus	Blue wildrye	FACU	8				1	2
Elymus trachycaulus	Slender wheatgrass	FAC						
Epilobium cilliatum	Willowherb	FACW				1		2
Equisetum arvense	Horsetail	FAC	1				10	
Erigeron peregrinus	Subalpine fleabane	FACW	6				3	2
Geum macrophyllum	Large-leaf avens	FAC	1					
Juncus arcticus	Arctic rush	FACW				2		2
Linnaria vulgaris[3]	Yellow toadflax	NL						1
Mertensia ciliata	Bluebells	FACW						
Phluem aplinum	Alpine Timothy	FAC				2		2
Poa alpina	Alpine bluegrass	FAC	3		1	5	1	5
Polygonum erectus	Knotweed	FACU	4					
Potentilla pulcherrima	Soft cinquefoil	FAC				1		
Rumex aquatilis	Dock	FACW	8	2		6	1	2
Salix monticola	Mountain willow	FACW	1					2
Salix planifolia	Tea leaf willow	OBL	1			2		
Salix wolfii	Wolf willow/Idaho willow	OBL				1		
Spergularia salina	Salt sandspurry	OBL		4		18	1	14
Symphyotrichum foliaceum	Leafybract aster	FACU						
Taraxacum officinale	Dandelion	FACU	2			1		1
Trifolium repens	White clover	FAC				1		
Unknown forb	Unk Forb	NA						
Litter	NA	NA	1	0			5	6
Water	NA	NA			65			
Bare ground	NA	NA	45	50	NA	44	44	39
Total plant cover:			54	50	35	55	51	56
Percent species FAC or wetter[3]:			76%	87%	100%	87%	82%	75%

1) Based on ratings in Updated National Wetland Plant list (2016) for Western Mountains and Valleys, as follows: UPL=Upland (found in wetlands zero percent of the time); FACU=facultative upland (found in wetlands 1 - 33% of the time); FAC=Facultative (found in wetlands 34 - 66% of the time); FACW=Facultative wetland (found in wetlands 67 - 99% of the time); OBL=Obligate wetland (found in wetlands 99 - 100% of the time).
2) Species rated FAC, FACW, plus OBL.
3) Noxious Weed

5.0 PLANT SPECIES INVENTORY FOR WILDLIFE HABIAT CONSERVATION CERTIFICATION

An inventory of the plant species present in the Lake Irwin mitigation site was completed on August 19, 2021. The methods used were consistent with the guidelines for plant species inventories provided by the Wildlife Habitat Council and entailed:

- Review of past reports and existing information on the plant species planted and/or identified previously at the two project sites;
- Identification of the different habitat types (plant communities) present at each of the project sites;
- Canvassing of each habitat type to observe the plant species present and make a list;
- Collection of any unknown plants for subsequent identification in the office.

Field observations were recorded for each wildlife habitat type on a standard field form. A goal of the field work was to identify as many species as possible, and to the species or genus level of taxonomy. Representative photographs of each habitat type were also taken.

5.1 Results

Representative photographs of the sites are provided in **Appendix A - C**. **Table 6** (below) lists the plant species documented as occurring in the project area. This tables also indicate whether the plant is native or non-native, and if it has been observed previously at the site.

Table 6: Plant Species List for 2021

Scientific Name	Common Name	Date Last Observed	Native or Non-native
Achillea millefolium	Yarrow	2021	Native
Agropyron sp.	*Agropyron sp.*	2021	Unkown
Agrostis alba	Redtop	2021	Native
Agrostis gigantea	Black bent	2021	Non-native
Alopecurus aequalis	Snort-awned foxtail	2021	Native
Alopecurus geniculaturs	Marsh meadow foxtail	2021	Native
Bromus anomalus	Nodding brome	2021	Native
Bromus inermis	Smooth brome	2021	Non-native
Bromus marginatus	Mountain brome	2021	Native
Calamagrostis canadensis	Blue joint	2021	Native
Carex aquatilis	Water sedge	2021	Native
Carex heteroneura	Different-nerve sedge	2021	Native
Carex microptera	Small wing sedge	2021	Native
Carex nebrascensis	Nebraska sedge	2021	Native
Carex praegracilis	Field sedge	2021	Native
Carex simulata	Analogue sedge	2021	Native
Catelleja sulphurea	Yellow paintbrush	2021	Native
Chamerion angustifolium	Fireweed	2021	Native
Cirsium arvense	Canada thistle	2021	Non-native
Cirsium scopulorum	Rocky mountain thistle	2021	Native
Corydalis aurea	Golden smoke	2021	Native
Dasiphora fruiticosa	Shrubby cinquefoil	2021	Native
Deschampsia cespitosa	Tufted harigrass	2021	Native

Scientific Name	Common Name	Date Last Observed	Native or Non-native
Descurainia sophia	Flixweed	2021	Native
Elymus trachycaulus	Slender wheatgrass	2021	Native
Epilobium cilliatum	Willowherb	2021	Native
Equisetum arvense	Field horsetail	2021	Native
Erigeron peregrinus	Subalpine fleabane	2021	Native
Festuca idahoensis	Idaho fescue	2021	Native
Fragaria vesca	Strawberry	2021	Native
Geum macrophyllum	Large-leaf avens	2021	Native
Juncus arcticus	Arctic rush	2021	Native
Juncus ensifolius	Swordleaf rush	2021	Native
Koeleria macrantha	Junegrass	2021	Native
Linnaria vulgaris	Yellow toadflax	2021	Non-native
Lupinus argenteus	Lupine	2012	Narive
Mertensia ciliata	Bluebells	2021	Native
Moss	Moss	2021	Native
Pedicularis goenlandica	Elephanthead	2021	Native
Penstemon strictus	Rocky Mountain penstemon	2021	Native
Penstemon whippleanus	Whipple's penstemon	2021	Native
Phleum alpinum	Alpine Timothy	2021	Native
Phleum pratense	Timothy	2021	Non-native
Poa alpina	Alpine bluegrass	2021	Native
Polygonum erectum	Knotweed	2021	Native
Potentilla pulcherrima	Beautiful cinquefoil	2021	Native
Rhodiola rhodantha	Queen crown	2021	Native
Rumex crispus	Curly dock	2021	Native
Salix brachycarpa	Barrenground willow	2021	Native
Salix geyeriana	Geyer willow	2021	Native
Salix planifolia	Planeleaf willow	2021	Native
Salix wolfii	Wolf willow/Idaho willow	2021	Native
Senecio integerrimus	Meadow groundsel	2021	Native
Senecio triangularis	Arrowleaf ragwort	2021	Native
Spergularia salina	Salt sandspurry	2021	Native
Symphyotrichum foliaceum	Leafybract aster	2021	Native
Taraxacum officinale	Common dandelion	2021	Non-native
Trifolium repens	White clover	2021	Non-native
Trisetum spicatum	Spike trisetum	2021	Native
Veronica americana	American speedwell	2021	Native

6.0 DISCUSSION

The percent cover of vegetation at the Lake Irwin site dramatically improved in the past year, with vegetation cover more than doubling. Current vegetation cover is now around 50% to 72.5% (transect and plot data, respectively), with 85% of the species being ≥FAC. There is still a noticeable amount of variation of moisture conditions at the site due to waters failing to disperse evenly across the site, which may have a minor impact on plant establishment, but it is not likely significant at this time.

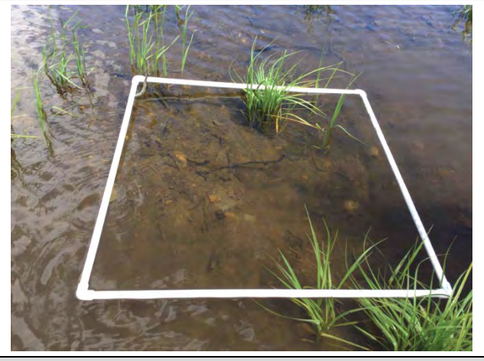
A number of volunteer willow starts were noticed, and planted willows continue to out-perform the willow stakes, which was expected. Natural or "volunteer" establishment of the site by other wetland species has continued to expand in 2021. Noxious weed and undesirable species cover is very limited.

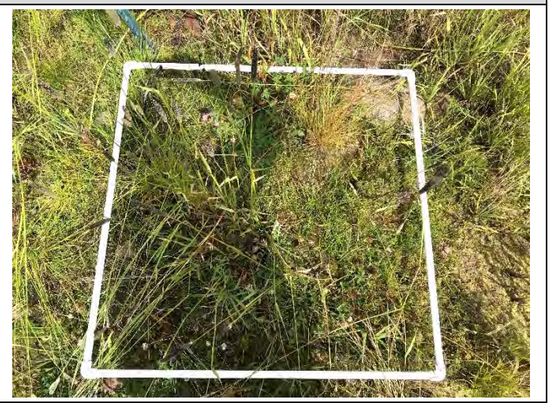
Recommendations. In 2022, we recommend continuing to work on better and more even water distribution and filling in deeper, flooded areas with soil to allow plant establishment.

In 2021, many of the plot and transect t-posts had fallen, and we recommend replacing them with rebar or reinstalling them in 2022.

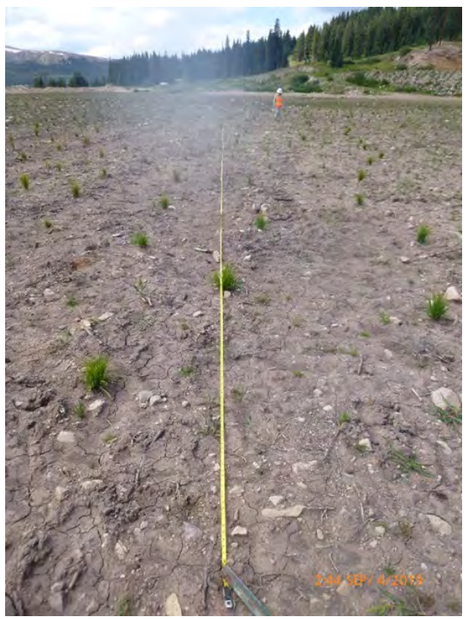
Collection of vegetation heights may be useful in the next two annual monitoring years to assist in the measurement of scrub-shrub establishment success.

APPENDIX A – VEGETATION PLOT PHOTOS

2019	2020	2021
		
Vegetation Plot 1		
		
Vegetation Plot 2		
No Photo Available		
Vegetation Plot 3		

2019	2020	2021
No Photo Available		
Vegetation Plot 4		
No Photo Available	No Photo Available	
Vegetation Plot 5		
No Photo Available		
Vegetation Plot 6		

APPENDIX B – TRANSECT PHOTOS

2019	2020	2021
		
Transect 1		
		
Transect 2		

2019	2020	2021
No Photo Available		
Transect 3		
No Photo Available		
Transect 4		

2019	2020	2021
No Photo Available		
Transect 5		
No Photo Available		
Transect 6		

APPENDIX C – PHOTO POINTS

2018	2019	2020	2021
			
Photo Point 1			
No Photo Available			
Photo Point 2			
			
Photo Point 3			

2018	2019	2020	2021
No Photo Available			
Photo Point 4			
No Photo Available			
Photo Point 5			
			
Photo Point 6			

2018	2019	2020	2021
			
Photo Point 7			

APPENDIX D – TRANSECT DATA FORMS

Page	1	of	1	Observer	E. Petterson				Gray cells for indicator calculations							
Plot		Line	1	Recorder	I. Montoya		Line Length	100	m or ft?	ft			Height units	in		
														cm or in?		
	Direction		Date	0819/2021		Intercept (Point) Spacing Interval		12			Intercept units	in				
				mm/dd/yyyy								cm or in?				

	Top	Grass	Shrub	Lower Canopy Layers			Soil		Top	Grass	Shrub	Lower Canopy Layers			Soil
Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface	Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface
1	geumac							51	aloaeq						
2	salpla			aloaeq				52	NONE						S
3	NONE						S	53	aloaeq						
4	agrgig							54	NONE						S
5	NONE			L			L	55	achmil						
6	verame							56	NONE						S
7	agrgig							57	NONE						S
8	NONE						S	58	elygla						
9	NONE						S	59	NONE						S
10	NONE						S	60	poaalp						
11	aloaeq							61	rumaqu						
12	NONE						S	62	eriper						
13	potpul							63	potpul						
14	poaalp							64	elygla						
15	fraova							65	elygla						
16	aloaeq							66	poaalp						
17	aloaeq							67	NONE						S
18	aloaeq							68	NONE						S
19	polere							69	elygla						
20	NONE						S	70	elygla						
21	rumaqu							71	NONE						S
22	NONE						S	72	elygla						
23	polere							73	NONE						S
24	rumaqu							74	NONE						S
25	rumaqu							75	aloaeq						
26	NONE						S	76	NONE						S
27	love							77	NONE						S
28	NONE						S	78	elygla						
29	NONE						S	79	aloaeq						
30	rumaqu							80	caraqu						
31	rumaqu							81	salmon						
32	NONE						S	82	NONE						S
33	NONE						S	83	NONE						S
34	NONE						S	84	NONE						S
35	polere							85	NONE						S
36	NONE						S	86	elygla						
37	NONE						S	87	caraqu						
38	NONE						S	88	NONE						S
39	NONE						S	89	rumaqu						
40	achmil							90	NONE						S
41	eriper							91	eriper						
42	NONE						S	92	NONE						S
43	taroff							93	eriper						
44	NONE						S	94	rumaqu						
45	NONE						S	95	eriper						
46	taroff							96	NONE						S
47	equarv							97	NONE						S
48	NONE						S	98	polere						
49	eriper							99	NONE						S
50	NONE						S	100	NONE						S

% canopy cover =	54	Average Grass Height	
% bare ground =	45		
		Average Shrub Height	
% basal cover =	55		
% litter =	1		

Notes:

Page	1	of	1	Observer	E. Petterson				*Gray cells for indicator calculations*						
Plot		Line	2	Recorder	I. Montoya		Line Length	100	m or ft?	ft			Height units	in	cm or in?
	Direction		Date	08/19/21 mm/dd/yyyy		Intercept (Point) Spacing Interval		12			Intercept units	in cm or in?			

Pt.	Top Canopy	Grass Ht.	Shrub Ht.	Lower Canopy Layers Code1	Code2	Code3	Soil Surface	Pt.	Top Canopy	Grass Ht.	Shrub Ht.	Lower Canopy Layers Code1	Code2	Code3	Soil Surface
1	aloaeq							51	NONE						S
2	spesal							52	NONE						S
3	NONE						S	53	NONE						S
4	caraqu							54	caraqu						
5	NONE						S	55	caraqu						
6	NONE						S	56	NONE						S
7	NONE						S	57	NONE						S
8	rumaqu							58	NONE						S
9	NONE						S	59	NONE						S
10	aloaeq							60	caraqu						
11	aloaeq							61	caraqu						
12	NONE						S	62	NONE						S
13	spesal							63	NONE						S
14	NONE						S	64	aloaeq			descae			
15	aloaeq							65	NONE						S
16	NONE						S	66	alogen						
17	NONE						S	67	alogen						
18	descae							68	NONE						S
19	descae							69	NONE						S
20	caraqu							70	NONE						S
21	NONE						S	71	NONE						S
22	carmic							72	aloaeq						
23	caraqu							73	aloaeq						
24	NONE						S	74	aloaeq						
25	NONE						S	75	NONE						S
26	NONE						S	76	NONE						S
27	spesal							77	NONE						
28	NONE						S	78	caraqu						
29	caraqu							79	caraqu						
30	NONE						S	80	NONE						S
31	NONE						S	81	caraqu						
32	NONE						S	82	NONE						S
33	spesal							83	NONE						S
34	aloaeq							84	caraqu						
35	alogen							85	carutr						
36	rumaqu							86	NONE						S
37	aloaeq							87	aloaeq						
38	NONE						S	88	aloaeq						
39	aloaeq							89	carutr						
40	NONE						S	90	NONE						S
41	caraqu							91	NONE						S
42	NONE						S	92	NONE						S
43	aloaeq							93	NONE						S
44	NONE						S	94	caraqu						
45	NONE						S	95	aloaeq						
46	caraqu							96	NONE						S
47	aloaeq							97	NONE						S
48	aloaeq							98	NONE						S
49	aloaeq							99	NONE						S
50	aloaeq							100	caraqu						

% canopy cover =	49	Average Grass Height	Notes:
% bare ground =	50		
		Average Shrub Height	
% basal cover =	50		
% litter =	0		

Page	1	of	1	Observer	E. Petterson				Gray cells for indicator calculations						
Plot		Line	3	Recorder	I. Montoya		Line Length	100	m or ft?	ft			Height units	in	
														cm or in?	
	Direction		Date	08/19/21		Intercept (Point) Spacing Interval		12			Intercept units	in			
				mm/dd/yyyy								cm or in?			

	Top	Grass	Shrub	Lower Canopy Layers			Soil		Top	Grass	Shrub	Lower Canopy Layers			Soil
Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface	Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface
1	NONE						S	51	carutr						
2	NONE						S	52	carutr						
3	NONE						S	53	NONE						S
4	NONE						S	54	NONE						S
5	aloaeq							55	NONE						S
6	aloaeq							56	NONE						S
7	caraqu							57	NONE						S
8	caraqu							58	alogen						
9	caraqu							59	NONE						S
10	NONE						S	60	NONE						S
11	NONE						S	61	NONE						S
12	caraqu							62	NONE						S
13	caraqu							63	NONE						S
14	caraqu							64	aloaeq						
15	NONE						S	65	aloaeq						
16	NONE						S	66	aloaeq						
17	caraqu							67	NONE						S
18	NONE						S	68	NONE						S
19	NONE						S	69	NONE						S
20	NONE							70	NONE						S
21	alogen							71	NONE						S
22	caraqu							72	NONE						S
23	caraqu							73	poaalp						
24	caraqu							74	NONE						S
25	descae							75	NONE						S
26	caraqu							76	NONE						S
27	caraqu							77	NONE						S
28	caraqu							78	NONE						S
29	NONE						S	79	NONE						S
30	NONE						S	80	NONE						S
31	NONE						S	81	carutr						
32	NONE						S	82	carutr						
33	NONE						S	83	carutr						
34	NONE						S	84	carutr						
35	NONE						S	85	NONE						S
36	NONE						S	86	NONE						S
37	aloaeq							87	NONE						S
38	NONE						S	88	NONE						S
39	caraqu							89	NONE						S
40	caraqu							90	NONE						S
41	caraqu							91	NONE						S
42	aloaeq							92	NONE						S
43	carutr							93	NONE						S
44	NONE						S	94	NONE						S
45	NONE						S	95	NONE						S
46	NONE						S	96	NONE						S
47	NONE						S	97	NONE						S
48	NONE						S	98	NONE						S
49	NONE						S	99	NONE						S
50	NONE						S	100	NONE						S

% canopy cover =	34	Average Grass Height	Notes:
% bare ground =	65		
		Average Shrub Height	
% basal cover =	35		
% litter =	0		

Page	1	of	1	Observer	E. Petterson				*Gray cells for indicator calculations*						
Plot		Line	4	Recorder	I. Montoya	Line Length	100	m or ft?	ft			Height units	in		
													cm or in?		
	Direction		Date	08/19/21	Intercept (Point) Spacing Interval		12			Intercept units	in				
				mm/dd/yyyy							cm or in?				

	Top	Grass	Shrub	Lower Canopy Layers			Soil		Top	Grass	Shrub	Lower Canopy Layers			Soil
Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface	Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface
1	NONE						S	51	junarc						
2	coraur							52	spesal						
3	NONE						S	53	spesal						
4	NONE						S	54	spesal						
5	NONE						S	55	NONE						S
6	spesal							56	spesal						
7	salpla							57	NONE						S
8	NONE						S	58	rumaqu						
9	taroff							59	poaalp						
10	poaalp							60	spesal						
11	NONE						S	61	NONE						S
12	NONE						S	62	descae						
13	NONE						S	63	descae						
14	aloaeq							64	NONE						S
15	NONE						S	65	junarc						
16	spesal							66	NONE						S
17	spesal							67	NONE						S
18	NONE						S	68	NONE						S
19	spesal							69	NONE						S
20	spesal							70	NONE						S
21	NONE						S	71	NONE						S
22	NONE						S	72	NONE						S
23	descae							73	epicil						
24	NONE						S	74	descae						
25	NONE						S	75	NONE						S
26	descae			spesal				76	salpla						
27	spesal							77	NONE						S
28	descae							78	descae			poaalp			
29	descae							79	NONE						S
30	NONE						S	80	descae						
31	NONE						S	81	spesal						
32	potpul							82	spesal						
33	NONE						S	83	rumaqu						
34	caraqu							84	descae						
35	spesal							85	salbra						
36	NONE						S	86	poaalp						
37	NONE						S	87	rumaqu						
38	NONE						S	88	NONE						S
39	rumaqu							89	NONE						S
40	NONE						S	90	caraqu			descae			
41	caraqu							91	poaalp						
42	trirep							92	NONE						EL
43	spesal							93	NONE						S
44	spesal							94	NONE						S
45	NONE						S	95	descae						
46	NONE						S	96	descae						
47	spesal							97	phlalp						
48	rumaqu							98	rumaqu						
49	NONE						S	99	NONE						S
50	NONE						S	100	salwol						

% canopy cover =	55	Average Grass Height	
% bare ground =	44		
		Average Shrub Height	
% basal cover =	55		
% litter =	0		

Notes:

Page	1	of	1	Observer	E. Petterson				Gray cells for indicator calculations						
Plot		Line	5	Recorder	I. Montoya		Line Length	100	m or ft?	ft			Height units	in	
														cm or in?	
	Direction		Date	08/19/21		Intercept (Point) Spacing Interval		12			Intercept units	in			
				mm/dd/yyyy								cm or in?			

	Top	Grass	Shrub	Lower Canopy Layers			Soil		Top	Grass	Shrub	Lower Canopy Layers			Soil
Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface	Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface
1	NONE						S	51	caraqu						
2	NONE						S	52	NONE						S
3	NONE						S	53	NONE						S
4	NONE			L			EL	54	NONE						S
5	NONE			L			EL	55	aloger						
6	aloaeq							56	NONE						S
7	NONE						S	57	NONE						S
8	elygla							58	aloaeq						
9	NONE						S	59	aloger						
10	descae							60	carutr						
11	NONE			L			EL	61	aloger						
12	caraqu							62	NONE						S
13	NONE						S	63	descae						
14	equarv							64	descae						
15	equarv							65	carutr						
16	aloaeq							66	caraqu						
17	equarv							67	aloaeq						
18	equarv							68	NONE						S
19	NONE						S	69	eriper						
20	NONE						S	70	NONE						S
21	spesal							71	carutr						
22	NONE						S	72	carutr						
23	NONE						S	73	descae						
24	NONE						S	74	descae			aloaeq			
25	aloaeq							75	carmic						
26	NONE						S	76	NONE						S
27	NONE						S	77	aloger						
28	NONE						S	78	carutr						
29	NONE						S	79	NONE						S
30	equarv							80	aloger						
31	NONE						S	81	equarv						
32	NONE						S	82	NONE			L			EL
33	equarv							83	NONE			L			EL
34	equarv							84	NONE						S
35	NONE						S	85	NONE						S
36	NONE						S	86	equarv						
37	NONE						S	87	aloaeq						
38	carmic							88	caraqu						
39	poaalp							89	caraqu						
40	NONE						S	90	NONE						S
41	eriper							91	NONE						S
42	equarv							92	carutr						
43	NONE						S	93	caraqu						
44	NONE						S	94	NONE						S
45	eriper							95	aloaeq						
46	NONE						S	96	NONE						S
47	NONE						S	97	NONE						S
48	NONE						S	98	NONE						S
49	rumaqu							99	carutr						
50	caraqu							100	aloaeq			aloger			

% canopy cover =	51	Average Grass Height	
% bare ground =	44		
		Average Shrub Height	
% basal cover =	51		
% litter =	5		

Notes:

Page	1	of	1	Observer	E. Petterson				*Gray cells for indicator calculations*						
Plot		Line	6	Recorder	I. Montoya		Line Length	100	m or ft?	ft			Height units	in	
														cm or in?	
	Direction		Date	08/19/21		Intercept (Point) Spacing Interval		12			Intercept units	in			
				mm/dd/yyyy								cm or in?			

	Top	Grass	Shrub	Lower Canopy Layers			Soil		Top	Grass	Shrub	Lower Canopy Layers			Soil
Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface	Pt.	Canopy	Ht.	Ht.	Code1	Code2	Code3	Surface
1	poaalp							51	NONE						S
2	carutr							52	NONE						S
3	aloaeq							53	descae						
4	NONE						S	54	descae			aloaeq			
5	NONE						S	55	epicil						
6	spesal							56	NONE						S
7	rumaqu							57	NONE						S
8	aloaeq							58	aloaeq						
9	carutr			carmic				59	NONE						S
10	NONE						S	60	spesal						
11	NONE						S	61	aloaeq						
12	NONE						S	62	NONE						S
13	aloger							63	NONE			L			EL
14	taroff							64	rumaqu						
15	elygla							65	NONE			L			EL
16	NONE						S	66	NONE			L			EL
17	NONE						S	67	NONE			L			EL
18	linvul							68	NONE						S
19	aloaeq							69	eriper						
20	descae							70	NONE						S
21	rumaqu							71	junarc						
22	spesal							72	NONE						S
23	aloaeq							73	NONE						S
24	spesal							74	NONE						S
25	caraqu							75	poaalp						
26	spesal							76	NONE						S
27	NONE						S	77	spesal						
28	poaalp							78	spesal						
29	NONE			L			EL	79	spesal						
30	aloaeq							80	salmon						
31	spesal							81	NONE						S
32	NONE			L				82	NONE						S
33	descae							83	NONE						S
34	NONE						S	84	NONE						S
35	NONE						S	85	NONE						S
36	carmic							86	spesal						
37	spesal							87	NONE						S
38	elygla							88	NONE						S
39	spesal							89	spesal						
40	NONE						S	90	caraqu						
41	NONE						S	91	NONE						S
42	aloaeq							92	NONE						S
43	NONE						S	93	NONE						S
44	epicil							94	poaalp						
45	aloger							95	caraqu						
46	junarc							96	NONE						S
47	eriper							97	NONE						S
48	spesal							98	salmon						
49	poaalp							99	NONE						S
50	NONE						S	100	rumaqu						

% canopy cover =	55	Average Grass Height		Notes:
% bare ground =	39			
		Average Shrub Height		
% basal cover =	56			
% litter =	6			

APPENDIX B – CONSERVATION COVENANTS/DEED RESTRICTION

1201085
Kathleen Neel – Summit County Recorder
14 Pages
6/25/2019 4:12 PM
DF: $0.00

After Recording, Please Return to:
Climax Molybdenum Company
Highway 91 - Fremont Pass
Climax, CO 80429
Attn: Raymond Lazuk

DECLARATION OF RESTRICTIVE COVENANTS

STATE OF COLORADO

COUNTY OF SUMMIT

THIS DECLARATION OF RESTRICTIVE COVENANTS is made this 23 day of May, 2019, by Climax Molybdenum Company ("Declarant").

RECITALS

WHEREAS, Declarant is the owner of certain real property ("real property" includes wetlands, any interest in submerged lands, uplands, associated riparian/littoral rights) located in Summit County, Colorado, more particularly described and depicted in Exhibit A ("Property"); and

WHEREAS, as compensatory mitigation pursuant to the Clean Water Act (33 U.S.C. §1251, et. seq.) and its implementing regulations for Department of the Army Permit No. SPK-2013-000045 ("Permit"), issued by the U.S. Army Corps of Engineers, Sacramento District (the "Corps" to include any successor agency), attached hereto as Exhibit B, and in recognition of the continuing benefit to the permitted property, and for the protection of waters of the United States and scenic, resource, environmental, and general property values, Declarant has agreed to perform certain mitigation and place certain restrictive covenants on the Property, in order that the Property shall remain substantially in its natural condition forever;

WHEREAS, the natural condition of the Property will be restored, enhanced, and preserved pursuant to the mitigation plan ("Mitigation Plan") which forms a part of the Permit; and the term "natural condition" shall mean the condition of the Property at the time of the declaration and as restored, enhanced, and preserved pursuant to the Mitigation Plan of the Permit;

NOW THEREFORE, Declarant hereby declares that the Property shall be held, transferred, conveyed, leased, occupied or otherwise disposed of and used subject to the following restrictive covenants, which shall run with the land and be binding on all heirs, successors, assigns (they are included in the term, "Declarant," below), lessees, or other occupiers and users.

1. **Prohibitions**. Declarant is and shall be prohibited from the following: filling, draining, flooding, dredging, impounding, clearing, burning, cutting or destroying vegetation, cultivating, excavating, mining, extracting, erecting, constructing, releasing wastes, or otherwise doing any work on the Property; grazing or keeping cattle, sheep, horses, or other livestock; introducing exotic species into the Property (except biological controls preapproved in writing by the Corps); and from changing the grade or elevation, impairing the flow or circulation of waters, reducing the reach of waters, and any other discharge or activity requiring a permit under clean water or water pollution control laws and regulations, as amended. Expressly excepted from this paragraph is mitigation as provided pursuant to the Mitigation Plan of the Permit and the associated special conditions.

2. **Amendment**. After recording, these restrictive covenants may only be amended by a recorded document signed by the Corps and Declarant. The recorded document, as amended, shall be consistent with the Sacramento District model conservation restrictions at the time of amendment. Amendment shall be allowed at the discretion of the Corps, in consultation with resource agencies as appropriate, and then only in exceptional circumstances. Mitigation for amendment impacts will be required pursuant to Sacramento District mitigation policy at the time of amendment. There shall be no obligation to allow an amendment.

3. **Notice to Corps**. A 60-day advance notification shall be made to the Corps before any action is taken to void or amend these restrictive covenants, including conveyance of any interest in, or establishment of any other legal claims over, the Property.

4. **Notice to Government**. Any permit application, or request for certification or modification, which may affect the Property, made to any governmental entity with authority over wetlands or other waters of the United States, shall expressly reference and include a copy (with the recording stamp) of these restrictive covenants.

5. **Reserved Rights**. It is expressly understood and agreed that these restrictive covenants do not grant or convey to members of the general public any rights of ownership, entry or use of the Property. These restrictive covenants are created solely for the protection of the Property, and for the consideration and values set forth above, and Declarant reserves the ownership of the fee simple estate and all rights appertaining thereto, including without limitation the rights to exclude others and to use the property for all purposes not inconsistent with these restrictive covenants.

6. **Compliance Inspections**. The Corps, and its authorized agents, shall have the right to enter and go upon the lands of Declarant, inspect the Property, and take actions necessary to verify compliance with these restrictive covenants.

7. **Enforcement**. To the extent allowed under Federal law, Declarant grants to the Corps and/or the U.S. Department of Justice a discretionary right to enforce these restrictive covenants in a judicial action against any person(s) or other entity(ies) violating or attempting to violate these restrictive covenants; provided, however, that no violation of these restrictive covenants shall result in a forfeiture or reversion of title. This discretionary right shall not be waived by one or more incidents of failure to enforce said right. In any enforcement action, an enforcing agency

shall be entitled to a complete restoration for any violation, as well as any other judicial remedy such as civil penalties. Nothing herein shall limit the right of the Corps to modify, suspend, or revoke the Permit.

8. **Property Transfers**. Declarant shall include the following notice on all deeds, mortgages, plats, or any other legal instruments used to convey any interest in the Property (failure to comply with this paragraph does not impair the validity or enforceability of these restrictive covenants):

> NOTICE: This Property Subject to Declaration of Restrictive Covenants Recorded at [insert book and page references, county(ies), and date of recording].

9. **Marking of Property**. The perimeter of the Property shall at all times be plainly marked by permanent signs saying, "Protected Natural Area," or by an equivalent, permanent marking system.

10. **Separability Provision**. Should any separable part of these restrictive covenants be held contrary to law, the remainder shall continue in full force and effect.

IN WITNESS WHEREOF, the Declarant has duly executed this Declaration of Restrictive Covenants on the date written above.

DECLARANT:

By Vicki Seppala
Name: Vicki Seppala
Title: General Manager, Climax Molybdenum Company

STATE OF COLORADO)
) SS
COUNTY OF SUMMIT)

MEAGAN TULL
Notary Public – State of Colorado
Notary ID 20174003146
My Commission Expires Jan 20, 2021

I HEREBY CERTIFY that on this 23 day of May, 2019, before me, a Notary Public, personally appeared in person, to me known (or proved to me on basis of satisfactory evidence) who acknowledged himself to be the Declarant of Climax Molybdenum corporation, and that he, in such capacity, being authorized to do so, acknowledged the same on behalf of the company, and executed the foregoing instrument for the purposes therein contained and acknowledged that he executed the same as his voluntary act and deed.

Given under my hand and seal this 23 day of May, 2019.

Meagan Tull
Notary Public

My commission expires: Jan 20, 2021

Exhibit A
Legal Description

Inter-Mountain ENGINEERING
Civil Engineers & Surveyors

DEED RESTRICTION AREA EASEMENT
LEGAL DESCRIPTION

A parcel of land located in the SW 1/4 Section 27, T.7S., R.79W. of the 6th Principal Meridian, Summit County, Colorado and being more particularly described as follows:

Commencing at the northeast corner of Section 13, T.7S., R79W. of the 6th Principal Meridian, thence S41°55'17"W a distance of 20981.73 feet to the True Point of Beginning; thence S79°17'19"W a distance of 106.43 feet to a point; thence S83°05'29"W a distance of 230.04 feet to a point; thence S80°55'00"W a distance of 388.65 feet to a point; thence S82°44'12"W a distance of 174.86 feet to a point; thence S79°36'24"W a distance of 171.82 feet to a point; thence S82°36'30"W a distance of 45.65 feet to a point; thence N42°43'10"W a distance of 27.37 feet to a point; thence N10°55'11"W a distance of 53.12 feet to a point; thence N49°36'43"E a distance of 91.87 feet to a point; thence N56°24'34"E a distance of 78.98 feet to a point; thence N60°55'36"E a distance of 72.02 feet to a point; thence S61°38'24"E a distance of 14.40 feet to a point; thence N47°17'59"E a distance of 38.57 feet to a point; thence N37°43'19"E a distance of 151.15 feet to a point; thence N26°52'09"E a distance of 160.94 feet to a point; thence N40°03'15"E a distance of 122.90 feet to a point; thence along a curve to the right, having a central angle of 66°32'04", a radius of 85.00 feet, an arc length of 98.71 feet, a tangent of 55.76 feet, a chord bearing of N74°39'08"E and a chord distance of 93.25 feet; thence S72°04'50"E a distance of 72.78 feet to a point; thence S78°45'39"E a distance of 58.64 feet to a point; thence S77°01'52"E a distance of 138.74 feet to a point; thence S85°14'43"E a distance of 52.64 feet to a point; thence S77°24'05"E a distance of 62.76 feet to a point; thence along a curve to the right, having a central angle of 55°51'40", a radius of 80.00 feet, an arc length of 78.00 feet, a tangent of 42.41 feet, a chord bearing of S49°28'15"E and a chord distance of 74.94 feet; thence S21°32'25"E a distance of 219.31 feet to a point; thence S23°01'06"E a distance of 117.55 feet to a point to the True Point of Beginning.

Said parcel of land contains 381,155 square feet (8.750 acres), more or less.

I hereby state that the above described legal description has been prepared by me or under my direct supervision.

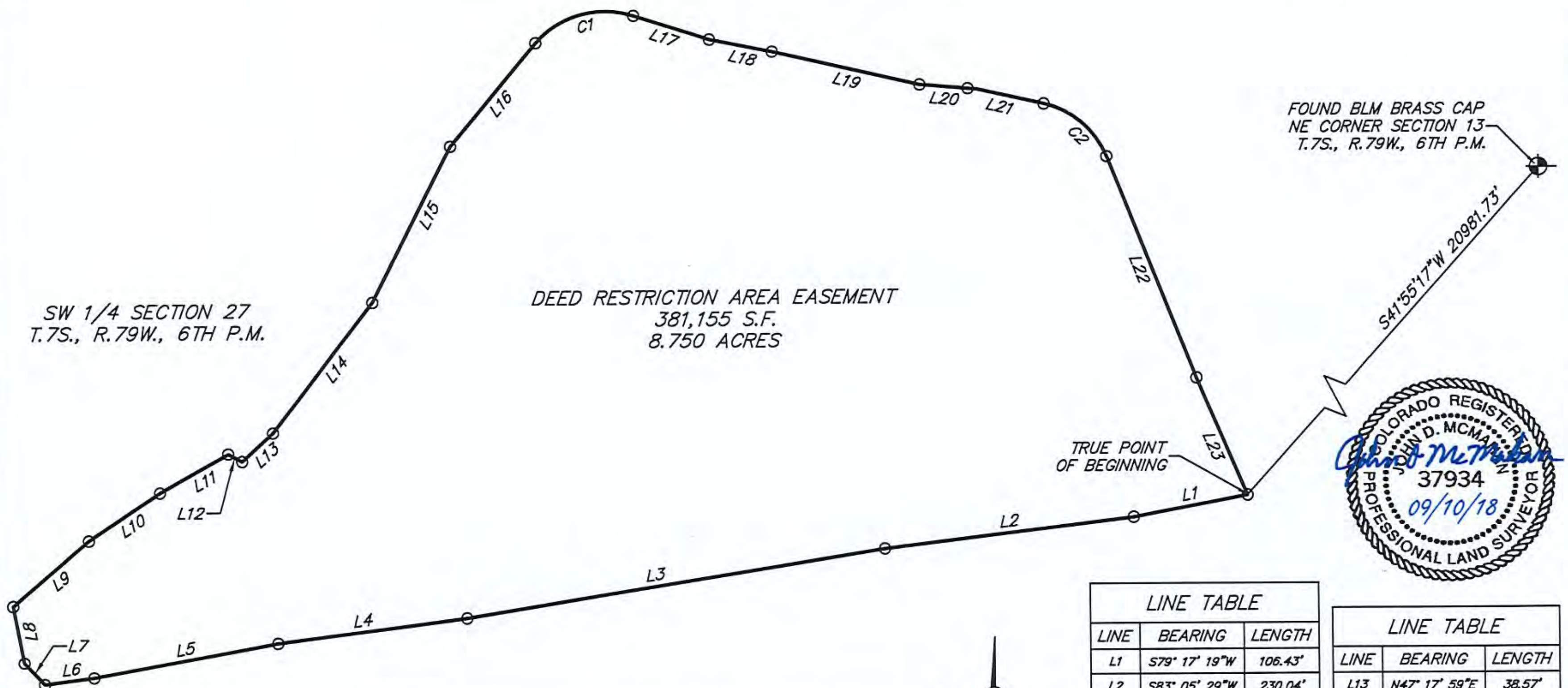
Project No. 18-0065

John D. McMahan, P.L.S No. 37934

VAIL VALLEY OFFICE
30 Benchmark Road, Suite 216 I PO Box 978 I Avon, CO 81620

DENVER OFFICE
9618 Brook Hill Lane I Lone Tree, CO 80124

970.949.5072 I info@inter-mtn.net



CURVE TABLE

CURVE	DELTA	LENGTH	RADIUS	CHORD	CH BEARING	TANGENT
C1	66° 32' 04"	98.71'	85.00'	93.25'	N74° 39' 08"E	55.76'
C2	55° 51' 40"	78.00'	80.00'	74.94'	S49° 28' 15"E	42.41'

LINE TABLE

LINE	BEARING	LENGTH
L1	S79° 17' 19"W	106.43'
L2	S83° 05' 29"W	230.04'
L3	S80° 55' 00"W	388.65'
L4	S82° 44' 12"W	174.86'
L5	S79° 36' 24"W	171.82'
L6	S82° 36' 30"W	45.65'
L7	N42° 43' 10"W	27.37'
L8	N10° 55' 11"W	53.12'
L9	N49° 36' 43"E	91.87'
L10	N56° 24' 34"E	78.98'
L11	N60° 55' 36"E	72.02'
L12	S61° 38' 24"E	14.40'

LINE TABLE

LINE	BEARING	LENGTH
L13	N47° 17' 59"E	38.57'
L14	N37° 43' 19"E	151.15'
L15	N26° 52' 09"E	160.94'
L16	N40° 03' 15"E	122.90'
L17	S72° 04' 50"E	72.78'
L18	S78° 45' 39"E	58.64'
L19	S77° 01' 52"E	138.74'
L20	S85° 14' 43"E	52.64'
L21	S77° 24' 05"E	62.76'
L22	S21° 32' 25"E	219.31'
L23	S23° 01' 06"E	117.55'

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years from the date of certification shown hereon.

Inter-Mountain ENGINEERING
Civil Engineers & Surveyors
P.O. BOX 978, AVON, CO 81620 PH: (970)949-5072 FAX: (970)949-9339
9618 BROOK HILL LANE, LONE TREE, CO 80124 EMAIL: INFO@INTER-MTN.NET

LEGAL EXHIBIT

DEED RESTRICTION AREA EASEMENT
SW 1/4 SECTION 27, T.7S., R.79W., 6TH P.M.
COUNTY OF SUMMIT, STATE OF COLORADO

DRAWN BY: SPF
SCALE: 1"=120'
DATE ISSUED: 9-7-18
PROJECT NO. 18-0065
EXHIBIT A

Exhibit B
Corps of Engineers Permit Number SPK-2013-000045

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

DEPARTMENT OF THE ARMY PERMIT

Permittee: Climax Molybdenum Company
Attn: Raymond Lazuk
11236 Highway 91 – Freemont Pass
Climax, Colorado 80429

Permit Number: SPK-2013-00045

Issuing Office: U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 "J" Street
Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. A notice of appeal options is enclosed.

Project Description:

The project involves the construction of the McNulty Gulch Overburden Storage Facility at the Climax Mine to enable recovery and processing of molybdenite ore. The expansion of the existing OSF will provide the needed 200 MT (122 MCY) of additional storage for future mining..

All work is to be completed in accordance with the *3a Alternative 2 – McNulty Gulch – Proposed Plan – (200 MT) Overburden Storage Facility Analysis Climax Molybdenum*, dated February 23, 2016.

Project Location:

The approximately 380-acre project site is located entirely within the Climax Mine near Leadville, Latitude 39.389420°, Longitude -106.171874°, Climax, Summit County, Colorado, and can be seen on the CO-COPPER MOUNTAIN USGS Topographic Quadrangle.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on July 31, 2022. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. You shall comply with all terms and conditions of the enclosed September 22, 2016, Section 401 Water Quality Certification.

2. At least 10 days prior to initiation of construction activities in waters of the U.S. authorized by this permit, you shall notify this office in writing of the anticipated start date for the work. No later than 10 calendar days following completion of construction activities in waters of the U.S. authorized by this permit, you shall notify this office in writing that construction activities have been completed.

3. Prior to commencement of construction activities in waters of the U.S. authorized by this permit/verification, you shall clearly identify the limits of disturbance in the field with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.). You shall maintain such identification properly until construction is completed and the soils have been stabilized. You are prohibited from any activity (e.g. equipment usage or materials storage) that impacts waters of the U.S. outside of the permit limits as shown on *Figure 3a Alternative 2 – McNulty Gulch – Proposed Plan – (200 MT) Overburden Storage Facility Analysis Climax Molybdenum*, dated February 23, 2016, prepared by Bikis Water Consultants.

4. To compensate for the loss of 16.08 acres of wetlands and 0.40 acre of intermittent and perennial channel, you shall establish 36.18 acres of wetland and 0.1 acre (450 linear feet) of perennial channel at the Lake Irwin site as shown and described in the *Final Compensatory Mitigation and Monitoring Plan – Version 2.0 Climax Mine Overburden Storage Facility Expansion document. You shall fully comply with the March 2017, Final Compensatory Mitigation and Monitoring Plan – Version 2.0 Climax Mine Overburden Storage Facility Expansion (SPK-2013-00045),* prepared by Bikis Water Consultants.

5. To ensure mitigation compliance, the document entitled *Final Compensatory Mitigation and Monitoring Plan – Version 2.0 Climax Mine Overburden Storage Facility Expansion (SPK-2013-00045),* prepared by Bikis Water Consultants, dated March 2017, is incorporated by reference as a condition of this authorization except as modified by the special conditions of this permit.

6. To ensure success of the established aquatic resources required in Special Condition 4, you shall monitor compensatory mitigation areas for a minimum of 5 years or until the performance standards described in the approved Final MMP identified in Special Condition 4 are met, whichever is greater. This period shall commence upon completion of the construction of the required compensatory mitigation. You shall demonstrate continued success of the compensatory mitigation, without human intervention, for three consecutive years after the final performance standards have been met, which may run concurrent with the minimum 5 year monitoring period. If the compensatory mitigation is not meeting the required performance standards at any time, this office may determine that the compensatory mitigation is not in compliance and require remedial action, including the identification of alternative compensatory mitigation.

a. You shall submit annual monitoring reports to this office by October 1 for each year of the 5 year monitoring period and for each additional year, if remediation is required, until the performance standards have been met. You shall submit a monitoring report at the end of the three-year period demonstrating continued success of the compensatory mitigation without human intervention. If the three-year period occurs wholly within the 5-year monitoring period, in which case, the 5-year report may be used

to meet this requirement. The annual reports shall follow the format identified in the *Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division*, which can be found online at http://www.spd.usace.army.mil/Portals/13/docs/regulatory/mitigation/MitMon.pdf.

b. Your responsibility to complete the required compensatory mitigation as set forth in Special Condition 4 will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from this office.

7. To ensure successful compensatory mitigation in accordance with 33 CFR 332.3(n), you shall establish a financial assurance in the form of a letter of credit, escrow account, or other appropriate instrument, as identified in Section 15 of the Final Compensatory Mitigation and Monitoring Plan – Version 2.0. The type, language, and amount of the financial assurance must be approved, in writing, by this office. You shall submit proof of the establishment of the financial assurance to this office prior to initiation of construction activities in waters of the U.S. authorized by this permit. In the event it becomes necessary to draw upon the financial assurance, funds must be payable to a designee specifically approved, in writing, by this office or placed in a fund pursuant to a standby trust agreement specifically approved, in writing, by this office. You shall ensure that the financial assurance is in the form that assures that termination or revocation of the financial assurance shall not occur without prior approval by this office

8. To validate this authorization, you shall take the actions required to record a Declaration of Conservation Covenants and Restrictions (CC&Rs) including the final permit and any applicable maps depicting the compensatory mitigation areas required in Special Condition 4 of this permit with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property. You shall ensure the CC&Rs, including modified CC&Rs approved by this office, are recorded in the chain of title against the deed for this property. You shall not record modified CC&Rs unless the proposed modifications have been reviewed and specifically approved by this office in writing. Evidence of the recordation of the CC&Rs shall be provided to this office prior to initiation of construction activities in waters of the U.S. authorized by this permit. If modified CC&Rs are approved by this office in writing, you shall submit evidence of the recordation of the modified CC&Rs within 10 days following recordation. In the event that the recordation of the CC&Rs contain an expiration date, you shall ensure re-recordation of the CC&Rs.

9. Within 60 days following completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, you shall submit as-built drawings and a description of the work conducted on the project site and within the on-site compensatory, to this office for review. The drawings shall be signed and sealed by a registered professional engineer and include the following:

a. The Department of the Army Permit number.

b. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings. The drawing should show all "earth disturbance," wetland impacts, structures, and the boundaries of any on-site and/or off-site mitigation or avoidance areas. The drawings shall contain, at a minimum, 1-foot topographic contours of the entire site.

c. Ground and aerial photographs of the completed work. The camera positions and view-angles of the ground photographs shall be identified on a map, aerial photograph, or project drawing.

d. A description and list of all minor deviations between the work as authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings the location of any deviations that have been listed.

10. Within 60 days following completion of construction activities in waters of the U.S. authorized by this permit/verification, you shall submit post-construction site photographs of the project site, showing the work conducted, to this office. The camera positions and view angles of post-construction photographs shall be identified on a map, aerial photo, or project drawing. Construction locations shall include all major project features and waters of the U.S., including avoidance and compensatory mitigation areas.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Name Raymond Lazuk
Title Environmental Manager
Permittee

08/03/17
Date

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below

Susan B. Nall

Susan Bachini Nall
Chief, Colorado West Branch
Regulatory Division
(For the District Engineer)

8-8-17

Date

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____

Name_____
Title_____
Transferee

_____

Date

APPENDIX C – USFWS IPAC REPORT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
Phone: (970) 628-7180 Fax: (970) 245-6933
http://www.fws.gov/office/colorado-ecological-services-field-office

In Reply Refer To:
Project Code: 2022-0015532
Project Name: McNulty Gulch OSF

April 14, 2022

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:

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 Endangered Species Act (Act) 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 Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-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 ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act 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 Act 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 (42 U.S.C. 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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (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 U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

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/birds/bird-enthusiasts/threats-to-birds.php.

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 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

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:

Western Colorado Ecological Services Field Office
445 West Gunnison Avenue, Suite 240
Grand Junction, CO 81501-5711
(970) 628-7180

Project Summary

Project Code: 2022-0015532
Event Code: None
Project Name: McNulty Gulch OSF
Project Type: Surface Exploration - Non Energy Materials
Project Description: Mining
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.3865905,-106.17445973586669,14z

Counties: Summit County, Colorado

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. Note that 1 of these species should be considered only under certain conditions.

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.

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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.

Mammals

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Lone, dispersing gray wolves may be present throughout the state of Colorado. If your activity includes a predator management program, please consider this species in your environmental review. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered

Fishes

NAME	STATUS
Bonytail *Gila elegans* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1377	Endangered
Colorado Pikeminnow (=squawfish) *Ptychocheilus lucius* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3531	Endangered
Humpback Chub *Gila cypha* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3930	Threatened
Razorback Sucker *Xyrauchen texanus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/530	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
Uncompahgre Fritillary Butterfly *Boloria acrocnema* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4419	Endangered

Flowering Plants

NAME	STATUS
Penland Alpine Fen Mustard *Eutrema penlandii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5811	Threatened

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency: SGM, Inc.
Name: Eric Petterson
Address: 118 W Sixth St
City: Glenwood Springs
State: CO
Zip: 81601
Email ericp@sgm-inc.com
Phone: 9703095190

Lead Agency Contact Information

Lead Agency: Army Corps of Engineers

APPENDIX D – CULTURAL RESOURCES REPORT

Climax Molybdenum
A Freeport-McMoRan Company

Climax Mine
Hwy 91 – Fremont Pass
Climax, CO 80429
Phone (719) 486-2150
Fax (719) 486-2251

Sent by Certified Mail

April 18, 2016

Matt Montgomery, Senior Project Manager
U.S. Army Corps of Engineers
Colorado West Regulatory Branch
400 Rood Avenue, Room 224
Grand Junction, CO 81501

Re: SPK-2013-00045, Cultural Resources Inventory Report for McNulty Gulch OSF Expansion Project - Climax Mine

Dear Mr. Montgomery:

Enclosed, please find two copies of the cultural resources inventory report to support our application for an Individual Section 404 Permit for the McNulty Gulch overburden storage facility (OSF) expansion project at Climax Molybdenum Company – Climax Mine. A copy of the report also was mailed directly to the Colorado State Historical Preservation Office.

Please let me know if you have any questions on the enclosed report. Thank you for your continued assistance with our permit application.

Sincerely,

Raymond Lazuk
Environmental Manager

enc.

Prepared for
U.S. Army Corps of Engineers and the Climax Molybdenum Company

An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado

April 8, 2016

Prepared by
WCRM
Western Cultural Resource Management, Inc.

Under Contract With
Climax Molybdenum Company

AN INTENSIVE LEVEL CULTURAL RESOURCE INVENTORY OF THE CLIMAX MINE'S MCNULTY GULCH OVERBURDEN STORAGE FACILITY EXPANSION PROJECT, SUMMIT COUNTY, COLORADO

Prepared by

Collette C. Chambellan, Steven F. Mehls, and Robert B. Fiske

Western Cultural Resource Management, Inc.
P.O. Box 2326
Boulder, Colorado 80306

Thomas J. Lennon
Principal Investigator

Prepared for

U.S. Army Corps of Engineers, Sacramento District Office
Sacramento Regulatory Office
1325 J Street
Sacramento, CA 95814

and

Climax Molybdenum Company
Climax Mine
Highway 91 – Fremont Pass
Climax, CO 80429

Colorado State Permits: 2013-26, 2014-46, and 2015-37

WCRM Project No. CLIM-MCN/13B089

April 8, 2016

Abstract

In October of 2013, July of 2014, and August of 2015, Western Cultural Resource Management, Inc. (WCRM) conducted an intensive level (Class III) cultural resource inventory of the McNulty Gulch Overburden Storage Facility (OSF) Expansion Project for Climax Molybdenum Company – Climax Mine (Climax). The project is located on private lands owned by Climax north of Fremont Pass and east of Colorado State Highway 91 in Summit County, Colorado.

Because a 404 Permit must be obtained for the project from the U.S. Army Corps of Engineers (COE), the inventory was conducted in order to comply with Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (54 U.S.C. § 300101 et seq.), which requires the location, recordation, and evaluation of cultural resources according to the criteria outlined in 36CFR800 for inclusion of significant resources in the National Register of Historic Places (NRHP).

In early 2016, the project area boundary was finalized for the 404 Permit application. Class III survey in 2013 and 2014 had inventoried 270.24 acres of the 471.17-acre project area. Due to previous disturbance in some areas and 30% or greater slopes in other areas (i.e., severe slopes are dangerous to survey and less likely to yield intact cultural deposits), 200.93 acres of the project area were not surveyed.

Within the project area, two previous surveys had been conducted in the 1970s (McNamara and Jennings 1979; Ward-Williams 1974). During the reconnaissance survey conducted by Colorado State University's Laboratory of Public Archaeology (LOPA) (McNamara and Jennings 1979), two previously recorded cultural resources (5ST114 and 5ST133) were recorded; 5ST114 was designated as a prehistoric open lithic site and 5ST133 was designated as a cobble concentration with an unknown cultural affiliation. LOPA conducted additional work at 5ST114 in 1980 (Arthur and Jennings 1980) and 1981 (Arthur 1981) to map, bore, and excavate the site. No further work was conducted by LOPA at 5ST133. The survey conducted by the Office of the State Archaeologist and documented by the USFS (Ward-Williams 1974) did not yield evidence of cultural resources within the portion of the project area it covered.

Class III surveys of the project area was conducted by WCRM in 2013 and 2014, revisited the locations of 5ST114 and 5ST133 and recorded six new sites (5ST1476 – 1478, 5ST1484.1, 5ST1485.1, and 5ST1486.1) and four new isolates (5ST1479 – 1481 and 5ST1487). A total of 40 historic features (UH02 – 03, 09, 11, 13 – 25, 26a, 26b, 27 – 29, 32a, 32b, 32c, 33, 34a, 34b, 35 – 38, 40 – 44, and Roads 1, 2 and 3) were also located, mapped, and described as per the requirements of the Colorado Office of Archaeology and Historic Preservation (OAHP) (OAHP 2007:18-19) for minor historic features. All of the resources, either revisited or newly recorded, are recommended not eligible for inclusion in the NRHP.

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History Colorado-Office of Archaeology and Historic Preservation

Colorado Cultural Resource Survey

Cultural Resource Survey Management Information Form

I. PROJECT SIZE

Total federal acres in project	0.0		Total federal acres surveyed	0.0
Total state acres in project	0.0		Total state acres surveyed	0.0
Total private acres in project	471.17		Total private acres surveyed	270.24
Total other acres in project	0.0		Total other acres surveyed	0.0

II. PROJECT LOCATION

County:	Summit
USGS Quad Map:	Copper Mountain 1987
Principal Meridian:	6th Principal Meridian

Township	7S		Range	79W		Section	35			1/4	NE	1/4	SE	1/4	SE	1/4
Township	7S		Range	79W		Section	35			1/4	SE	1/4	SE	1/4	SE	1/4
Township	7S		Range	79W		Section	35			1/4	SW	1/4	SE	1/4	SE	1/4
Township	7S		Range	79W		Section	35			1/4	SE	1/4	SW	1/4	SE	1/4
Township	7S		Range	79W		Section	35			1/4	SW	1/4	SW	1/4	SE	1/4
Township	7S		Range	79W		Section	35			1/4	NW	1/4	SW	1/4	SE	1/4
Township	7S		Range	79W		Section	35			1/4	NE	1/4	SE	1/4	SW	1/4
Township	7S		Range	79W		Section	35			1/4	SE	1/4	SW	1/4	SW	1/4
Township	7S		Range	79W		Section	36			1/4		1/4	SW	1/4	SW	1/4
Township	7S		Range	79W		Section	36			1/4		1/4	SE	1/4	SW	1/4
Township	7S		Range	79W		Section	36			1/4		1/4	SW	1/4	SW	1/4
Township	7S		Range	79W		Section	36			1/4	SE	1/4	NE	1/4	SW	1/4
Township	7S		Range	79W		Section	36			1/4	SW	1/4	NE	1/4	SW	1/4
Township	7S		Range	79W		Section	36			1/4	SE	1/4	NW	1/4	SW	1/4
Township	7S		Range	79W		Section	36			1/4	SW	1/4	NW	1/4	SW	1/4
Township	8S		Range	79W		Section	1			1/4		1/4	NW	1/4	NE	1/4
Township	8S		Range	79W		Section	1			1/4		1/4	SW	1/4	NE	1/4
Township	8S		Range	79W		Section	1			1/4	NE	1/4	NW	1/4	SE	1/4
Township	8S		Range	79W		Section	1			1/4	SW	1/4	NW	1/4	SE	1/4
Township	8S		Range	79W		Section	1			1/4	NW	1/4	NW	1/4	SE	1/4
Township	8S		Range	79W		Section	1			1/4		1/4	NE	1/4	SW	1/4
Township	8S		Range	79W		Section	1			1/4	NE	1/4	NW	1/4	SW	1/4
Township	8S		Range	79W		Section	1			1/4	SE	1/4	NW	1/4	SW	1/4
Township	8S		Range	79W		Section	1			1/4	NW	1/4	NW	1/4	SW	1/4
Township	8S		Range	79W		Section	1			1/4		1/4		1/4	NW	1/4
Township	8S		Range	79W		Section	2			1/4		1/4	NE	1/4	NE	1/4
Township	8S		Range	79W		Section	2			1/4	NE	1/4	NW	1/4	NE	1/4
Township	8S		Range	79W		Section	2			1/4	SE	1/4	NW	1/4	NE	1/4

Township	8S		Range	79W		Section	2			1/4	NW	1/4	NW	1/4	NE	1/4
Township	8S		Range	79W		Section	2			1/4	NE	1/4	NE	1/4	NW	1/4

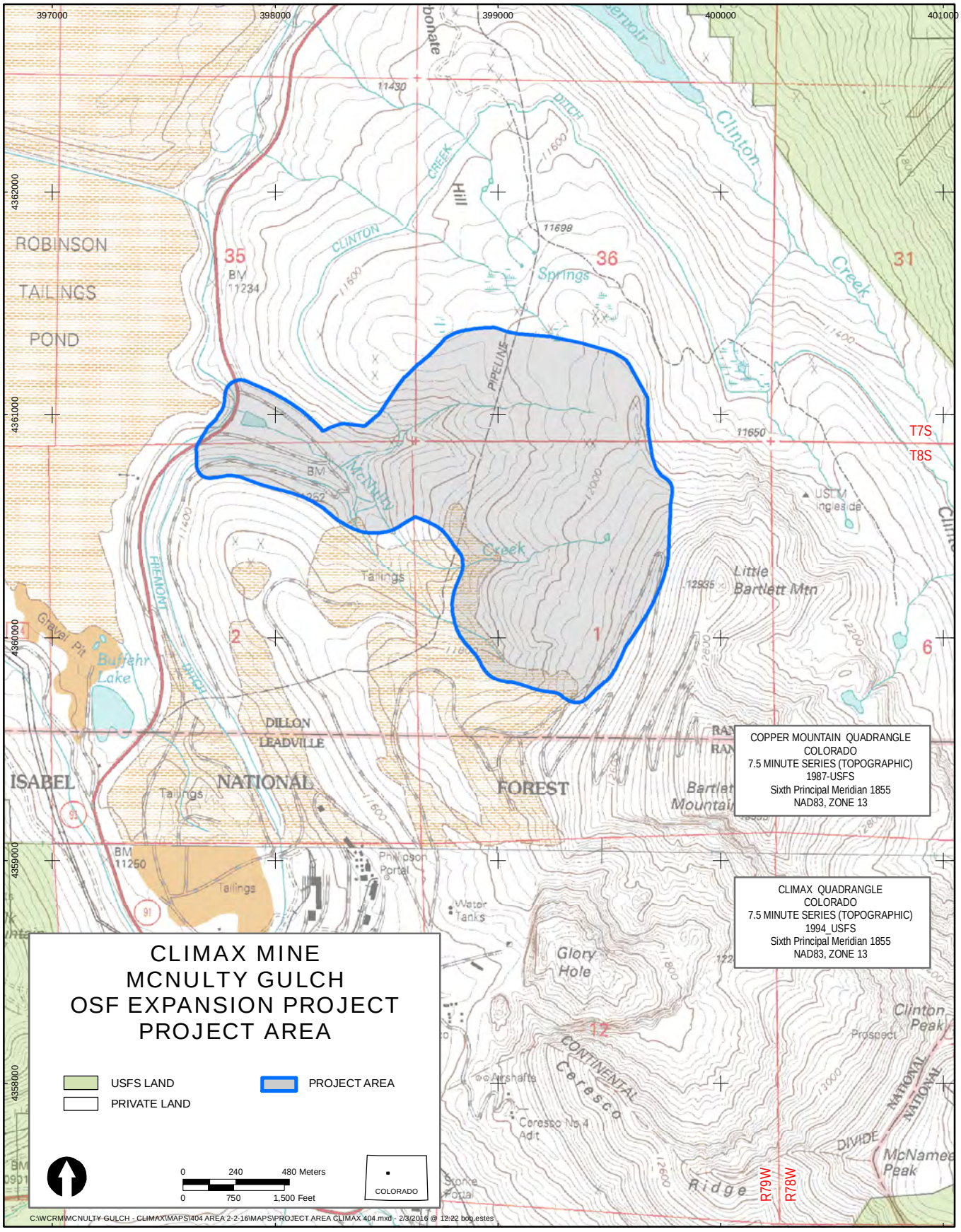
III. SITES

Smithsonian Number	Resource Type				Eligibility				Management Recommendations						
	Prehistoric	Historic	Paleontological	Unknown	Eligible	Not Eligible	Need Data	Contributes to a District	No Further Work	Preserve / Avoid	Monitor	Test	Excavate	Archival Research	Other
5ST114	X	X				X			X						
5ST133				X		X			X						
5ST1476		X				X			X						
5ST1477		X				X			X						
5ST1478	X	X				X			X						
5ST1484.1		X				X			X						
5ST1485.1		X				X			X						
5ST1486.1		X				X			X						

IV. ISOLATED FINDS

Smithsonian Number	Resource Type			
	Prehistoric	Historic	Paleontological	Unknown
5ST1479		X		
5ST1480		X		
5ST1481		X		
5ST1487	X			

Smithsonian Number	Resource Type			
	Prehistoric	Historic	Paleontological	Unknown


CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
PROJECT AREA
USFS LAND
PRIVATE LAND
PROJECT AREA
0 240 480 Meters
0 750 1,500 Feet
COLORADO
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
T7S
T8S
R79W
R78W
ROBINSON
TAILINGS
POND
ISABEL
DILLON
LEADVILLE
NATIONAL
FOREST
Buffehr Lake
Little Bartlett Mtn
Glory Hole
Clinton Peak
McNamee Peak
Continental Ridge
Phillipson Portal
Water Tanks
Ceresco No. 4 Adit
Stonke Portal
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\PROJECT AREA CLIMAX 404.mxd - 2/3/2016 @ 12:22 bob.estes

Introduction

Between October 9 and 10, 2013, July 14 and 20, 2014, and August 10 and 11, 2015, Western Cultural Resource Management, Inc. (WCRM) conducted a Class III cultural resource inventory of the McNulty Gulch Overburden Storage Facility (OSF) Expansion Project area in Summit County, Colorado (Figure 1). The project area is located on private lands owned by the Climax Molybdenum Company – Climax Mine (Climax), north of Fremont Pass and east of Colorado State Highway 91. Because a 404 Permit must be obtained for the project from the U.S. Army Corps of Engineers' (COE) Sacramento District Office, the inventory was conducted in order to comply with Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (54 U.S.C. § 300101 et seq.), which requires the location, recordation, and evaluation of cultural resources according to the criteria outlined in 36CFR800 for inclusion of significant resources in the National Register of Historic Places (NRHP).

Between 2013 and 2015, a combined total of 424.79 acres was inventoried including the area surveyed in 2013 (28.11 acres), in 2014 (378.54 acres) and in 2015 (18.14 acres). In early 2016, the 404 Permit area was determined including the potential OSF footprint and a 200-foot buffer (Figure 2). The total project area, which had been covered by the surveys conducted in 2013 and 2014, is 471.17 acres; this includes the 404 Permit area (374.45 acres) and its 200-foot buffer (96.72 acres). Due to previous disturbance in some areas and a grade of 30% or greater in others (i.e., severe slopes are dangerous to survey and less likely to yield intact cultural deposits), 200.93 acres within the project area were not surveyed (Figure 2). As a result, the total area surveyed to a Class III level within the project area was 270.24 acres.

Prior to fieldwork, WCRM conducted a Class I file search of the Colorado Office of Archaeology and Historic Preservation (OAHP) records. In addition to searches of the information on file at the OAHP, background research was conducted of published and unpublished sources to determine the land use history within the project area. Two Class II reconnaissance surveys had been conducted within portions of the project area during the 1970s (McNamara and Jennings 1979; Ward-Williams 1974). In addition, two sites (5ST114 and 5ST133) had been previously recorded and additional work had been conducted on one of the sites (5ST114) in the early 1980s (Arthur 1981; Arthur and Jennings 1980). During Class III surveys of the McNulty Gulch OSF Expansion Project area, WCRM revisited the locations of the two previously recorded sites, recorded six new sites (5ST1476–1478, 5ST1484.1, 5ST1485.1, and 5ST1486.1) and four new isolates (5ST1479–1481 and 5ST1487), and located, mapped, and described 40 minor historic features (UH02 – 03, 09, 11, 13–25, 26a, 26b, 27–29, 32a, 32b, 32c, 33, 34a, 34b, 3 –38, 40–44, and Roads 1, 2 and 3).

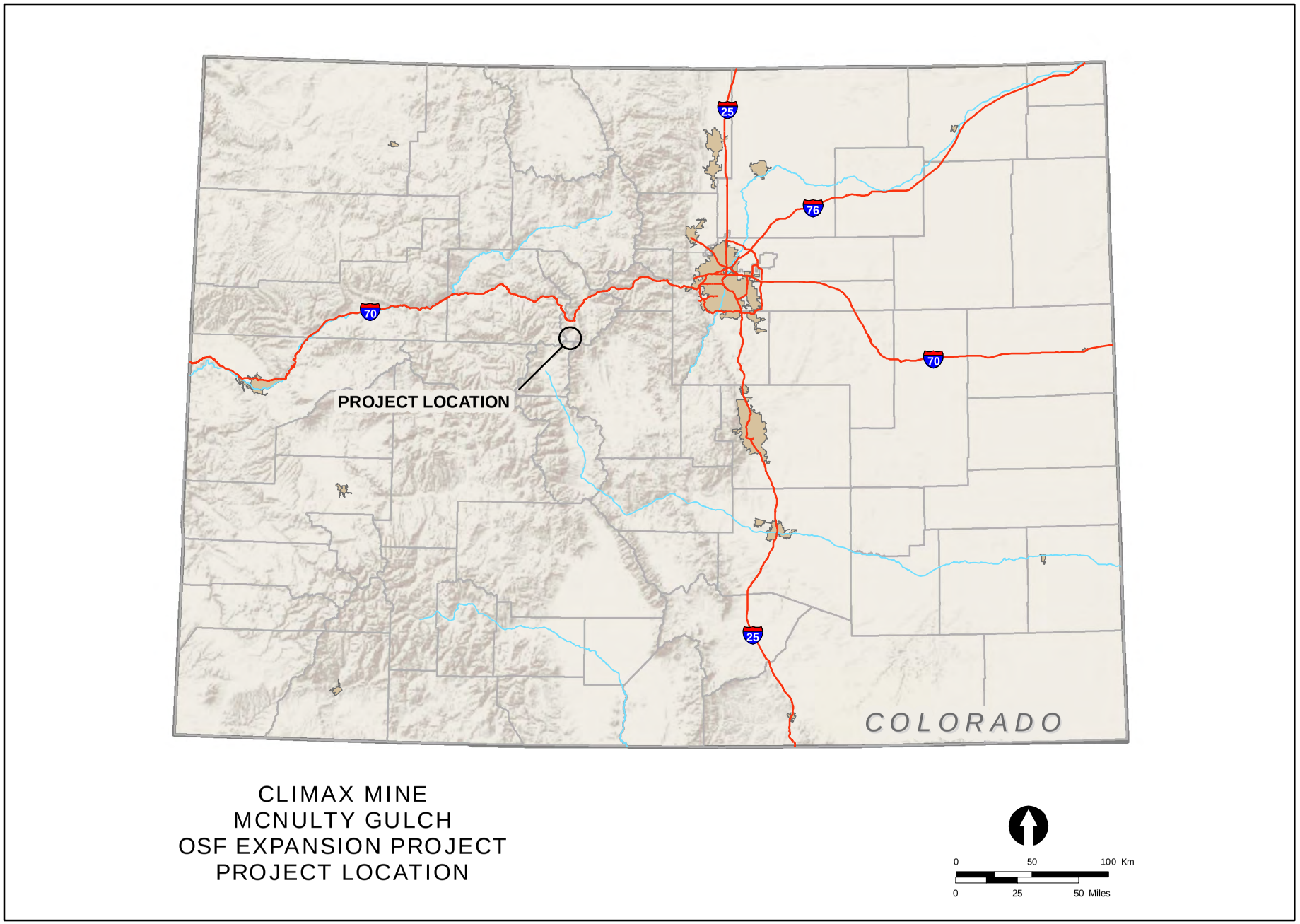


Figure 1. Project Location.

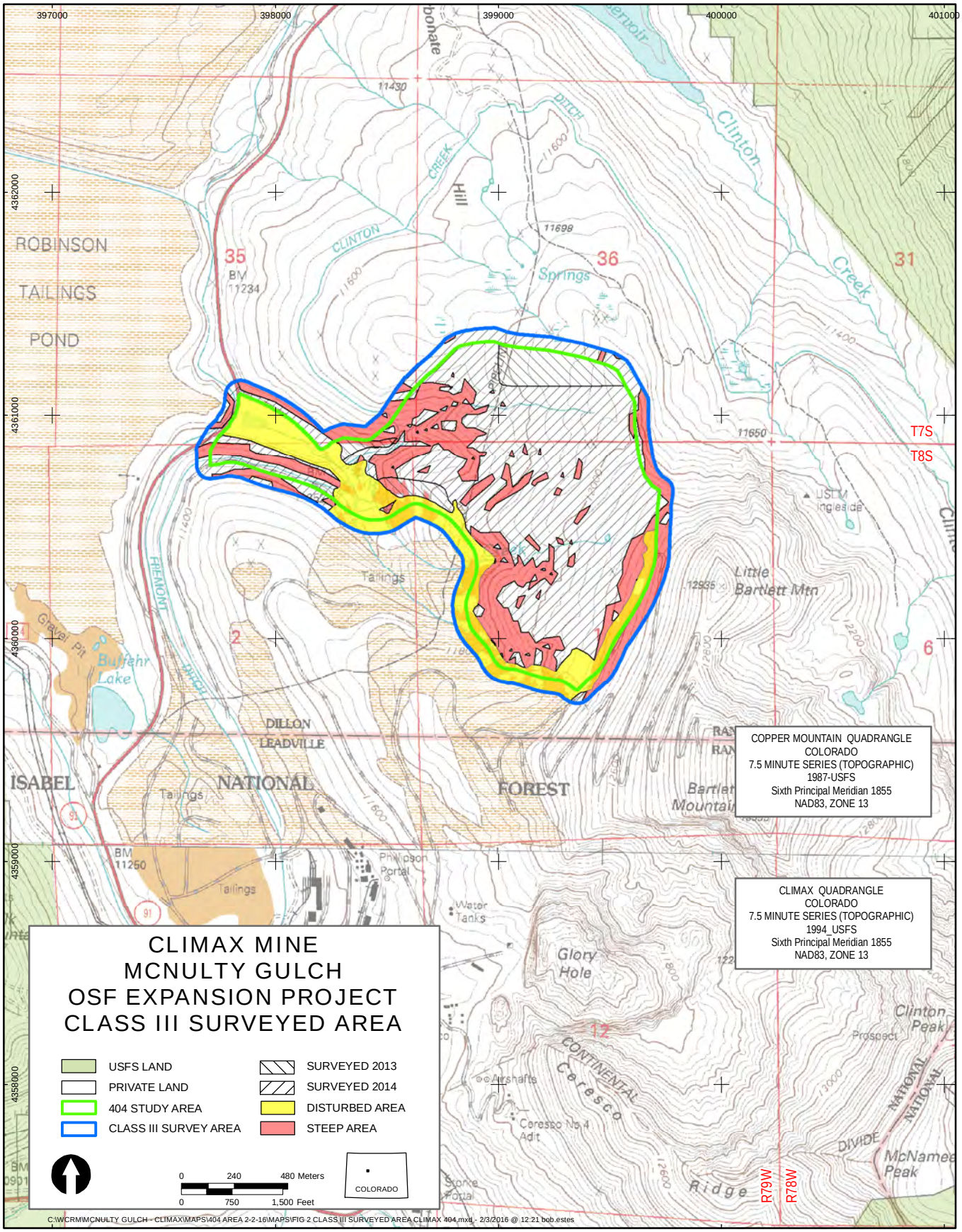


Figure 2. Class III Surveyed Area.

Effective Environment

The Climax McNulty Gulch OSF Expansion Project area is located in Summit County, Colorado approximately 12.4 miles northeast of Leadville, Colorado. It is bounded by Clinton Creek and its Reservoir to the north, State Highway 91 on the west side, existing OSF to the south, and Little Bartlett Mountain to the east. The project area is within the Southern Rocky Mountain physiographic province (Fenneman 1931) near the Continental Divide at elevations that vary from 11,400 feet (ft) to 12,120 ft. Some of the following discussion is adapted from Arthur (1981) and Gilmore et al. (1999).

Hydrology and Climate

The project area lies within the Upper Colorado River Basin whose western boundary is the Continental Divide at Fremont Pass. The pass separates Tenmile Creek of the Upper Colorado River Basin from the Arkansas River Basin. To the south lie the headwaters of the East Fork of the Arkansas River and to the north are the headwaters of Tenmile Creek. Clinton Creek is located to the northeast across a hydrological/topographical divide. Surface drainage in McNulty Gulch flows east to west draining runoff into the Climax process water and water treatment system. Water in McNulty Gulch originates from rain and snowmelt runoff and from springs.

The climate of the Fremont Pass area is characterized by a relatively cool, dry subalpine and alpine climate. The average temperatures range from an average of 2º F in January to an average maximum in July of 65º F. Precipitation comes primarily in the forms of snow (280.3 inches annually on average) and summer thunderstorms. The months of greatest precipitation are January, April and August, while the months of least precipitation are June and October. Winds are common and can vary from gentle breezes to extremely strong gusts and winds.

Geology and Geomorphology

The Southern Rockies are made up of anticlinal, linear mountain ranges. The mountains were formed as a result of geologic process of alternating periods of faulting and folding. The present topography was further modified by the superimposing of anticlinal domes over faults and folds during the late Mesozoic and early Cenozoic eras. Within close proximity to the project area, a major fault runs “north-south across Fremont Pass and the western face of Big and Little Bartlett Mountains” (Arthur 1981:5) and has caused variations in the local geology. The core of Bartlett Mountain is a Precambrian granitic core surrounded by shists and gneisses (Stose 1935). After this core was uplifted the sedimentary dome was eroded away. West of the Fremont Pass fault line, in the project area, Pennsylvanian deposits remain and occur as sandstones, shales and siltstones when exposed. With the uplifting of the granite mass mineral ores such as gold, silver, lead, iron, zinc, and molybdenum developed (Koshmann 1948:117).

The landforms in the project area were further defined by glacial activity. Soils include alfisols formed from weathered crystalline and sedimentary rocks and inceptisols formed in materials weathered in place or locally transported largely from crystalline rocks.

Flora and Fauna

Vegetation communities are those commonly found in the sub-alpine and alpine region of Colorado. Plant communities include alpine tundra dominated by alpine bluegrass, alpine timothy, tufted hairgrass, fescue and forbs. Spruce and fir occur on some lower elevation slopes. Emergent and semi-emergent wetlands that include sedges, marsh marigold and wetland grasses occur in areas with springs and high groundwater, and riparian wetlands that include willows occur along drainages. The lower part of McNulty Gulch was logged years ago.

During survey of the project area, elk and mule deer were occasionally present. Also known to be present in the project area are fox and coyote. Other small mammals that may be present are pika, weasels, voles, marmots, porcupines, and ground squirrels. Birds present include hawks, owls, and songbirds. Reptiles were not observed.

Environmental Constraints

The surveyed area has been subjected to mining activities since 1860. The presence of cultural remains is likely to have been affected by the previous mining and lumbering activities, including timber harvesting for use as mine timbers and other mining uses. Disturbed lands and areas with a 30% grade or greater were not inventoried. Elimination of the disturbed lands and those too steep to inventory resulted in an intensive-level survey of 270.24 acres.

Culture History and Previous Work

Prehistoric Overview

The Colorado Council for Professional Archaeologists (CCPA) placed all of Summit County, including the McNulty Gulch OSF Expansion Project area, in the Northern Colorado River Basin for their cultural resource contextual overview (Reed and Metcalf 1999). This brief overview of the prehistory of the project area will utilize that overview to define the known prehistoric cultural stages that might be represented. Evidence for four prehistoric cultural eras/stages have been found within the Northern Colorado River Basin: the Paleoindian, the Archaic, the Formative, and the Protohistoric.

During the Paleoindian Stage (13,400 – 7500 B.P.), the climate was characterized by cool summers and warm winters (Bryson et al. 1970:53-74). The emphasis during this stage was on the hunting of mammoth and bison utilizing fluted, lanceolate projectile points. This period has been divided into four traditions: Clovis (13,400–12,500 B.P.), Goshen (13,000–12,700 B.P.), Folsom (12,700–11,500 B.P.), and Plano (10,200-7500 B.P.) (Cassells 1983; Frison 1991). Reed and Metcalf (1999:59) indicate that only one site in northeastern Summit County yielded a Paleoindian artifact.

With the beginning of the Altithermal climatic episode sometime around 8000 B.P., there was a decline of the megafauna and Paleoindian lifeway. This Archaic Stage consisted of hotter and drier conditions and hunters were forced to turn their focus to the hunting of smaller game and increased gathering of vegetal resources. Archaeologically, there is an increase in the presence of ground stone, a greater variety of projectile point styles and an increase in the diversity of tools (Colorado Historical Society 1992:31). Within the Northern Colorado River Basin, Reed and Metcalf (1999:71) have dated the Archaic Stage at between 8000 B.P. and 1950 B.P.; the authors indicate that sites from this time period are well represented in the river basin. They suggest four periods within the stage as follows: the Pioneer period (8350 – 6450 B.P.), the Settled period (6450–4450 B.P.), the Transitional period (4450 -2950 B.P.), and the Terminal period (2950-1950 B.P.). One site, 5ST114, recorded and excavated within the project area (Arthur 1981; McNamara and Jennings 1979) yielded datable points and a tool assemblage that most closely fit within the Terminal period of the Archaic Era (2950-1950 B.P. [A.D. 1]) as defined by Reed and Metcalf (1999:79). It is possible that sites from the other three Archaic Stage time periods may also be represented within the project area.

The Formative Stage (1900-200 B.P.) is represented by horticultural traditions reliant on corn (Anasazi, Fremont, and Gateway) and by a nonhorticultural tradition (Aspen) found at higher elevations found on the Colorado Plateau and the mountains. Evidence of the Plains Woodland tradition have been found at sites along and just west of the Continental Divide. Reed and Metcalf (1999:130) suggest that the presence of this eastern Colorado tradition suggests trade or limited incursions across the Divide. Given the location of the project area, it is possible that Aspen or Plains Woodland traditions sites may be represented.

The Protohistoric Stage (200–70 B.P.) refers to the aboriginal occupation of the Northern Colorado River Basin between the end of the Formative era and the final expulsion of the Utes to reservations in A.D. 1881. Given the highly mobile nature of the hunters and gatherers of this stage, it is possible that sites from this time period could be present within the project area.

Historic Overview

The historic period of Summit County began with the arrival fur trappers, mountain men, and government explorers during the early 19th century. However, no clear evidence of their presence in the survey area along and near McNulty Gulch has been uncovered despite documented use of LaBonte's Hole for mountain man rendezvous during the late 1830s and early 1840s. The Hole was at the confluence of

Tenmile Creek and the Snake and Blue Rivers (Gilliland 1999:6-16). Instead, the earliest known Anglo-American use of the survey area dates to May of 1860 when prospectors from California Gulch followed the Arkansas River to its headwaters and crossed the Continental Divide into the canyon along Tenmile Creek. Among the party was one James McNulty, a prospector who arrived at Colorado's Gregory Diggings (Central City-Black Hawk) during 1859. Experiencing no success at the Gregory Diggings, McNulty moved on to the upper Arkansas River Valley during the late winter of 1860. In May of that year, McNulty and other gold seekers crossed the Continental Divide to the headwaters of Tenmile Creek. The group camped at the mouth of the first gulch to which they came. The next day they prospected the gulch, finding paying gold deposits. The members of the group named the landform McNulty Gulch in honor of James McNulty. Despite efforts to keep the news of the discovery quiet, word reached other mining camps in Colorado within short order. By July of 1860, the gulch was full of miners and the latecomers were forced to look elsewhere in the Tenmile Creek area. McNulty sold his claim to the Brooks Brothers. The new owners took more than $15,000 from the McNulty claim in less than 60 days. On October 26, 1860, the miners organized the McNulty Gulch Mining District, while wintering in Breckenridge. Fifteen years later the miners of McNulty Gulch and the rest of the lands drained by Tenmile Creek met and established the Ten Mile Consolidated Mining District. The new district adopted all the practices specified in the Federal Mining Act of 1872 (Dempsey and Fell 1986:16-17, 20, 30).

Later, in 1860, prospectors examining other gulches along Tenmile Creek found gold and silver deposits. By the 1880s, the Tenmile area was firmly established as a prosperous mining area and camps were established at Robinson, Kokomo, Recen, and Wheeler (see Figure 3). Part of the mining expansion in the Tenmile area can be traced to neighboring Leadville. By the late 1870s, prospectors found rich silver ores at Leadville and a boom ensued. This excitement spilled over into the Tenmile area and dozens of new silver claims were filed in the region. William A. Bartlett, a miner and prospector who worked in the Ten Mile Mining District during the 1870s, was involved in claim speculation as well as placer and lode mining. Bartlett also explored the upper reaches of McNulty Gulch and the geology of the mountain that bears his name. He was also involved in the 1878 revisions of rules of the Ten Mile Mining District (Dempsey and Fell 1986:34, 45; Voynick 1996:28).

Leadville's mines also led the Denver & Rio Grande Railway to build into the Arkansas River Valley to the mining camp and then over the Continental Divide to the Tenmile Creek mines. The railroad opened service to Kokomo around New Year's Day of 1881 (see Figure 3). During 1883 the Denver South Park & Pacific arrived in Ten Mile Canyon, eventually paralleling the Denver & Rio Grande through the canyon (Dempsey and Fell 1986:94-95, 174). The mining could not support both railroads and the Denver South Park and Pacific, which was reorganized many times until it became the Colorado and Southern during the 1890s, proved to be the winner for the Tenmile trade. The precious metal mines experienced fluctuating market prices through the late 19th century and into the first decade of the 20th century when production dropped precipitously in 1908. Low levels of gold and silver production continued through the first half of the century. The early 20th century era witnessed the opening of molybdenum mining at the Climax Mine in 1915. That mine had its own ups and downs through the early 20th century, but by World War II (1941) the Climax was the dominate mine in the vicinity of the project area (Bergendahl and Koschmann 1971:5-8; Voynick 1996). Another significant change for the survey area took place during the 1920s. During the decade, the Colorado Department of Highways (CDOH) established State Highway 91 as one of the original state highways. It ran from Leadville northeast over Fremont Pass to Frisco, over Loveland Pass, then east through Georgetown ending at U.S. Highway 40 in Empire. By 1936, the section from Leadville to Climax had been paved. Three years later the eastern end had been moved to U.S. Highway 40 east of Empire. By 1946. the entire highway was paved except for the summits of Fremont and Loveland passes; they were

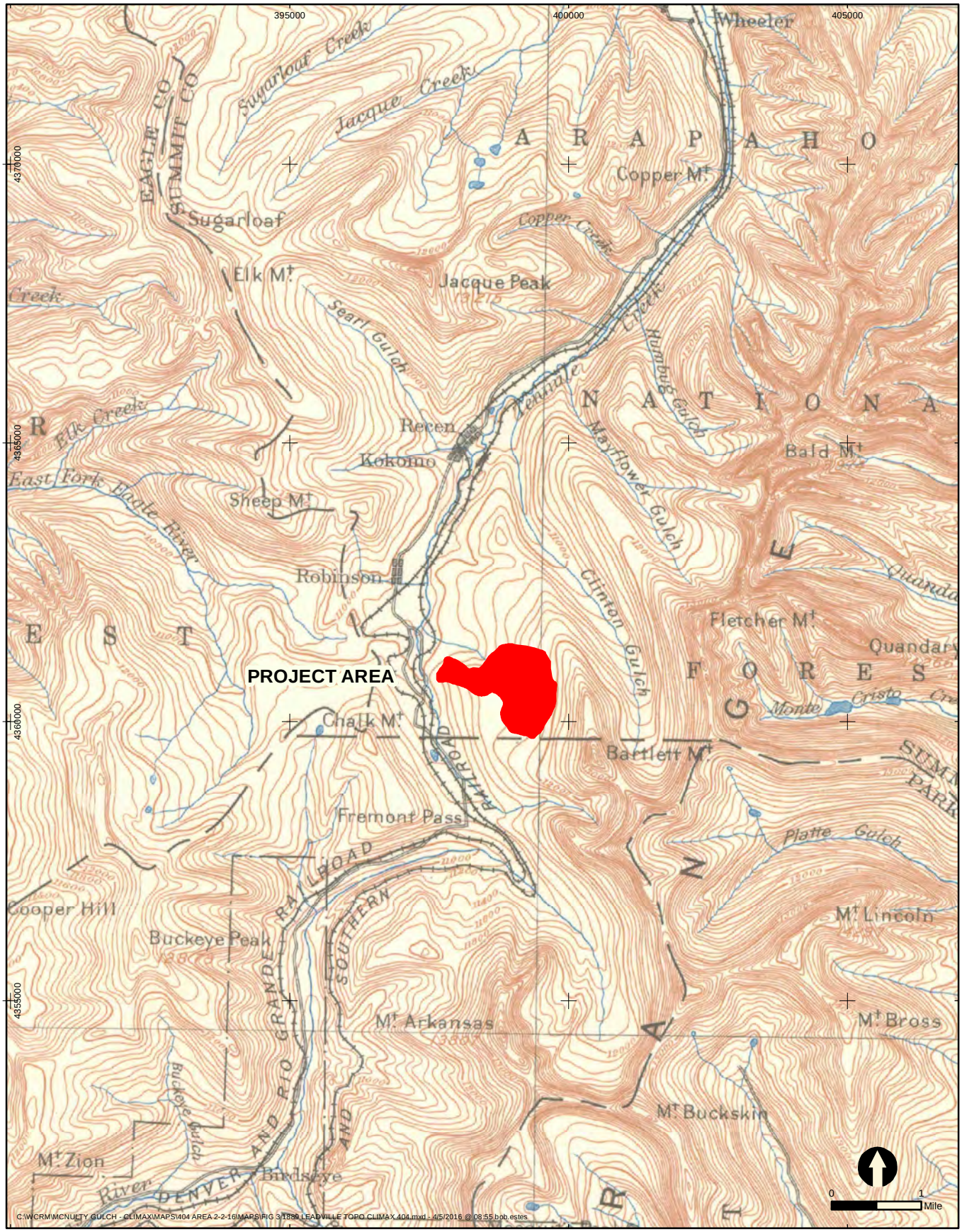


Figure 3. Section of 1889 Leadville, Colorado 1:62,500 U.S. Geological Survey Topographic Map Showing Tenmile Creek.

paved by 1954. The route was relocated during the 1970s as part of the Climax tailings impoundment expansion project (Salek 2014).

For additional details on the history of the McNulty Gulch area, readers are encouraged to look at two of the sources used for this brief overview. *Mining the Summit: Colorado's Ten Mile District, 1860-1960* (Dempsey and Fell 1986) is an especially relevant reference regarding the history of the Ten Mile Mining District. One of the authors, Stanley Dempsey, was an attorney for Climax Molybdenum Company during the early 1960s. He was tasked with researching the ownership of the claims in the Ten Mile District as well as removing the towns in the mining district from incorporation so the land could be acquired and the molybdenum mine expanded. The other author, James Fell, has also written extensively on Colorado mining and milling history. Fell has also co-authored a NRHP statewide multiple-property nomination for mining properties which was used in the property types and research design below. The history of the Climax Mine is very well documented by Stephen M. Voynick in his 1996 volume on the history of the mine (Voynick 1996); the reader is referred to that study for specific information about the molybdenum mine. The general history of Colorado's highways and CDOH (later designated Colorado Department of Transportation or CDOT) is well documented in *Highways to the Sky: A Context and History of Colorado's Highway System* (Associated Cultural Resource Experts 2002) and the reader is encouraged to examine that publication for additional detail about highway development in the Colorado mountains.

Previous Work

OAHP File Search

WCRM completed a COMPASS search of OAHP records for the McNulty Gulch OSF Expansion Project area and a one-mile buffer on September 21, 2013. In conjunction with the COMPASS search, a GIS search of the OAHP database was also conducted of the project area boundary and its one-mile buffer. The searches indicated that portions of the project area and its buffer had been previously surveyed during the 1970s by the Colorado State Archaeologist's Office under a cooperative agreement with the U.S. Forest Service (Ward-Williams 1974) and Colorado State University's Laboratory of Public Archaeology (LOPA) (Jennings 1974; McNamara and Jennings 1979).

During the LOPA survey in 1979 (McNamara and Jennings 1979), two prehistoric sites (5ST114 and 5ST133) were recorded within the project area. Outside of the project area and within the one-mile buffer, eight other resources (5ST115–118, 5ST121-122, 5ST133, 5ST334, and 5ST1015) were recorded. Table 1 lists all of the resources previously recorded in both the project area and its buffer. The two sites recorded by LOPA within the project area consist of an open lithic site (5ST114) and a cobble concentration (5ST133). According to the OAHP records, neither of these sites has been evaluated with regard to the NRHP criteria; however, additional work was conducted at 5ST114 by LOPA in 1980 and 1981; the site was completely mapped and bored in 1980 (Arthur and Jennings 1980) and excavated in 1981 (Arthur 1981). As a result of this work, all of the lithic materials were collected and a radiocarbon date obtained.

Table 1. Previously Recorded Cultural Resources within the Project Area and a One-Mile Buffer.

Resource Number	Resource Name	Resource Type	NRHP Eligibility Status	Recorder
5ST114*	Unnamed	Archaeological/Open Lithic	No assessment given	McNamara and Jennings (1979)
5ST115	Unnamed	Archaeological/Open Lithic	No assessment given	McNamara and Jennings (1979)

Resource Number	Resource Name	Resource Type	NRHP Eligibility Status	Recorder
5ST116	Unnamed	Historic/Miscellaneous Structures and Trash Scatter	No assessment given	McNamara and Jennings (1979)
5ST117	Unnamed	Historic/Foundation and Trash Scatter	No assessment given	McNamara and Jennings (1979)
5ST118	Unnamed	Archaeological/Open Lithic	No assessment given	McNamara and Jennings (1979)
5ST121	Unnamed	Historic/Foundation and Trash Scatter	No assessment given	McNamara and Jennings (1979)
5ST122	Unnamed	Historic/Camp and Trash Scatter	No assessment given	McNamara and Jennings (1979)
5ST133*	Unnamed	Unknown Archaeological/Open Architectural	No assessment given	McNamara and Jennings (1979)
5ST334	Bartlett Mountain/Climax Moly Mine	Historical Archaeology/Mine	Field not eligible	State Inventory Form completed by OAHP staff – no report
5ST1015	Unnamed	Historic Mine Shaft	Field not eligible	Division of Minerals & Geology (Mined Land Reclamation) – no report

*Within McNulty Gulch Overburden Storage Facility Expansion Project area

The following surveys and cultural resource work took place within the project area and its one-mile buffer:

1. *Results of the American Metal Climax Corporation and the United States Department of Agriculture, Forest Service, Land Exchange Inventory* (Ward-Williams 1974).

   An intensive salvage survey was conducted by two representatives from the Colorado State Archaeologists Office in July of 1974 for a proposed Climax-Kokomo land exchange between Climax Molybdenum Company and the USFS for expansion of the molybdenum mine. Five areas were reviewed; one was in the northern portion of the project area, one was outside of the project area and north of Clinton Reservoir, and three were southwest of the project area but north of the main gate of the Climax Mine. The work was conducted under a cooperative agreement, and Linda Ward-Williams authored a report of the findings. Most of this survey was conducted on slopes of 40° or more and lands that had been heavily disturbed by previous mining activities as well as the installation of a natural gas pipeline, an underground telephone cable, and access roads. The survey located one previously unknown mine, but it was not in an area that was scheduled to be impacted so was not recorded or evaluated for the NRHP. As a result, no further work was recommended.

2. *Archaeological Reconnaissance of the Selected USFS Lands, Climax Land Exchange and Appendix* (McNamara and Jennings 1979).

   In 1978, LOPA conducted an intensive level inventory of proposed land exchange parcels for Climax Molybdenum Company, Amax Inc. and the USFS; the company was consolidating its land holdings at the time. Within the McNulty Gulch OSF Expansion Project area, the northeastern portion was surveyed, and within the one-mile buffer an area was surveyed to the

north and three areas were surveyed to the east. The study identified 17 sites, including two (5ST114 and 5ST133) within the project area and six (5ST115 – 118 and 5ST121-122) within the one-mile buffer. Three sites (5ST114, 115, and 118) were recorded as prehistoric lithic scatters, and four sites were recorded as historic mining-related sites (5ST116, 117, 121, and 122). The cultural affiliation of one site (5ST133), a cobble concentration, could not be determined. McNamara and Jennings (1979:50, 53) provided NRHP and State Register of Historic Places (SRHP) recommendations for some of the sites. With regard to the prehistoric sites, it was recommended that testing be conducted at 5ST114 and 5ST118, and no recommendations was made for 5ST115. All of the historic sites were recommended not eligible, and no recommendation was made for 5ST133.

3. *Addendum 2: Summary of Intensive Surface Collection, Mapping and Evaluation of 5ST114 and 5LK372, Located on the Selected Lands of the Proposed Bartlett Mountain Land Exchange Near Climax, Colorado*. In *Final Report on the Archaeological Testing of Two Prehistoric Sites in the Bartlett Mountain Land Exchanged, Addendum 1 and Addendum 2* (Arthur and Jennings 1980).

   In 1980, LOPA returned to 5ST114 to intensively map artifacts and place six boreholes in the site; these efforts were to assist with the placement of excavation trenches planned for the 1981 field season (Arthur and Jennings 1980:3).

4. *Final Report on the Archaeological Testing of Two Prehistoric Sites in the Bartlett Mountain Land Exchanged, Addendum 1 and Addendum 2* (Arthur 1987).

   In 1981, LOPA conducted test excavations of 12 trenches at site 5ST114. Excavations yielded two datable projectile points (3000 B.C. – 500 B.C.), nondiagnostic artifacts, and one uncorrected radiocarbon sample of 1930 ± 315 B.P. (UGa-4164).

Two sites (5ST334 and 5ST1015) are noted in the OAHP files, but do not have associated reports. A State Inventory Form for the Bartlett Mountain Moly Mine (5ST334) was completed by OAHP staff in 1979; the site is part of the Climax Molybdenum Mine. 5ST1015, an abandoned mine shaft located north of the project area near Clinton Reservoir, was recorded by the Division of Minerals & Geology (Mined Land Reclamation) in March of 2004.

Historic Research

During September of 2013 WCRM contacted Summit County to inquire about the possible presence of county landmarks within the McNulty Gulch OSF Expansion Project area. No response was received to telephone inquiries. During July and August 2014, WCRM attempted to discuss the project with the COE Sacramento District office staff. Phone and email messages were not returned.

General Land Office (GLO) Records Search

On September 18, 2013, WCRM conducted a search of GLO records. The search found numerous placer and lode mining claims scattered throughout the McNulty Gulch OSF Expansion Project area with portions of a handful of claims reaching into the survey area. Cultural resources were recorded on only two of the lode claims, the Blue Float and West Side lodes owned by the Scottish American Mining Company in 1880 when the mineral surveys were completed claims (General Land Office 1880a, 1880b).

Background Research

The background research included examination of published local and topical histories [Bergendahl and Koschmann (1971); Dempsey and Fell 1986; Gilliland (1999); Voynick 1996]. These sources were found in local libraries, online, and in the personal library of the Project Historian. WCRM obtained information from the Climax Molybdenum Company about land exchanges and purchases as background to the study and the site evaluations. Online records available from the BLM and Summit County were reviewed. OAHP contextual studies were employed including: a study of Colorado highways (Associated Cultural Resource Experts 2002), a mining study (Fell and Twitty 2008), a water resource development study (Holleran 2005), a regional study (Mehls 1984), and a historical archaeology context (Church et al. 2007).

Statement of Objectives and Research Design

Objectives

The objectives of the cultural resource inventory were to identify, document, and evaluate all of the cultural resources located within the McNulty Gulch OSF Expansion Project area with regard to their eligibility for inclusion in the NRHP. To facilitate the evaluation process with regard to historic resources, WCRM adopted the concept of the historic context as defined by the Secretary of the Interior as the vehicle for site eligibility recommendations. The prehistoric research design has its roots in the known prehistory for the region, specifically for the Northern Colorado River Basin (Reed and Metcalf 1999).

Prehistoric Research Design

Cultural resource investigations usually include the key areas of time, place (space) and theme. Investigations of these elements can add significant information to an extant database for any region or area. Each archaeological observation marks a moment in time and place. Time as an element is defined archaeologically by chronology whether by relative or absolute dating. Relative dating establishes an event or culture as being "earlier than, coeval with, or later than some other event or sequence of events" (Jennings 1974:12). A chronology for an area can be established by the use of relative dating for example by examining soil sequences in combination with cultural materials. From this information, a typology for the area can often be established. Absolute dating can provide information that is more precise. Examples of absolute dating include dendrochronology (tree-ring dating), radiocarbon dating, obsidian hydration dating and archeomagnetism. Place or space as an element is defined archaeologically by the specific geographic location where living activities once occurred. The elements of time and space become more complex as their relationship to other locations or sites in time and space are examined. This led to the identification of the following research themes:

1. Chronology;
2. Population Dynamics;
3. Technology;
4. Settlement and Subsistence Strategies; and
5. Geomorphology and Paleoclimates.

Data to address these themes can be found form a variety of sources such as information from dated, stratified deposits or analyses of lithic assemblages, features, flotation of samples, and faunal evidence. In addition, Reed and Metcalf (1999:170-176) have identified specific data gaps and research objectives for the Northern Colorado River Basin. Within the project area, two prehistoric artifacts were located, documented, and evaluated – a chert biface on multi-component site (5ST1478) and an isolated jasper biface (5ST1487). As a result, detailed research questions and objectives could not be developed.

Historic Research Design

NRHP cultural resource evaluations are based on historic contexts and the individual resources are associated to the contexts using property types. Property types are defined as groups of cultural resources having similar physical or associative characteristics as explained below. A historic context, as defined by the NRHP, contains three elements and serves two essential functions in the cultural resource management decision-making process. The three elements are time, place, and theme. The time element is a parameter that defines, or is related to a chronological period encompassed by the activity discussed in the stated theme and serves as the period of significance. Place is the specific geographic area at which activities associated with the theme took place. Place also functions to help define a resource's level of significance by allowing the resource to be associated with larger geographic areas. Theme identifies the basic socio-cultural activities or lifeways represented by the area under discussion, such as the development of precious

metal mining in the survey area. The two main functions of a context are: 1) to help assure consistent resource evaluation; and, 2) to offer guidance to researchers about the types of data needed to address a research design for the survey area.

Property types are directly related to a specific context and define the types of sites, characteristics of the sites, the significance of the sites, and the integrity of the sites if they are to be considered eligible for inclusion on the NRHP under the context. Cultural resources within a given property type share either physical or associative characteristics or both, such as similar architecture, roles in history, or functions. The property types offer the first level of analysis of resources recorded in field surveys because they are defined in ways that reflect the known or expected characteristics of the field resources. Typically, the property types are defined at the site level and that approach has been used for this study. Sites include both the above and below ground archaeological remains and above ground manifestations such as buildings or structures.

The Colorado OAHP identified and developed general guidelines for the study of the project area's historic resources in the Resource Protection Planning Process (RP3) regional historic context study for the Colorado Mountains (Mehls 1984). The RP3 program was a preservation planning intuitive undertaken by the National Park Service in the 1980s to help states to develop contexts for resource NRHP evaluation. The regional studies led to the later development of topical studies in the form of state-wide contexts and NRHP multiple property documents. In addition to the regional RP3 study three of the topical contexts were used for this project. These included the statewide multiple property study of mining resources (Fell and Twitty 2008), the CDOH/CDOT context for Colorado's highways (Associated Cultural Resource Experts 2002), and context for irrigation and water supply resources (Holleran 2005).

Property Type I: Mining Resources (1860-1964)

The overview identified the prominence and importance of mining and the cultural resources associated with the industry in the survey area throughout the historic period from 1860 to the 1960s. The records review before the field survey and results of the inventory found that the survey area had been used primarily for prospecting, with a small part of the area being used for placer mining during the early years of mining. The field survey also found evidence of the water diversions to support mining and subsequently recreation uses. As a result, the mining property type and research design developed for this study focused on the prospecting phase of mining. Such resources may be considered significant under the areas of commerce, exploration/settlement, engineering, and industry (U.S. Department of Interior, National Park Service 1997) and may be significant under NRHP criteria *a, c,* or *d*.

Associated Resource Types

The mining related resources in the survey area focused on mineral exploration (prospecting) and WCRM adapted the Fell and Twitty (2008) multiple property standards for hardrock prospecting for use in the current study. A prospect is commonly denoted by minimal property development, the absence of ore-storage facilities, inexpensive and portable equipment or its remains, and minimal capital expenditures. Typically, prospecting resources tend to be shallow, simple excavations, most of which lacked machinery. However, if promising signs of ore were observed some operations became fairly extensive, having surface plants that required more formal engineering and equipment as the prospectors sought economically viable deposits. The simple isolates or sites, consisting primarily of pits, trenches, or cuts, will be readily recognized while the more complicated operations can be more difficult to identify as prospecting oriented. These larger operations will usually be centered on a shaft or an adit with an associated waste rock dump. The deeper prospects may also exhibit evidences of the uses of machinery such as a hoisting system. While most prospects lacked machinery and were labor-intensive, deep operations employed some power appliances. The machinery used for deep prospecting was portable and when the operation ended the

equipment usually was removed. This leaves primarily archaeological features including pits, trenches, shaft, machinery foundations, building vestiges, and artifacts (Fell and Twitty 2008). Detailed descriptions of the hardrock prospecting and the wide variety of features and sites associated with prospecting can be found in Fell and Twitty (2008) and are not repeated here. Additionally, resources associated water supplies related to mining were anticipated to be present and found during the field inventory.

Mine Exploration

1. Domestic Built Environment: Dugouts, Tent Platforms, Camp Sites, Domestic Trash Dumps
   These features and sites served domestic shelter and living functions within the mine exploration areas. Any architectural feature should be in situ, discernible as to its function within the mine exploration complex, and date to the period of significance. The building or feature should not be substantially modified or altered after the historic period (ending date 1964). The resources may be eligible under Criteria *a* or *c*. The resource must retain its fabric and feeling in order to be considered a possible eligible resource. Vestiges of the shelters as well as dumps or trash scatters related to domestic activity may be found in association with these buildings and would be considered potentially eligible under Criterion *d*.

2. Operational Built Environment: Prospect Pits, Cuts, Shafts, Drill Holes/Sites, Waste Rock Dumps, Tailings, Trenches, Bulldozer or Mechanical (Steam) Shovel Cuts, Drill Pads, Sumps, Tool Preparation Areas, Boilers and Hoisting Equipment, Machinery Part and Supply Dumps, Blacksmithing and Other Shops, Claim Posts/Signs
   These features and structures facilitated the activities and operations of the prospectors and served very specific functions within the overall area of the exploration. Any architectural feature should be in situ, discernible as to its function within the exploration complex, and date to the period of significance. The building should not be substantially modified or altered after the historic period (ending date 1964). The resources may be eligible under Criteria *a* or c. The building or feature must retain its fabric and feeling in order to be considered a possible eligible resource. Vestiges of the buildings or features as well as dumps or trash scatters related to the exploration activities may be found in association with these buildings and would be considered potentially eligible under Criterion *d*.

Water Development Related Resources

1. Canal, Ditch, Lateral, Spreader, Diversion Dam, Headgate, Canoa, Flume, Pipe/pipeline, Siphon, Drop Box, Weir, Parshall Flume, Tappoon, Ditching Machinery, and Ditch Rider's Path/Trail/Road
   These features should be clearly evident, not filled in or substantially modified and accurately dated. Beyond these simple considerations, the ditches should be viewed as systems. Specifically, the resources, as part of a system, should be able to be interpreted as to their function, purpose, and their role within a larger system. In the survey area the purpose of the ditches was to provide water for mining activities and subsequently recreation uses. The resources may be eligible under Criteria *a* or *c* or both. Ditches and their associated delivery systems must be viewed as dynamic when assessing integrity. For example, dredging and other ongoing maintenance activities must be conducted on a periodic basis which will cause changes to the ditch. However, substantial upgrades, such as concrete lining of a once dirt ditch or piping a once open ditch, will be considered to have cost the ditch its historic fabric and feeling and thus the ditch, or the altered portions, will be considered as non-contributing or not eligible.

Research Themes

Donald Hardesty's career led him to become one of the nation's leading archaeologists studying western mining. Review of his 2010 study on the topic (Hardesty 2010) aided in the development of the research questions provided in this section; these questions help to facilitate the study and evaluation of historical archaeological resources associated with this property type.

A) What types of technologies were employed for the prospecting efforts? Can they explain the evolution and development of mineral exploration practices in or near the survey area through time?

B) Do the resources show adaptations to meet local needs or geologic conditions? Can patterns be identified related to topographic features, geologic conditions, technologies employed, or in other manners?

Registration Requirements for the NRHP

Eligibility Considerations for Mining Resources

Criterion a

1. Is the resource one related to the development of a major local mineral deposit? Is the resource an outstanding example of a type or method of mineral exploration once common in the area that is not preserved elsewhere in the region?
2. Is the property associated with an event important to local or regional history?

Criterion b

3. Is the resource associated with an individual who was important in the development of the local mining industry or an individual that made a significant contribution to the evolution of mineral exploration?

Criterion c

4. Are the resources representative of mineral exploration activities?
5. Is the property architecturally significant? Does it have significance in the history of mining engineering or another engineering significance?

Criterion d

6. Can the property provide information pertinent to addressing the research questions identified above?

Integrity Considerations

For mineral exploration resources to be considered as having integrity the site or resource must have enough of the historic fabric present to convey the historic feeling from the period of significance and to make the function of the site and its components readily apparent. Also, the individual resources or objects must be able to convey their design, materials, and workmanship. If they can no longer do that, either because of natural deterioration or the activities of man during or after the period significance, then those specific resources will be considered to be not eligible.

To be considered to have integrity an archaeological deposit must have an undisturbed matrix and must not exhibit extensive post-occupational disturbance.

Property Type II: Transportation Resources (1860-1964)

Transportation resources tend to be important across the generations. Even with the development of the rail connections between Denver, the upper Arkansas River Valley and the Tenmile Creek area roads continued to serve as an important link between the railroads and the mines and outlying settlers in the area. The roads and railroads helped local towns develop into commercial centers and allowed access for local residents to the products available on the national market during the late 19th and early 20th centuries. In many cases the wagon roads evolved into railroads or later became the highways, thus becoming important

arteries of commerce. In looking at the history of transportation in and near the survey area, three resource categories have been identified associated with transportation property type: 1) regional wagon roads; 2) railroads; and 3) regional automobile highways. However, only one type, regional automobile highways, was represented in the sites recorded by the field inventory and as a result it's the only one discussed here. The highway resources are considered to be potentially significant under either Criteria *a*, *b*, or *c* with their areas of significance being transportation or engineering (U.S. Department of Interior, National Park Service 1997). Those with an archaeological presence also are considered potentially significant under Criterion *d*. Except for bridges, the resources are linear and as such it was decided that to be considered eligible the highway has to exhibit some type of engineering features or construction techniques unique to a specific period. Identifying the time, either the year or span of years, when the resource was built is very important to determine whether or not the existing resource still represents the time period and related unique types of construction.

Transportation resources of the survey area were expected to have materials that included asphalt (black top), dirt and gravel, steel, stone, and concrete. Bridges on the highways are likely to be made of concrete and steel, or treated timbers. Generally, the decks were either surfaced with cold laid asphalt, concrete, or gravel. The routes tended to be determined either by the local topography, such as the presence of creeks and drainages, or adaptations to the presence of mines or other mineral industry related activities and their associated features. These can be active or inactive transportation systems with their ancillary features. The regional automobile highways constitute the key sub-type of the transportation property type pertinent to this study.

Regional Automobile Highways, 1920-1964

As noted in studies such as Associated Cultural Resource Experts 2002 overview of Colorado's highway history, the early 20th century was a period of transition and modification for local transportation scene in Summit County and its neighboring counties in the central mountains. Not surprisingly, many of the early auto routes paralleled or took advantage of existing wagon roads or abandoned rail grades in the region. In addition to having favorable grades and stream crossings, the existing roads also connected the centers of commerce in the region. The changes in transportation methods reflected the growing, national trend toward auto usage. The early auto roads have a local significance in the 20th century development of transportation systems in Summit County. Automobile highways were built solely to accommodate vehicular traffic. The highways may be open for use by all, however, pedestrians, animals with packs or riders, and wagons are occasional users only and not the reason the transportation route was built. The highways are wider than the roads; their width can vary from the commonly accepted two lane highway with shoulders and borrow ditches to two or more lanes in each direction. The highway will exhibit the use of surfacing materials, preparation of the roadbed and base, and signage. As a result, the highways are likely to have more numerous and clearly defined features, such as retaining walls, culverts, bridges, pullouts and the like. Highways will exhibit some of the highest levels of engineering and modification to the natural landscape and thus be clearly distinguishable from the wagon roads. Highways may be built along their own, surveyed routes or may represent upgrades to previously existing roads and trails.

Associated Resource Types

Highways/Freeways/Divided Highways/Automobile Roads, Fords, Road Cuts, Bridges/Culverts, Tunnels, Right-of-Way Markers, Retaining Walls, Maintenance Station or Facilities, Construction/Maintenance Camps, Auto Care and Maintenance Facilities and Shops, Traveler Facilities, Campsites, Roadside Dumps/Debris

These features should be clearly evident, retain their surfacing materials as appropriate, not be heavily eroded, filled in or substantially modified and accurately dated. Beyond those basic considerations, the site or feature should be viewed as part of a linear system. Specifically, the resources, as part of a system, should be able to be interpreted as to their function, purpose, and their role within the larger highway system. In the survey area the purpose of the highway related sites and features was to provide a route for transporting goods or people to points within or beyond the limits of the survey area and the Summit County region. The resources may be eligible under Criteria *a*, *b*, *c* or *d*. The highway or its features must be among the earliest in the Summit County region, and dateable to the early to mid-20th century period (1921-1964). The highway or features, if they are still in use, must be viewed as dynamic when assessing integrity.

Research Themes

Transportation-related resources may offer important information to further our understanding of regional and state history as well as offering data for possible studies (comparative and otherwise) to the larger West and the development of western communities. Underlying these research questions are the concerns raised in the Colorado Mountains Historic Context (Mehls 1984) and information found in the highway study (Associated Cultural Resource Experts 2002) for CDOH/CDOT. These questions include:

A) How did the planners and builders of the systems react to the environmental constraints? Did the transportation systems impact the landscape and, if so, how? Did the transportation systems help establish or define landscape use patterns?

B) What types of commercial and private traffic used the transportation systems? Did use change over time and were certain routes used more by one type of traffic than another? Do the archaeological manifestations support the historic records concerning the changing uses of the transportation systems?

Registration Requirements for the NRHP

Eligibility Considerations for Transportation Systems

Criterion a

1. Is the resource a segment of the main highway into or through the region or is it a segment of feeder road of major local significance?
   A. Is the resource representative of one of the main highways?
   B. How much of the highway survives? Do longer or more representative segments remain elsewhere?
   C. Is the resource an outstanding example of the highways of the particular era that are not preserved elsewhere in the region?
2. Is the property associated with an event important to local or regional history?

Criterion b

3. Is the resource associated with an individual who was important in the development or use of the highway transportation system in the locality or region?

Criterion c

4. Are the resources representative of highway structures or landscape features, such as road cuts, bridges, and rock retaining walls?
5. Is the property architecturally significant? Does it have significance in the history of civil engineering or another engineering significance?

Criterion d

6. Can the property provide information pertinent to addressing the research questions identified above?

Integrity Considerations
In addition to having significance as outlined in the previous section, the transportation resource must also retain essential characteristics and physical features that convey its historical identity. The National Register identifies seven elements of integrity including location, design, setting, materials, workmanship, feeling, and association. These elements of integrity are very broad brush. To make them easier to use with the highways the following descriptions have been developed.

A modern highway may overlay a historic route/resource. However, if the character and feeling of the original or historic highway travel line has been lost by construction of a modern, high speed highway on the same route or nearby, then, while the overall route system may be significant, the historic segment is not, because of a loss of integrity. Similarly, if a stream was once crossed by a bridge, but the crossing has been replaced by a fill and culvert then the bridge is no longer extant and thus the segment cannot be considered to have integrity. Precise location may have varied over time, but if the highway stayed in the general area, for example, along the stream or ridge then location integrity will be considered extant. In all cases, drastic rerouting such as from one drainage bottom to another indicates that integrity of location has been lost. Closely associated with location is the element of setting. Minor rerouting, such as a road or highway along a drainage bottom that moves from one side of drainage to the other shall be considered to have integrity of setting. Those, for example, that have been removed from the hillside or drainage to a different locale shall have lost setting integrity. Association of the transportation resource to its immediate natural surroundings will also be used to measure the integrity of location and setting. Extreme changes to the natural setting will also be considered to have cost the resource its integrity of setting.

For evaluation purposes transportation system segments that meet the NRHP criteria and have good integrity as described above are considered to be eligible for listing on the NRHP. Other segments that meet National Register criteria and fail the integrity test above are generally not eligible for listing in the National Register.

Expected Results
It was anticipated that the majority of the cultural resources found during the Class III inventory would be related to historic mining and mineral prospecting activities beginning with the placer gold mines of the 1860s to the molybdenum mining of the 20th century. Regarding prehistoric resources, it was anticipated that the majority would be lithic scatters, small hunting camps, or isolated occurrences of artifacts or features.

Field Methods

On October 9 and 10, 2013, Robert Fiske and Collette Chambellan of WCRM, Inc. began a Class III pedestrian survey of the McNulty Gulch OSF Expansion project in Summit County, Colorado. A total of 28.11 acres were surveyed during the two partial days of fieldwork. Due to inclement weather, fieldwork was postponed until July of 2014. From July 14 to 20, 2014, Robert Fiske, Jackson Mueller, and Anitra Sapula of WCRM returned to the project area and surveyed 378.54 acres. On August 10 and 11, 2015, Robert Fiske and Collette Chambellan returned to survey an additional 18.14 acres. In January of 2016, Climax finalized the 404 Permit area to 374.45 acres with a 200-foot buffer totaling 96.72 acres (Figure 2). Thus, the total project area is 471.17 acres, and all but 200.93 acres of this area was inventoried during the 2013 and 2014 surveys. The project area that was not inventoried was either previously disturbed or at a grade of 30% or greater, which was too dangerous to survey and, therefore, less likely to yield intact cultural deposits. Areas previously inventoried during reconnaissance surveys (McNamara and Jennings 1979; Ward-Williams 1974) were inventoried. Bob Estes and Jay Johnson of WCRM assisted with the GIS mapping, and the maps for the report and cultural resource documentation we completed by Bob Estes.

The project area was 100% covered by three archaeologists walking parallel 15- 20 m transects. The ground visibility ranged from good to poor with an overall average of 15-20 percent visibility. Portions of the project area were completely covered with dense alpine grasses making ground visibility difficult, especially in McNulty Gulch proper. Areas of exposed earth (i.e., two track roads, cutbanks, and rodent burrows) were thoroughly examined. All resources were recorded on the appropriate Colorado Cultural Resource Survey Forms (see Appendix I), mapped, and photographed. The identified resources were plotted on the Copper Mountain 7.5' USGS topographical quadrangle. All project records, field notes, and color digital photos are on file at WCRM's Boulder office. Artifacts were not collected by WCRM; however, one isolated prehistoric tool (5ST1487) was collected by a Climax contractor that was conducting seepage/flow studies. The artifact was provided to WCRM for examination and returned to Climax.

Historic materials must be at least 50 years of age to merit recordation. Isolated artifacts/features are the occurrence of four or fewer pieces of debitage, tools, tool fragments, or historic debris not from the same item or the occurrence of an isolated feature. A prehistoric site is defined as five or more artifacts, two or more features or features associated with artifacts. Historic sites consist of groups of linear features, historic buildings or structures, or features with five or more associated artifacts less than 100 ft apart. Single linear features, such as individual feeder ditches not connected in the project area to the primary ditches, were treated as isolates. Following guidance found in the Colorado OAHP survey manual (Office of Archaeology and Historic Preservation 2007:18-19), WCRM gathered and tabled basic information about 40 isolated historic features. The features were located, mapped, and described but not recorded.

Inventory Results

During the inventory of the McNulty Gulch OSF project, WCRM recorded one previously recorded site (5ST114), tried to relocate a previously recorded site (5ST133), and recorded six new sites (5ST1476 – 1478, 5ST1484.1, 5ST1485.1, and 5ST1486.1) and four isolated finds (5ST1479 – 1481 and 5ST1487). One of the isolates (5ST1487) had been collected previously by a Climax contractor working in the area. In addition, 38 historic features related to mineral exploration and two Bureau of Land Management (BLM) section markers were documented following OAHP standards (Office of Archaeology and Historic Preservation 2007:18-19) for documenting minor historic features. The resources recorded and documented are summarized below.

Site Descriptions

5ST114

Site 5ST114, a small lithic scatter and two historic prospect features, is situated on top of a long north/south trending ridge (i.e., Carbonite Hill) that divides McNulty Gulch and Clinton Gulch. The site is at an elevation of 12,040 ft, and the slope ranges from 1-10% with a variable aspect. Sources of water were not present on the site. The soil is reddish-brown silty sand with approximately 20% gravels, cobbles, and occasional bedrock outcrops. Vegetation is an alpine grassland community with native grasses and forbs. Ground visibility is less than 15% with thick grasses dominating.

The prehistoric component of 5ST114 was originally recorded in 1978 by Colorado State University's LOPA (McNamara and Jennings 1979). At the time of recording, the prehistoric artifact assemblage (four flakes and one projectile point) was collected and a historic prospect pit was noted but not recorded. McNamara and Jennings (1979:51) recommended that the site was eligible for inclusion in the NRHP and SRHP and should be tested prior to the land exchange. Subsequently, LOPA returned to the site in 1980 to intensively map artifacts and place six boreholes in the site; these efforts were to assist with the placement of excavation trenches planned for the 1981 field season (Arthur and Jennings 1980:3). During their visit to the site in 1980, eight flakes and a small piece of ground stone were mapped, and the ground stone was collected; the site was determined to be 0.38 acres in area. It was observed that the majority of the cultural material was found in the ruts of the two-track jeep trail used for a revegetation study.

Returning to the site in 1981, LOPA conducted test excavations (Arthur 1981) that included digging twelve 1 m by 2 m trenches. As a result of these excavations, two datable projectile points (3000 B.C. – 500 B.C.), three projectile point fragments, one biface, one unmodified flake scraper, three ground stone fragments, and 593 flakes were located and collected from 5ST114. The datable points and tool assemblage most closely fit within the Terminal period of the Archaic Era (2950-1950 B.P. [A.D. 1]) as defined by Reed and Metcalf (1999:79). In addition, one uncorrected radiocarbon sample of 1930 $\pm$ 315 B.P. (UGa-4164) was obtained from "charcoal very thinly distributed throughout the fill, with no discrete concentrations. It occurred as flecks and chunks with rounded corners, rather than angular shapes" (Arthur 1981:47). The large standard deviation of the date and the fact that it was not in keeping with the lithic evidence at the site of an "Archaic" occupation was reasoned to be a possible result of way the sample was collected from the general fill, a result of weather from a long period of surface exposure, or due to specimen contamination (Arthur 1981:47). There were also discrepancies between the plant pollen obtained and the relative and absolute dates represented. Analyses were also conducted on bone and soils. It was determined that the site deposits have been "disturbed to a large degree" (Arthur 1981:88).

The site was rerecorded by WCRM on July 15, 2014 using the previously established LOPA datum. There was no evidence of either prehistoric or historic artifacts on the site surface. A previously unidentified

historic prospect pit was recorded as F1, and a second prospect pit, previously noted by LOPA (McNamara and Jennings 1978; Arthur 1981), was recorded as F2.

- Feature 1 (F1) is a prospect pit located in the southeastern portion of the site 23 m from the LOPA datum. The pit is 10 ft in diameter and one foot deep. Waste rock is piled to the east/northeast for a distance of 10 ft, a width of eight ft, and a height of ½ ft.
- Feature 2 (F2) is a prospect pit located in the northeastern portion of the site 33 m from the LOPA datum. The pit is 12 ft in diameter and three ft deep. Waste rock is piled to the north, northeast, and east for a distance of 10 ft and a height of 1 ½ ft.

Both components of the site have been moderately impacted by elk and deer grazing and alluvial and eolian erosion. The prehistoric component was heavily impacted during initial recording as a result of a 100% collection methodology (McNamara and Jennings 1978), and it was subsequently impacted by the placement of six boreholes (Arthur and Jennings 1980) and excavation of twelve 1 m by 2 m trenches (Arthur 1981). The site has also been moderately impacted by the use of a two-track road that bisects the site from north to south and the historic excavation of two prospect pits (F1 and F2) within the component boundary. The historic features are in ruins, due to abandonment. Review of available historic records found no information regarding prospecting at this site.

5ST133

Site 5ST133, an isolated cobble concentration, was originally recorded by Anne McNamara of the LOPA on September 5, 1978 (McNamara 1978). Although this resource was not mentioned in the report by McNamara and Jennings (1979) that documents resources recorded at the same time as part of a reconnaissance of selected Forest Service lands, it was likely recorded during the same effort. The isolated feature was described as follows:

> "Site consists of a sandstone cobble concentration in circular form, with blackened faces. No cultural material was found in association with the feature. No charcoal was found within the concentration."

WCRM returned to the location of the feature as provided by McNamara on July 15, 2014. The site could not be relocated; it is possible that the dense ground cover is obscuring the site, that it was incorrectly mapped during the original recording, or that it is no longer present. It is unknown whether the resource is prehistoric or historic in nature.

5ST1476

Site 5ST1476 is a small historic artifact scatter located on the top of a west trending ridge east of Clinton Creek Ditch and west of Clinton Creek. The site is at an elevation of 11,800 ft, and the slope ranges from 0-15˚ with a southwestern (230˚) aspect. Sources of water were not present on the site. The soil is a dark brown loam containing decomposing organic matter. Vegetation consists of native grasses, forbs, scrub brush, and a few mature spruce trees with ground visibility less than 5% except in bare areas below trees. Many of the trees have been cut down (axe, saw). A prospect pit is located approximately 45 m to the west of the site, outside of the project area. 5ST1481, an isolated earthen ditch, is located 30 m to the east and may be associated. No features or evidence of subsurface cultural deposits was observed.

The site is located on lands patented by the USFS in 1942. 5ST1476 is near, but not on, the American Placer claim plotted by the General Land Office but not surveyed by the government (United States of America and American Metal Climax, Inc. “Patent 11204,” 19 March 1942, Climax Molybdenum Mine, Leadville, CO and General Land Office Mineral Survey Connector Sheet for Section 35, T7S, R79W, General Land Office, U. S. Department of the Interior, Bureau of Land Management, Colorado State Office, Lakewood, CO).

5ST1476 is approximately 0.55 acres in area, and the assemblage includes a total of 35 artifacts dispersed evenly across the site consisting an array of cans, bottles, and hand tools most likely deposited at this location between 1915 and 1940. Four domestic artifacts (FS-1 through FS-4) are included within this total; they consist of two complete bottles (FS-1 and FS-2), one tobacco tin (FS-3), and one pick axe (FS-4). A total of 22 cans were documented including 14 sanitary, four vent hole, two stamped end, one flat top all steel, and one hole-in-cap. Glass artifacts consist of three colorless glass fragments, one brown glass jug base, and one colorless glass jar. The miscellaneous artifacts consist of two shovel heads, one horseshoe, and one tin flashing fragment. It is likely that these items were associated with limited use camping related to mineral exploration. The site component is considered to be in good condition with moderate impacts resulting from elk and deer grazing, alluvial and eolian erosion, and the natural deterioration of the artifacts.

5ST1477

Site 5ST1477 is a historic mining site located on a west/northwest facing slope west of Little Bartlett Mountain. The Climax Mine tailings are located to the southwest and west of the site. The site is at an elevation of between 12,120 and 12,200 feet, and the slope ranges from 25-35º with a west/northwest aspect. Several small creeks are present within the site boundary; it is unclear whether they are spring fed or are associated with mine runoff. It is likely that drainage work has occurred to remove water and/or move water away from the mine. The soil is a brown loam containing active and decaying organic matter and, although the depth is unknown, exposed soils within some features suggest it is at least 10' deep. Located in a colluvial depositional environment, granitic and limestone cobbles to boulders are present across the site and slope, in general. On-site vegetation consists of native grasses, cutgrass, paintbrush, yarrow, willow, forbs, and young alpine spruce. Ground visibility is extremely limited with dense vegetation obscuring 95%+ except in bare areas and below trees.

The historic record of the site begins during the late 1870s to early 1880s silver mining boom that encouraged rapid expansion of exploration and claiming activities in the Ten Mile Consolidated Mining District. Four lode claims, the New Discovery, the Blue Float, the West Side, and the High Chief, had been filed by 1880; these claims covered part of the site. The GLO completed Mineral Surveys of the Blue Float and West Side lodes that were approved by the Surveyor General on December 30, 1880. The Scottish American Mining Company owned the claims in 1880. The Mineral Survey connecting sheet for the section does not show surveys for the other two claims made by Albert Johnson (General Land Office 1880a, 1880b). By 1964, the two claims were owned by Walter W. and Helen C. Byron who in June of that year sold them to American Metal Climax, Inc. (General Land Office 1964). This purchase took place as the mine prepared for its 1970s expansion into the Tenmile Creek area that led the company to the purchase of dozens of claims as well as to undertake land exchanges with the USFS.

The component is approximately 4.59 acres in area and consists of 22 features directly associated with mineral exploration including three adits (F1, F11, F21), two waste rock piles (F2, F10), three structural foundations (F3, F6, F12), one prospect cut (F4), one stope (F5), one platform (F7), four mountain cuts (F8, F9, F19, F20), five prospect pits (F13, F14, F17, F18, F22), and two shafts (F15, F16). The mining features are all excavated into the west facing slope of Little Bartlett Mountain. The features found on the site were documented as follows:

- Feature 1 (F1), located in the center of the site, is a collapsed adit and associated trench which trends west/northwest by east/southeast. The portal would have been on the east/southeast end. Feature 2, a waste rock dump, is related to this feature. The north/norteast side is bermed 15' out, while the S/SW side borders the F19 cut. The adit is 54 ft long, 14 ft wide, and averages five ft deep.

- Feature 2 (F2), located in west central portion of the site, is a waste rock dump associated with F1, an adit. It extends 75 ft west/northwest from the mouth of the F1 trench, is 35 ft wide and 15 ft in height. Situated on top are seven 4 " by 4" lumber sections, likely from subsequent claimants in the area making claimposts after this site was abandoned. One piece of amethyst bottle body glass is on the slope of the dump.
- Feature 3 (F3), located in the center of the site, is a structure foundation constructed with locally available granite rocks. No coursing is apparent. The outside dimensions are 18 ft^2 by 2 ½ ft tall by 3 ft thick. The foundation is oriented northwest/southeast. The entryway is on the northwest side where the wall is missing. The other side is set into F19 fill.
- Feature 4 (F4), located in the center of the site, is a prospect cut and associated waste rock pile. The cut runs northwest/southeast with the western side truncated by the F1 berm. The waste rock pile is on the northwest end. The cuts is 23 ft long, 12 ft wide and has a maximum depth of two ft. The waste rock pile extends for a distance of 12 ft, is 12 ft wide, and 2 ½ ft in height.
- Feature 5 (F5), located in the east central portion of the site, is a collapsed stope. It is 16 ft wide, 30 ft long, and 8 ft deep.
- Feature 6 (F6), located in the east central portion of the site, is a structure foundation. The entire foundation is 15 ft long and 8-9 ft wide; the interior measures 15 ft by 4 ft. The walls are constructed with locally available granitic rocks and are 2-foot wide and 2 ½ ft tall. The east/southeast side is set into the side of the F8 cut and the west/northwest end is open.
- Feature 7 (F7), located in the east central portion of the site, is a leveled platform set on the F8 cut and using rock from it. The feature is 16 ft east/west by 18 ft north/south and one foot in height.
- Feature 8 (F8), located in the east central to south central portion of the site, is a cut into the mountain side with a northeast/southwest orientation; it is 200 ft long and 25 ft wide. Fill from the cut extends 25-50 ft downhill to the northwest. One hole-in-cap can is located in the cut.
- Feature 9 (F9), located in the southern portion of the site, is a cut into the side of the Little Bartlett Mountain; it measures 25 ft wide northwest/southeast and 35 ft long northeast/southwest. It was filled with snow at the time of recording. A possible drainage trench, 6' wide, extends to the northwest. This cut may be the location of a dewatering tunnel.
- Feature 10 (F10), located on the western side of the site, is a waste rock dump measuring 95 ft northwest/southeast by 60 ft wide north to south and approximately 15 ft in height. It has no adjacent shaft, adit, or trench and is likely associated with F1. A chute or tram may have transported the waste rock to this location.
- Feature 11 (F11), located in the north central portion of the site, is a collapsed adit, trench and associated waste rock platform. The adit runs southeast to northwest and is 25 ft long, 6 ft wide, and 4 ft deep. The collapsed portal of the trench is on the southeast side. The waste rock platform extends 22 ft to the northwest from the mouth of the trench and is 22 ft in width.
- Feature 12 (F12), located in the northern portion of the site, is a structure foundation set into the slope of Little Bartlett Mountain; it is possible that it served as a powder magazine. It consists of a trench measuring 25 ft southeast/northwest, 8 ft wide, and approximately 6 ft deep. The sides are reinforced with non-coursed rock walls 1½ ft thick.
- Feature 13 (F13), located in the northern portion of the site, is a prospect pit with waste rock piled to the northwest. The pit is 10 ft in diameter and 5 ft deep, while the waste rock extends out from the pit for a distance of 16 ft at a width of 16 ft.
- Feature 14 (F14), the most northern feature at the site, is a prospect pit with waste rock piled to the northwest. The pit is 10 ft in diameter and 5 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 16 ft.

- Feature 15 (F15), located in the northern central portion of the site, is a collapsed shaft with waste rock piled to the west and northwest. The portal is 9 ft in diameter and 5 ft deep, and the waste rock extends out from the shaft for a distance of 12 ft with a width of 14 ft.
- Feature 16 (F16), located at the southeastern boundary of the site, is a small collapsed shaft with waste rock piled to the north and northwest. The portal is 6 ft in diameter and 3 ft deep, and the waste rock extends out from the shaft for a distance of 16 ft with a width of 8 ft.
- Feature 17 (F17), located in the southeastern portion of the site, is a prospect pit with waste rock piled to the north/northwest. The pit is 7 ft in diameter and 3 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 10 ft.
- Feature 18 (F18), located in the southeastern portion of the site located just north of F17, is a prospect pit. All associated waste rock has either washed away or is included in the waste rock found with F17. The pit is 7 ft in diameter and 3 ft deep.
- Feature 19 (F19), located in the center of the site, is a cut into the mountainside with a northeast/southwest orientation; it is 85 ft long and 25 ft wide. Fill from the cut extends 25 ft to the west/northwest. One hole-in-cap can is located on the platform.
- Feature 20 (F20), located in the north central portion of the site, is a cut into the mountainside with a southeast/northwest orientation; it is 60 ft long and 25 ft wide. Waste rock is pushed to the northwest and extends for a distance of 25-50 ft. One round spout can, one stamped end can, and one bucket were found in association with the feature.
- Feature 21 (F21), located in the southwestern corner of the site, is a collapsed adit and associated trench. The adit runs southeast to northwest and is 50 ft long, 12 ft wide, and 6 ft deep. The collapsed portal of the trench would have been on the southeast end. The northwest end has been filled with granite rocks and boulders; they are likely ad hoc water baffles. This feature may have served as a dewatering tunnel.
- Feature 22 (F22), located at the southern boundary of the site located, is a prospect pit with waste rock to the west/northwest. The pit is 10 ft in diameter and 2 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 10 ft. A piece of lumber, possibly a claim marker, sits atop the waste rock pile.

The materials found in the waste rock dumps are generally friable granite with inclusions of rose quartz and pyrite. The site has a small artifact assemblage including four cans, one bucket, and one piece of amethyst glass. The limited artifact assemblage indicates that the site was likely occupied before World War I (i.e., pre-1914).

The site is considered to be in good to fair condition with moderate impacts resulting from abandonment and erosional forces (alluvial, eolian, and colluvial). All structural debris, except rock foundations, has likely been removed and re-used elsewhere.

5ST1478

Site 5ST1478 is a multicomponent site consisting of one prehistoric chert biface, eight historic features, and two historic cans; seven of the features are prospect pits and one is a post. The site is approximately 0.73 acres in area. The site is located on the western slope of Carbonate Hill, west and downslope of Little Bartlett Mountain at an elevation of 11,800 ft. The slope ranges from 20-25˚, the aspect is to the west, and the 5ST1478 is in a colluvial depositional environment, with occasional outcrops of limestone, sandstone, and granite. Some minor ponding is present on the southern portion of the site and is likely a result of snow and mine runoff. The soil consists of light brown silt loam containing abundant decomposing organic matter. Soil depth is unknown, but visible deposits in the prospect pits suggest that it is at least 3 ft deep. Vegetation is dense and consists of forbs, paintbrush, flat leaf willow, oatgrass, thistle, native grasses, and

spruce. As a result, ground visibility is considered poor at 5-10%. Saw cut trees are present in the western portion of the site.

Review of archival records found that the site was not located on any historic claims but sat near an unpatented placer claim known as the “Gold Placer." American Metal Climax, Inc. acquired the property during the late 1960s as the mine prepared for its 1970s expansion into the Tenmile Creek area that led the company to the purchase of dozens of claims as well as enter into land exchanges with the USFS (General Land Office 1965).

The prehistoric component consists of one chert biface (FS-1) that was found in the northern part of the site near a historic post (F8) and two cans. The tool that measures 5 cm (length) by 3 cm (width) with a maximum thickness of 0.6 cm located at a platform facet adjacent to a bending fracture at the base of the biface. The chert is multi-colored, containing gray, pink, and white veins. Less than 5% of the biface contains cortical material, including a possible cortical platform at the tip. The chert exhibits differential luster on several flake scars along the lateral margins of the biface, indicating heat-treatment for improved flaking. Three significant step fractures occur on the dorsal face that would prevent further thinning of the tool. Use wear was not evident. No other prehistoric cultural material was present on the site.

The historic component consists of seven prospect pits (F1 – F7), a post (F8), and two tin cans. The prospect pits are situated along the rim of a drainage with occasional outcrops of limestone, sandstone, and granite. The post and tin cans are nearby, to the northwest. It is unclear whether the historic artifacts are associated with the harvesting of trees or with mineral exploration. The features found on the site were documented as follows:

- Feature 1 (F1), located at the southeastern end of the site, is a prospect pit with waste rock pushed to the south, southwest, and west. The pit is 13 ft northeast/southwest by 11 ft northwest by southeast and 1 ½ ft deep, while the waste rock extends out from the pit for a distance of 10 ft to the southwest at a width of 15 ft.
- Feature 2 (F2), also located at the southeastern end of the site, is a prospect pit with waste rock piled to the southwest. The pit is 12 ft in diameter and 1 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 12 ft.
- Feature 3 (F3), located in the south central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest, but a good portion of it has washed away. The pit is 14 ft northeast/southwest by 11 ft northwest by southeast and 1 ½ ft deep.
- Feature 4 (F4), located in the central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest. The pit is 12 ft in diameter and 2 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 14 ft.
- Feature 5 (F5), also located in the central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest. The pit is 11 ft in diameter and 2 ½ ft deep, while the waste rock extends out from the pit for a distance of 10 ft at a width of 12 ft.
- Feature 6 (F6), located in the west central portion of the site, is a prospect pit or collapsed prospect shaft with waste rock piled downhill to the southwest. The pit is 10 ft in diameter and 3 ft deep, while the waste rock extends out from the pit for a distance of 10 ft at a width of 18 ft. A six-inch high spruce tree is growing inside of the depression.
- Feature 7 (F7), located in the north central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest. The pit is 10 ft in diameter and 2 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 18 ft.
- Feature 8 (F8), located at the extreme northern boundary of the site, is a wooden post 2 ½ inches in diameter and 16 inches above ground. It is capped with a ferrous sleeve that has two copper rivets and appears to have been hammered into place. This feature may be a claim marker.

Site 5ST1478 is considered to be in good to fair condition with moderate impacts resulting from abandonment and erosional forces (alluvial, eolian and colluvial). Intact prehistoric or historic cultural deposits were not evident in the disturbed soils that resulted from excavation of the seven prospect pits. No other artifacts were found on the surface or in the disturbed areas. The limited historic artifact assemblage includes two tin cans that date to the 20th century; one can is crushed with a stamped end, a hole punched opening, and an indeterminate rolled side seam, and the other can is a sanitary can with an indeterminate rolled side seam.

5ST1484.1

Site 5ST1484.1is a "U" segment of Colorado State Highway 91 (SH 91) that was abandoned when the road was improved during the 1970s and 1980s. It is located along the northern slope of a northwest/southeast trending ridge and southern slope of a parallel NW-SE trending ridge in an entrenched drainage (i.e., McNulty Gulch). The site is located at an elevation of 11,150 ft., and the aspect is to northwest 300˚ with a 5˚ slope. The segment is a curve that served to take the highway around McNulty Gulch; thus, the gulch drainage exits the area between the "U" of the segment. When the site was recorded, water runoff was flowing along the south side of the south leg of the segment, occasionally routed by modern plastic pipe set in concrete. Water has ponded in the gulch between the segment legs as a result of the grading and construction of the modern highway across the gulch, thereby eliminating the segment from use. The soil consists of a dark brown loam containing decomposing organic matter; the depth is unknown. On-site vegetation consists of native grasses, forbs, scrub brush, and a few mature spruce trees. Ground visibility is 0-5% with heavy vegetation and asphalt present.

Historic research found that SH 91 is an original 1920s state highway that ran from Leadville northeast over Fremont Pass, across the current survey area, down Tenmile Creek canyon on to Frisco, then over Loveland Pass to Silver Plume and Georgetown before it terminated at a junction with U.S. Highway 40 (US 40) in Empire; the total distance of the current highway is 22.61 miles. By 1936, the section from Leadville to Climax had been paved; however, the record is unclear about the exact location of the paving end point. In 1939, the eastern terminus was moved to a point east of Empire at US 40 rather than running into town. Following World War II, in 1946, the entire highway was paved except for the summits of Fremont and Loveland passes. The highway over those passes was paved in 1954. In 1938, the Highway Commission designated the entire route of SH 91 from Leadville to Empire as U.S. Highway 6 (US 6); this designation was changed in 1941 when the road over Vail Pass was completed and the new route was designated US 6. During the late 1960s, the route between Copper Mountain and Empire was shifted from SH 91 to I-70. By 1969, the current terminus of SH 91had been established and it remains as a connector between Leadville and the new ski resort at Copper Mountain. Before the development of the Copper Mountain Resort, the junction of SH 91 and US 6/I-70 was known as Wheeler Junction (Salek 2014).

The abandoned highway segment is 1,107 m long and 36 m wide, and the five features associated with it are documented as follows:

- Feature 1 (F1) is a section of the old asphalt roadbed that remains on an abandoned segment of Old Colorado State Highway 91. The asphalt road bed is 23 ft wide and 558 ft long. There are also some remnants of a yellow-painted centerline on the asphalt.
- Feature 2 (F2) is a 24-inch corrugated galvanized steel culvert set into F1 (i.e., the asphalt roadbed) and oriented NE-SW; it is approximately 375 ft east of the current highway. The intake is set into concrete, 7½' wide, 1' thick. Next to the intake is a pile of excess concrete.
- Feature 3 (F3) is a 24-inch corrugated galvanized steel culvert set into F1 (i.e., the asphalt roadbed) and oriented NE-SW; it is approximately 550 ft east of the current highway. The intake is set into concrete, 7½' wide, 1' thick.

- Feature 4 (F4) is a 24-inch corrugated galvanized steel culvert set into F1 (i.e., the asphalt roadbed) and oriented NE-SW; it is approximately 800 ft east of the current highway. The intake is set into concrete, 10" wide, 1' thick.
- Feature 5 (F5) is a concrete highway ROW marker with a brass cap located in the bend of the abadoned segment's curve. The marker consists of a tapering cylinder (8" in diameter at base, 6" in diameter at the top) with a brass-capped piece of rebar inside. The cap at the top is 3" in diameter and stamped "State Highway Marker/FAP Nº/233 DI/Sta. 121 + 09.5/EI./R.O.W. Marker."

No artifacts were found in association with the segment or its associated features.

5ST1484.1 is considered to be in good to deteriorated condition with moderate impacts to total disturbance resulting from erosional forces (alluvial and eolian), abandonment, and mining activities. The western portions of the original road have been truncated by the location of the current SH 91 where it was constructed across McNulty Gulch. The eastern portion of the roadbed has been covered by mining debris, and the area around the site has been impacted by mining activities (grading) over many years.

5ST1485.1

Site 5ST1485.1 is a segment of the Fremont Ditch system, a historic water diversion ditch, located along the northern and northeastern slope of a southeast/northwest trending ridge in the western portion of the project area. The ditch lies above and to the southwest of McNulty Gulch at an altitude of 11,300 ft. The aspect is to the east with a slope of less than 5˚. The soil consists of a dark brown loam containing decomposing organic matter; the depth is unknown. Vegetation consists of native grasses, forbs, scrub brush, and mature spruce trees. The area is overgrown and has not been maintained. Ground visibility is considered less than 10% except in a few bare areas.

The entire Fremont Ditch system extends from the Climax Mine surface plant to the lands near the survey area; the entire ditch is approximately five miles in length. Historic records indicate that portions of the ditch were originally built during the 1920s expansion of the Climax Mine as Brainerd Phillipson, president of the mine, found new markets for molybdenum within the auto industry. The ditch appears to have been abandoned as a result of the 1970s expansion of the mine and its tailings and the rerouting of Colorado State Highway 91 (see: 1934 USGS Climax topographic map; Voynick 1996: 75-100).

The segment is 703 m long by 25 m wide and includes three features: the ditch channel (F1), the ditch rider's path (F2), and a concrete culvert (F3). Two ditch construction styles are represented within the segment; the first style is a simple above ground canal, approximately 15' wide by 5' deep, and the second style consists of underground piping, which was employed when there was surface disturbance from mining or logging. The subsurface portion of the ditch transitions from above ground to a buried concrete canal with wooden intakes and outtakes. Often, the water is channeled through a 24-inch (inside diameter) pipe made with redwood staves wrapped in ¼-inch ferrous wire. The majority of the wood piping has been salvaged leaving the wire remains. Occasional pieces of mangled ferrous pipe are present in the ditch rider's path.

Three features are included in the ditch segment and are documented as follows:

- Feature 1 (F1) is the ditch channel. It consists of two styles of ditch construction; the first style is a simple above ground canal, approximately 15' wide by 5' deep, and the second style consists of underground piping, which was employed when there was surface disturbance from mining or logging. The subsurface portion of the ditch transitions from above ground to a buried concrete canal with wooden intakes and outtakes. Often, the water is channeled through a 24-inch (inside diameter) pipe made with redwood staves wrapped in ¼-inch ferrous wire. The majority of the

wood piping has been salvaged or has rotted away leaving the wire wrappings.

- Feature 2 (F2), a ditch rider's path, is located adjacent and north of the ditch proper. It is sometimes bounded by an earthen berm on its north side and has been bladed with no apparent fill. The path ranges from 12-20' wide, is overgrown with vegetation, and is not maintained. Occasional pieces of mangled ferrous pipe are present in the ditch rider's path.
- Feature 3 (F3), a concrete culvert, measures 10' wide, approximately $2^1/_2$' thick, and retains fill dirt which is preserving the pipe underneath. The fill is from a mine road upslope to the south. The culvert has been set around a section of wire wrapped wooden pipe, consists of imported sand and gravel aggregate, and extends for 10' to the west. At this point, the pipe extends out to the west side with the canal and is held in place by locally available stacked granite rocks. Although the outtake consists of a wooden pipe, the buried ditch route is a concrete channel reinforced with wire mesh.

No artifacts or significant intact subsurface deposits were observed in association with the ditch segment.

Site 5ST1485.1 is considered to be in fair condition overall with some sections of the ditch channel (F1) exhibiting significant signs of neglect and deterioration. Portions of the ditch channel have been heavily disturbed by mining and logging activities. The same disturbance has also obliterated sections of the ditch rider's path (F2). The remainder of the ditch is overgrown and has not been maintained for number of years. The eastern end of the segment has been completely buried by modern mine tailings.

5ST1486.1

Site 5ST1486.1 is a segment of the Clinton Creek Ditch, a historic water division ditch; it enters the project area on the west side, just north of McNulty Gulch proper, and extends down a south facing slope where it meets up with McNulty Gulch. The elevation of the ditch at its northeastern project boundary is 11,560 ft, and its elevation at its southern boundary in McNulty Gulch is 11,300 ft. The aspect is to the south, and the slope averages 10-20˚. The soil consists of a reddish-brown, silty sand; the depth is unknown. The vegetation is sparse and consists of native grasses, forbs, scrub brush, and mature spruce trees. Ground visibility within the ditch proper ranges from 60-70%. The northern portion of the ditch has experienced heavy disturbance from alluvial and colluvial erosion.

The entire Clinton Ditch, a substantial ditch system that was developed as part of the Climax water diversion plan, is approximately three miles long and runs from Clinton Creek, northeast of the project area, and terminates at an unnamed drainage that empties into a segment of the Fremont Ditch (5ST1485.1) in McNulty Gulch. The historic record indicates that Climax built the Clinton Creek Ditch during 1931 and 1932 to support their mining activities. During the 1970s expansion of the mine, the ditch was extensively rehabilitated and the Clinton Creek Reservoir was built. In 1992, Climax sold the Clinton Creek Reservoir and is water rights to the Clinton Ditch and Reservoir Company, a consortium of recreational interests including Copper Mountain, Keystone Resorts, and the Winter Park Recreation District as well as Summit County and the cities of Breckenridge, Dillon, and Silverthorne (McNamara and Jennings 1979:48; Voynick 1996:339).

The segment is 441 m long by 21 m wide, enters the project area on the northwest side just north of McNulty Gulch proper, and extends down a south facing slope where it descends into McNulty Gulch. Three features are included in the segment: the ditch channel (F1), an iron flume (F2), and a diversion pipe (F3). Outside of the project area, the ditch is more substantial and includes a ditch rider's path. The ditch channel (F1) measures 12-16' wide at its northern upslope boundary and gradually narrows to 3-5' at its southern boundary in McNulty Gulch. The northern portion of the ditch has experienced heavy disturbance from alluvial and colluvial erosion.

Three features are included in the ditch segment and are documented as follows:

- Feature 1 (F1) is a simple earthen ditch channel. It measures 12-16' wide at its northern upslope boundary and gradually narrows to 3-5' at its southern boundary in McNulty Gulch. The northern portion of the ditch has experienced heavy disturbance from alluvial and colluvial erosion.
- Feature 2 (F2) is a water diversion flume constructed of 36" diameter iron pipe with acetalyne cut rectangular holes set on the top at intermittent intervals from the trestle south to the southern segment boundary. It is located on a west facing slope and is partially set into the ground except on the northeastern end where a portion of the pipe sits on a 20 ft long and 10 ft tall wooden trestle across a small drainage. The trestle is constructed of large milled lumber beams set with wire nails. The flume intake at the Clinton Creek Ditch is a 10-foot wide concrete wall; no head gate is present. The southwest end of the flume is truncated by extensive surface disturbance. Approximately 10m downslope from the trestle is a mangled pile of galvinized tin sheet metal, and wood whose original function is unknown.
- Feature 3 (F3) is a water diversion pipeline made of a 24" diameter 16' long pipe constructed with 2" by 4" redwood staves and wrapped with ¼" ferrous iron wire. The pipe has been set into the ground to divert snow and rain runoff into a modern black plastic pipe around the ditch. While the wooden pipe is historic, it appears to have been salvage and moved.

No artifacts or significant intact subsurface deposits were observed in association with the ditch segment.

Site 5ST1486.1 is in fair to deteriorated condition having experienced heavy disturbance on its northern end from alluvial and colluvial deposition and moderate disturbance overall from erosion, neglect, and grazing. The flume (F2) has experienced extensive surface disturbance, and the water diversion pipeline (F3) appears to have been salvaged and moved.

Isolated Artifacts and Features

WCRM recorded three isolates (5ST1479 – 5ST1481) and a fourth (5ST1487) was collected by a Climax contractor and examined by WCRM; it was returned to Climax on August 10, 2015. The isolates are summarized in Table 2 below.

Table 2. Isolated Artifacts and Features

Resource Number	Type	Subtype	Description
5ST1479	Historic	Isolated artifacts	Oil can and a jar
5ST1480	Historic	Isolated feature	Possible ditch or pipeline remnants
5ST1481	Historic	Isolated feature	Earthen ditch
5ST1487	Prehistoric	Isolated tool	Biface – possibly made from Trout Creek jasper

As per OAHP guidelines (Office of Archaeology and Historic Preservation 2007:18-19), a total of 40 UHFs are briefly described in Table 3 and mapped in Appendix II.

Table 3. UHFs within the Project Area.

UHF Map Number	Description	Date Identified
02	Prospect trench on a SW facing slope in the SE ¼ of S35, T7S, R79W and NE ¼ of S2, T8S, R79W	7/18/14
03	Section corner, T7SR79W/S2TS1/T8S/ 1959/BLM located on NE facing slope above McNulty Gulch	7/20/14
09	Prospect trench on a N facing ridge in the SW ¼ of S36, T7S, R79W	7/14/14
11	Prospect trench on a N facing ridge in the SW ¼ of S36, T7S, R79W	7/14/14
13	Prospect trench on a SW facing ridge in the SW ¼ of S36, T7S, R79W	7/14/14
14	Prospect pit on a SW facing ridge in the SW ¼ of S36, T7S, R79W	7/14/14
15	Wood claim monument on W facing slope in the SW ¼ of S36, T7S, R79W	7/14/14
16	Prospect pit on a N facing slope in the SE ¼ of S36, T7S, R79W	7/14/14
17	Prospect pit	7/14/14
18	Prospect pit	7/15/14
19	Prospect pit	7/15/14
20	Prospect pit	7/15/14
21	Prospect pit	7/15/14
22	Section corner, T7SR79N/ ¼ S36/T8S/1964/BLM	7/15/14
23	Prospect pit	7/15/14
24	Prospect pit	7/15/14
25	Prospect pit	7/15/14
26a	Prospect pit	7/15/14
26b	Prospect pit	7/15/14
27	Prospect pit	7/15/14
28	Prospect pit	7/15/14
29	Prospect pit	7/15/14
32a	Prospect pit	7/16/14
32b	Prospect trench	7/16/14
32c	Claim monument	7/16/14
33	Adit	7/16/14
34a	Trench	7/16/14
34b	Trench	7/16/14
35	Prospect pit	7/16/14
36	Claim monument	7/16/14
37	Prospect pit	7/16/14
38	Prospect pit	7/16/14
40	Prospect trench	7/16/14
41	Prospect pit	7/16/14
42	Prospect pit	7/16/14
43	Prospect pit	7/17/14
44	Prospect pit	7/17/14
Road 1	Two-track road skirting a slope at the base of Little Bartlett Mountain in the SE ¼ of S36, T7, R79W into NE ¼ of S1, T8S, R79W	7/15/14
Road 2	Unpaved mining road skirting a north facing slope above McNulty Gulch in the NE ¼ and NW ¼ of S2, T8S, R79W	7/20/14

UHF Map Number	Description	Date Identified
Road 3	Unpaved logging roads scattered throughout a northwest facing slope above McNulty Gulch in the NW ¼ of S1 and NE ¼ of S 2, T8S, R79W and in the SW ¼ of S36 and SE ¼ of S36, T7S, R79W	7/20/14

Field Conditions

Previous mining disturbances, timber harvesting, and steep slopes eliminated 200.93 acres from intensive inventory. As mentioned previously, ground visibility ranged from good to poor with an overall average of 15-20 percent visibility. Dense alpine grasses and forests covered some portions of the project area making ground visibility difficult.

Evaluations and Recommendations

WCRM's inventory of the 404 Permit area (471.17 acres) for the McNulty Gulch OSF expansion revisited the locations of two previously recorded sites (5ST114 and 5ST133), recorded six sites (5ST1476-1478, 5ST1484.1, 5ST1485.1, and 5ST1486.1) and four isolates (5ST1479-1481 and 5ST1487), and documented 40 minor historic features. The minor historic features did not require documentation or NRHP evaluation. NRHP evaluations for the revisited sites and newly recorded sites and isolates are provided below.

Site Evaluations

5ST114

As mentioned above, the prehistoric component of 5ST114 was collected, bored, and excavated by LOPA (McNamara and Jennings 1979; Arthur and Jennings 1980; Arthur 1981). As a result of these activities at the site, it was determined that it dates to the "Archaic" Era, the deposits have been "disturbed to a large degree" (Arthur 1981:88), and Arthur (1981:102) determined that,

> "The data recovered during the excavation work, while representing a real contribution to the state of archaeological knowledge of the alpine areas, is not sufficient to warrant nomination of the sites to the NRHP, nor is there any indication that further work would disclose additional data that would serve to support such a nomination. Consequently, 5ST114 and 5LK372 are not considered significant in these terms, and are not recommended for nomination."

Arthur (1981:102) went on to say that "the appropriate recommendation for 5ST114 and 5LK372 is to require no further action to mitigate or otherwise protect the site."

5ST114 was revisited and rerecorded by WCRM on July 15, 2014. No artifacts were present on the surface and two historic prospect pits were recorded. Regarding the prehistoric component, WCRM concurs with the findings of Arthur (1981) that no further significant data can be obtained from the prehistoric component; the areas within the site with the greatest potential for intact subsurface deposits have been excavated, and all the visible artifacts have been collected by LOPA. The historic component consists of the two prospect pits (F1 and F2), and WCRM recommends them not eligible for inclusion in the NRHP. The features do not qualify under the NRHP criteria, since they do not adequately represent the theme of mining (Criterion *a*), are not associated with significant individuals (Criterion *b*), are not unique (Criterion *c*), and are unlikely to yield important information important to history (Criterion *d*).

Management Recommendations: No further work is necessary.

5ST133

Site 5ST133 is a cobble concentration previously recorded by Anne McNamara (McNamara 1978) of LOPA in 1978. As per the site form on file with the OAHP, McNamara recommended that no further work was necessary with regard to the isolated feature. WCRM was unable to relocate and reevaluate the site on July 15, 2014; it is possible that the dense ground cover is obscuring the site, that it was incorrectly mapped during the original recording, or that it is no longer present.

Management Recommendations: No further work is necessary.

5ST1476

Site 5ST1476 is a historic trash scatter that includes sanitary cans, other tin cans, and bottle glass which date its occupation as a mineral exploration site to sometime between 1915 and 1940. Research of the extant archives did not yield specific information about this site. In addition, there are no unique features associated with the site nor is there evidence of intact subsurface cultural deposits. As a result, 5ST1476

does not qualify as an eligible site under the NRHP criteria; it does not contribute significantly to the theme of mining (Criterion *a*), is not associated with the significant person (Criterion *b*), is not unique (Criterion *c*), and will not yield additional information (Criterion *d*).

Management Recommendations: No further work is necessary.

5ST1477

Site 5ST1477 is a mineral exploration site that includes 22 prospecting-related features. The limited artifact assemblage indicates that the site was likely occupied before World War I (i.e., pre-1914). Even though the historic record of the site begins during the late 1870s to early 1880s when the silver mining boom was encouraging rapid expansion of exploration and claiming activities in the Ten Mile Consolidated Mining District, the site is not considered to be a significant representative of the mining theme and, therefore, is not recommended eligible for inclusion in the NRHP under Criterion *a*. The archival record found no information to indicate that the site's owners or occupants were important figures in local mining and, as a result, the site does not merit consideration under Criterion *b*. The site's limited architectural/engineering presence precludes it from being considered eligible under Criterion *c*. The limited artifact assemblage, lack of intact subsurface deposits, and common nature of prospect pits and other mineral exploration features within the project area, indicate that the site will not yield additional significant information about local mining history; thus, the site is not recommended eligible under Criterion *d*.

Management Recommendations: No further work is necessary.

5ST1478

Site 5ST1478 is a multi-component site that yielded one prehistoric biface, eight mineral exploration-related features, and two cans. The available archival records found that the site is not located on historic claims. The lack of an adequate historic record for the site, its nature as a minor prospecting location, and the limited historic artifact assemblage supports a recommendation of not eligible as a significant representative of the mining theme and local mining history under Criterion *a*. There was no information in the archival record to indicate that the owners or occupants of the site were important figures in local mining history and, as a result, it does not merit consideration under Criterion *b*. The limited architectural/engineering presence at the site precludes it from being considered eligible under Criterion *c*. Intact prehistoric or historic cultural deposits were not evident in the disturbed soils that resulted from excavation of the seven prospect pits; therefore, the site is not recommended eligible under Criterion *d*.

Management Recommendations: No further work is necessary.

5ST1484.1

Site 5ST1484.1., a "U" shaped segment of SH 91, was abandoned when the road was improved during the 1970s and 1980s. The highway segment has been disturbed by erosional forces (alluvial and eolian), abandonment, and mining activities, and the western portions of the original road have been truncated by the construction of the current SH 91 across McNulty Gulch thereby eliminating the segment from use. The segment lacks integrity precluding it from contributing to the significance of the overall resource (i.e., entire SH 91) under Criteria *a*, *b*, or *c*. The highway segment has a limited archaeological presence that does not hold important data about 20th century highway construction or operation; as a result, the segment is not recommended eligible for inclusion in the NRHP under Criterion *d*.

Management Recommendations: No further work is necessary.

5ST1485.1

Site 5ST1485.1 is a segment of the Fremont Ditch system, a 20th century water diversion ditch built as part of the expansion of the Climax Mine during the 1920s. The overall ditch is approximately five miles in length and has never been officially recorded or evaluated with regard to the NRHP. The ditch segment recorded by WCRM has been heavily disturbed; the majority of the ditch channel (F1) piping has been salvaged or has rotted away, the ditch rider's path (F2) is overgrown and not maintained, and the eastern end of the segment has been completely buried by modern mine tailings. The segment's lack of integrity precludes it from being recommended as individually eligible under NRHP Criteria *a*, *b*, or *c*. No artifacts or evidence of significant intact subsurface deposits are present; a portion of the ditch has been piped underground, but the subsurface remains are not considered to hold any important data about 20th century water resource utilization and/or mining. As a result, the site is recommended not eligible for inclusion in the NRHP under Criterion *d*.

Management Recommendations: No further work is necessary.

5ST1486.1

Site 5ST1486.1 is a segment of the Clinton Creek Ditch system, a 20th century water diversion ditch and reservoir built in 1931 and 1932 as part of the Climax Mine's water diversion plan. The overall ditch is approximately three miles in length and has never been officially recorded or evaluated with regard to the NRHP. The ditch segment recorded by WCRM has been disturbed; the northern portion of the ditch channel (F1) has been disturbed by alluvial and colluvial erosion, the flume (F2) has experienced extensive surface disturbance, and the water diversion pipeline (F3) has been salvaged and moved. The lack of integrity precludes the segment from being recommended as individually eligible under NRHP Criteria *a*, *b*, or *c*. No artifacts or evidence of significant intact subsurface deposits are present; although a portion of F2 has been partially placed into the ground, there is no indication that subsurface remains are present. As a result, the site is recommended not eligible for inclusion in the NRHP under Criterion *d*.

Management Recommendations: No further work is necessary.

Isolated Artifact and Feature Evaluations

The four isolates (5ST1479-1481, 5ST1487) did not yield significant associations or data potential to be considered eligible for inclusion in the NRHP.

Evaluation of the Research

The resources recorded during the cultural resource inventory of the proposed McNulty Gulch OSF Expansion Project in Summit County, Colorado indicate that the area was inhabited by prehistoric people and by individuals involved in historic mining and mineral exploration during the ca. 1860-1964 historic time period. Although the inventory did not shed additional light on prehistoric occupation of the area, it is known from the previous work by LOPA at site 5ST114 that it was likely occupied during the Terminal period of the Archaic Era (2950-1950 B.P. [A.D. 1]) as defined by Reed and Metcalf (1999:79); this information is based on the identifiable projectile points present on the site surface and a radiocarbon date obtained during excavation of the site. Site 5ST133 could not be relocated, and its cultural affiliation is unknown. The historic components of 5ST114, 5ST1476, 5ST1477, 5ST1478, 5ST1485.1, and 5ST1486.1 were associated with mining and can be classified under Property Type I [Mining Resources (1860-1964)] but did not yield significant information related to that property type. The history of the two ditch segments (5ST1485.1 and 5ST1486.1) indicates that they are associated with mining and no other themes. Historic site 5ST1484.1 is a segment of a pioneering Colorado State Highway system, but it did not yield significant information related to the questions posed in Property Type II [Transportation Resources (1860-1964)]. The isolates did not offer important information related to the prehistory or history of the project area.

Conclusions

A Class III cultural resource inventory of 270.24 acres of the 471.17-acre Climax McNulty Gulch OSF Expansion Project area was conducted by WCRM in 2013 and 2014. Due to previous disturbance and 30% or greater slopes (i.e., severe slopes too dangerous to survey and less likely to yield intact cultural deposits), 200.93 acres of the project area were not surveyed. The project area is located immediately north of Fremont Pass and east of Colorado State Highway 91 in Summit County, Colorado.

The inventory was completed at the request of Climax and was conducted in order to comply with Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (54 U.S.C. § 300101 et seq.), which requires the location, recordation, and evaluation of cultural resources according to the criteria outlined in 36CFR800 for inclusion of significant resources in the National Register of Historic Places (NRHP).

Two reconnaissance surveys had been completed in portions of the project area during the 1970s (McNamara and Jennings 1979; Ward-Williams 1974). The survey conducted by McNamara and Jennings (1979) of LOPA documented two resources within the project area (5ST114 and 5ST133). Subsequent work at site 5ST114 by LOPA (Arthur 1981; Arthur and Jennings 1980) extensively mapped, bored, and excavated the site. Results of this work found that the site was likely occupied during the Terminal period of the Archaic Era (2950-1950 B.P. [A.D. 1]) as defined by Reed and Metcalf (1999:79). WCRM's revisit to the site found no further evidence of the prehistoric component, since it had been previously collected by LOPA. WCRM did, however, record two prospect pits as a historic component of the site. WCRM revisited the location designated by LOPA for site 5ST133 and did not find evidence of the isolated cobble concentration; the cultural affiliation of this feature had not been determined by LOPA.

During the survey, six additional sites (5ST1476-1478, 5ST1484.1, 5ST1485.1, and 5ST1486.1) and three isolates (5ST1479-1481) were recorded. An additional isolate (5ST1487), a jasper biface, was collected by a Climax contractor and examined by WCRM; it was returned to Climax. In addition, 40 historic features (UH02 – 03, 09, 11, 13 – 25, 26a, 26b, 27 – 29, 32a, 32b, 32c, 33, 34a, 34b, 35 – 38, 40 – 44, and Roads 1, 2 and 3) were located, mapped, and described. Based on the results of the fieldwork in conjunction with the research conducted, none of the previously recorded or newly recorded resources are recommended eligible for inclusion in the NRHP.

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APPENDIX I:
CULTURAL RESOURCE DOCUMENTATION

COLORADO CULTURAL RESOURCE SURVEY OAHP1400

Management Data Form

Rev. 11/10

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number**:	5ST114	2. **Temporary Resource Number**:	N/A
3. **Attachments (check as many as apply)**		4. **Official determination (OAHP use only)**	
☒ Prehistoric Archaeological Component		☐ Determined Eligible NR\SR	_____
☒ Historic Archaeological Component		☐ Determined Not Eligible NR\SR	_____
☐ Linear Component		☐ Nominated	_____
☒ Sketch/Instrument Map (required)		☐ Need Data NR\SR	_____
☒ U.S.G.S. Map Photocopy (required)		☐ Contributing to NR Dist.\SR Dist.	_____
☒ Photograph(s) (required)		☐ Not Contributing to NR Dist.\SR Dist.	_____
☐ Other, specify:		☐ Supports overall linear eligibility NR\SR	_____
		☐ Does not support overall linear eligibility NR\SR	_____

I. IDENTIFICATION

5. **Resource Name**: N/A

6. **Project Name/Number**: Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN

7. **Government Involvement**: ☐ Local ☐ State ☒ Federal

Agency: U.S. Army Corp of Engineers

8. **Site Categories (check as many as apply)**:

Prehistoric:	☒ archaeological site	☐ paleontological site	☐ In existing National Register District

National Register District name:

Historic:	☒ archaeology site	☐ building(s)	☐ structure(s)	☒ object(s)	☐ In existing National Register District

National Register District name:

9. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

10. **Boundary Description and Justification**: The site boundary is defined by previously recorded prehistoric component boundary as updated by the Laboratory of Public Archaeology (LOPA) during test excavations (Arthur 1981).

11. **Site/Property Dimensions**	Length:	77 m	Width:	20 m	Area:	1,557 m^2	Acres (m^2/4047): 0.38

Area was calculated as:	☐ Length x Width (rectangle/square)	☐ Length x Width x 0.785 (Ellipse)	☒ GIS

II. LOCATION

12. **Legal Location**

PM	6	Township	7S	Range	79W	Section	36	SW	¼	SE	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼

If section is irregular, explain alignment method:

13. **USGS Quad**:	Copper Mountain Quad, 7.5' 1987	14. **County**:	Summit

15. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:	

Management Data Form

Resource Number: 5ST114 **Temporary Resource Number**: N/A

A. Zone	13;	399605	mE	4360983	mN
B. Zone	__;	_____	mE	_____	mN
C. Zone	__;	_____	mE	_____	mN
D. Zone	__;	_____	mE	_____	mN

16. **UTM Source**: ☐ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template

Other (explain): A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.

17. **Site elevation** (feet): 12,040 feet

18. **Address**:	N/A	Lot:		Block:		Addition:	

19. **Location/Access**: Access to the site must be obtained from the Climax Molybdenum Company. From the town of Leadville, Colorado, travel north on State Highway 91 for 12.4 miles to the main gate of the Climax Molybdenum Mine. After obtaining permission to access the mine area, from the main gate travel approximately 1.25 miles up Bartlett Road to the eastern project area and road intersection. Park and walk 540 meters at 350º to reach the site.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. **General Description** (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility):

Site 5ST114, a small lithic scatter and two historic prospect features, is situated on top of a long N/S trending ridge (i.e., Carbonite Hill) that divides McNulty Gulch and Clinton Gulch. The site is at an elevation of 12,040 feet, and the slope ranges from 1-10% with a variable aspect. Sources of water were not present on the site. The soil is reddish-brown silty sand with approximately 20% gravels, cobbles, and occasional bedrock outcrops. Vegetation is an alpine grassland community with native grasses and forbs. Ground visibility is less than 15% with thick grasses dominating.

21. **Soil depth (cm) and description**: The soil consists of a reddish-brown silty sand containing 20% gravels, cobbles, and occasional bedrock outcrops. During the previous excavation of the prehistoric component (Arthur 1981:36), the soil depth was determined to be 15-20 cm.

22. **Condition**

a. Architectural/Structural	b. Archaeological/Paleontological
☐ Excellent	☐ Undisturbed
☐ Good	☐ Light disturbance
☐ Fair	☒ Moderate disturbance
☐ Deteriorated	☒ Heavy disturbance
☐ Ruin	☐ Total disturbance

23. **Describe condition**: Both components of the site have been moderately impacted by elk and deer grazing and alluvial and eolian erosion. The prehistoric component was heavily impacted during initial recording as a result of a 100% collection methodology (McNamara and Jennings 1978), and it was subsequently impacted by the placement of six boreholes (Arthur and Jennings 1980) and excavation of twelve 1 m by 2 m trenches (Arthur 1981). The site has also been moderately impacted by the use of a two-track road that bisects the site from north to south and the historic excavation of two prospect pits (F1 and F2) within the component boundary. The historic features are in ruins, due to abandonment.

24. **Vandalism**: ☐ Yes ☒ No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. **Context or Theme**: Prehistoric – Archaic; Colorado Mountains Historic Context – Lead, Zinc, and other Mining (1860-1945)

26. **Applicable National Register Criteria**:

- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history
- ☐ B. Associated with the lives of persons significant in our past
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- ☐ D. Has yielded, or may be likely to yield, information important in history or prehistory
- ☒ Does not meet any of the National Register criteria

☐ Qualifies under exceptions A through G. List exception(s):			
27. **Applicable State Register Criteria**:			
☐ A. Property is associated with events that have made a significant contribution to history			
☐ B. Property is connected with persons significant in history			
☐ C. Property has distinctive characteristics of a type, period, method of construction or artisan			
☐ D. Property is of geographic importance			
☐ E. Property contains the possibility of important discoveries related to prehistory or history			
☒ Does not meet any of the State Register criteria			
28. **Area(s) of significance**: N/A			
29. **Period(s) of significance**: N/A			
30. **Level of significance**:	☐ National	☐ State	☐ Local

31. **Statement of significance**:

The prehistoric component of 5ST114 was originally recorded in 1978 by Colorado State University's Laboratory of Public Archaeology (LOPA) (McNamara and Jennings 1979). At the time of recording, the prehistoric artifact assemblage (four flakes and one projectile point) was collected and a historic prospect pit was noted but not recorded. McNamara and Jennings (1979:51) recommended that the site was eligible for inclusion in the NRHP and Colorado State Register of Historic Places (SRHP) and should be tested prior to the land exchange. Subsequently, LOPA returned to the site in 1980 to intensively map artifacts and place six boreholes in the site; these efforts were to assist with the placement of excavation trenches planned for the 1981 field season (Arthur and Jennings 1980:3). During their visit to the site in 1980, eight flakes and a small piece of ground stone were mapped, and the ground stone was collected. It was observed that the majority of the cultural material was found in the ruts of the two-track jeep trail used for a revegetation study.

Returning to the site in 1981, LOPA conducted test excavations (Arthur 1981) that included digging twelve 1 m by 2 m trenches. As a result of these excavations, two datable projectile points (3000 B.C. – 500 B.C.), three projectile point fragments, one biface, one unmodified flake scraper, three ground stone fragments, and 593 flakes were located and collected from 5ST114. The datable points and tool assemblage most closely fit within the Terminal period of the Archaic Era (2950-1950 B.P. [A.D. 1]) as defined by Reed and Metcalf (1999:79). In addition, one uncorrected radiocarbon sample of 1930 ± 315 B.P. (UGa-4164) was obtained from "charcoal very thinly distributed throughout the fill, with no discrete concentrations. It occurred as flecks and chunks with rounded corners, rather than angular shapes" (Arthur 1981:47). The large standard deviation of the date and the fact that it was not in keeping with the lithic evidence at the site of an "Archaic" occupation was reasoned to be a possible result of way the sample was collected from the general fill, a result of weather from a long period of surface exposure, or due to specimen contamination (Arthur 1981:47). There were also discrepancies between the plant pollen obtained and the relative and absolute dates represented. Analyses were also conducted on bone and soils. It was determined that the site deposits have been "disturbed to a large degree" (Arthur 1981:88).

Based on the results of the "test" excavations, Arthur (1981:102) determined that,

> "The data recovered during the excavation work, while representing a real contribution to the state of archaeological knowledge of the alpine areas, is not sufficient to warrant nomination of the sites to the NRHP, nor is there any indication that further work would disclose additional data that would serve to support such a nomination. Consequently, 5ST114 and 5LK372 are not considered significant in these terms, and are not recommended for nomination."

Arthur (1981:102) went on to say that "the appropriate recommendation for 5ST114 and 5LK372 is to require no further action to mitigate or otherwise protect the site."

The site was rerecorded by WCRM on July 15, 2014 using the previously established LOPA datum. There was no evidence of either prehistoric or historic artifacts on the site surface. A previously unidentified historic prospect pit was recorded as F1, and a second prospect pit, previously noted by LOPA (McNamara and Jennings 1978; Arthur 1981), was recorded as F2. Regarding the prehistoric component, WCRM concurs with the findings of Arthur (1981) that no further significant data can be obtained from the prehistoric component; the areas within the site with the greatest potential for intact subsurface deposits have been excavated, and all the visible artifacts have been collected by LOPA. The historic component consists of two prospect pits (F1 and F2), and WCRM recommends them not eligible for inclusion in the NRHP. The features do not qualify under the NRHP criteria, since they do not adequately represent the theme of mining (Criterion *a*), are not associated with significant individuals (Criterion *b*), are not unique (Criterion *c*), and are unlikely to yield important information important to history (Criterion *d*).

32. **Statement of historic integrity related to significance**: N/A			
33. **National Register Eligibility Field Assessment**:	☐ Eligible	☒ Not eligible	☐ Need data
Linear Segment Evaluation (if applicable):	☐ Supporting	☐ Non Supporting	
34. **Status in an Existing National Register Distric**t:	☐ Contributing	☐ Non-contributing	
35. **State Register Eligibility Field Assessmen**t:	☐ Eligible	☒ Not eligible	☐ Need data
36. **Status in an Existing State Register District**:	☐ Contributing	☐Non-contributing	
37. **National/State Register District Potential**: ☐ Yes ☒ No Describe:			
38. **Cultural Landscape Potential**: ☐ Yes ☒ No Describe:			
39. **If Yes to either 37 or 38, is this site**: ☐ Contributing ☐ Non-contributing Explain:			

V. MANAGEMENT AND ADMINISTRATIVE DATA

40.**Threats to Resource**:	☒ Water erosion	☒ Wind erosion	☒ Grazing	☒ Neglect	☐ Vandalism
☐Recreation	☒ Construction	☐ Other (explain):			
41. **Existing protection**	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled
Other (specify):					
Comments:					

42. **Local landmark designation**:	N/A	43. **Easement**:	N/A

44. **Recorder's Management Recommendations**: No further work necessary.

VI. DOCUMENTATION

45. **Previous actions accomplished at the site**:	☒ Tested	☒ Partial excavation	☐ Complete excavation

Date(s): 1980 – Prehistoric component mapped and six bore holes placed in the site by LOPA (Arthur and Jennings 1980); 1981 - Prehistoric component excavated by LOPA (Arthur 1981)

a. Excavations:	Six bore holes placed in the site in 1980 (Arthur and Jennings 1980); twelve 1 m by 2 m trenches placed in the site in 1981 (Arthur 1981)	
b. Stabilization:		Date(s):
c. HABS/HAER documentation [date(s) and numbers]:		

d. Other: Artifacts collected from the site by LOPA in 1978 (McNamara and Jennings 1979), in 1980 (Arthur and Jennings 1980), and in 1981 (Arthur) are housed at the Archaeological Repository of Colorado State University, Clark A22 rooms A-G (Clark A6C), Fort Collins, Colorado.

46. **Known collections/reports/interviews and other references (list)**:

McNamara and Jennings
1979 *Archaeological Reconnaissance of the Selected USGS Lands, Climax Land Exchange*. Prepared by the Laboratory of Public Archaeology – Colorado State University, prepared for Climax Molybdenum Company, Amax, Inc., LOPA Report #29. Report on file with the Office of Archaeology and Historic Preservation, Denver.

Arthur, Christopher S.
1981 *Final Report on the Archaeological Testing of Two Prehistoric Sites in the Bartlett Mountain Land Exchanged, Addendum 1 and addendum 2*. Prepared by the Laboratory of Public Archaeology – Colorado State University, prepared for Climax Molybdenum Company and Arapaho National Forest. Report on file with the Office of Archaeology and Historic Preservation, Denver.

Arthur, Christopher S., and Calvin H. Jennings
1980 *Addendum 2: Summary of Intensive Surface Collection, Mapping and Evaluation of 5ST114 and 5LK372, Located on the Selected Lands of the Proposed Bartlett Mountain Land Exchange Near Climax, Colorado*. In *Final Report on the Archaeological Testing of Two Prehistoric Sites in the Bartlett Mountain Land Exchanged, Addendum 1 and Addendum 2*. Prepared by the Laboratory of Public Archaeology – Colorado State University, prepared for Climax

Molybdenum Company and Arapaho National Forest. Report on file with the Office of Archaeology and Historic Preservation, Denver.							
47. **Primary location of additional data**: Archaeological Repository of Colorado State University, Clark A22 rooms A-G (Clark A6C), Fort Collins, Colorado; reports also on file with the Colorado OAHP.							
48. **State or Federal Permit number**:	Colorado State Permit #2014-46						
49. **Collection**:	Artifact collection authorized:	☐ Yes	☒ No	Were artifacts collected:	☐ Yes	☒ No	
Artifact repository: Artifacts were collected during 1978, 1980, and 1981 by LOPA and are housed at the Archaeological Repository of Colorado State University, Clark A22 rooms A-G (Clark A6C), Fort Collins, Colorado. No artifacts were visible on the surface when WCRM rerecorded the site on 7/15/14, and no artifacts were collected.							
Collection method:	☐ Diagnostics	☐ Grab Sample	☐ Random Sample				
Other (specify):	See #45 above.						
50. **Photograph Numbers**:	Roll # RBF001, Exp: 52-57						
Files or negatives stored at:	WCRM, Inc., Boulder, CO office						
51. **Report title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089							
52. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula			Date: 7/15/14			
53. **Recorder affiliation**:	Western Cultural Resource Management, Inc. (WCRM)						
Phone number/Email:	303-449-1151, tom.lennon@wcrminc.com						

NOTE: Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

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303-866-3395

Prehistoric Archaeological Component Form

Use this form in conjunction with the Management Data Form. One of these forms should be completed for each cultural resource with a prehistoric component.

1. **Resource Number**:	5ST114	2. **Temporary Resource Number**:	
3. **Site Type**:	Prehistoric lithic scatter and two historic mining features		

4. **General Component Description**:

The prehistoric component of 5ST114 was originally recorded in 1978 by Colorado State University's Laboratory of Public Archaeology (LOPA) (McNamara and Jennings 1979). At the time of recording, the prehistoric artifact assemblage (four flakes and one projectile point) was collected and a historic prospect pit was noted but not recorded. McNamara and Jennings (1979:51) recommended that the site was eligible for inclusion in the NRHP and Colorado State Register of Historic Places (SRHP) and should be tested prior to the land exchange. Subsequently, LOPA returned to the site in 1980 to intensively map artifacts and place six boreholes in the site; these efforts were to assist with the placement of excavation trenches planned for the 1981 field season (Arthur and Jennings 1980:3). During their visit to the site in 1980, eight flakes and a small piece of ground stone were mapped, and the ground stone was collected; the site was determined to be 0.38 acres in area. It was observed that the majority of the cultural material was found in the ruts of the two-track jeep trail used for a revegetation study.

Returning to the site in 1981, LOPA conducted test excavations (Arthur 1981) that included digging twelve 1 m by 2 m trenches. As a result of these excavations, two datable projectile points (3000 B.C. – 500 B.C.), three projectile point fragments, one biface, one unmodified flake scraper, three ground stone fragments, and 593 flakes were located and collected from 5ST114. The datable points and tool assemblage most closely fit within the Terminal period of the Archaic Era (2950-1950 B.P. [A.D. 1]) as defined by Reed and Metcalf (1999:79). In addition, one uncorrected radiocarbon sample of 1930 $\pm$ 315 B.P. (UGa-4164) was obtained from "charcoal very thinly distributed throughout the fill, with no discrete concentrations. It occurred as flecks and chunks with rounded corners, rather than angular shapes" (Arthur 1981:47). The large standard deviation of the date and the fact that it was not in keeping with the lithic evidence at the site of an "Archaic" occupation was reasoned to be a possible result of way the sample was collected from the general fill, a result of weather from a long period of surface exposure, or due to specimen contamination (Arthur 1981:47). There were also discrepancies between the plant pollen obtained and the relative and absolute dates represented. Analyses were also conducted on bone and soils. It was determined that the site deposits have been "disturbed to a large degree" (Arthur 1981:88).

Based on the results of the "test" excavations, Arthur (1981:102) determined that,

> "The data recovered during the excavation work, while representing a real contribution to the state of archaeological knowledge of the alpine areas, is not sufficient to warrant nomination of the sites to the NRHP, nor is there any indication that further work would disclose additional data that would serve to support such a nomination. Consequently, 5ST114 and 5LK372 are not considered significant in these terms, and are not recommended for nomination."

Arthur (1981:102) went on to say, "the appropriate recommendation for 5ST114 and 5LK372 is to require no further action to mitigate or otherwise protect the site."

The site was rerecorded by WCRM on July 15, 2014 using the previously established LOPA datum. There was no evidence of either prehistoric or historic artifacts on the site surface. A previously unidentified prospect pit was noted and designated as F1, and a second prospect pit, previously noted by LOPA (McNamara and Jennings 1978; Arthur 1981), was recorded as F2. Both components of the site have been moderately impacted by elk and deer grazing and alluvial and eolian erosion. The prehistoric component was heavily impacted during initial recording as a result of a 100% collection methodology (McNamara and Jennings 1978), and it was subsequently impacted by the placement of six boreholes (Arthur and Jennings 1980) and excavation of twelve 1 m by 2 m trenches (Arthur 1981). The site has also been moderately impacted by the use of a two-track road that bisects the site from north to south and the historic excavation of two prospect pits (F1 and F2) within the component boundary. As per LOPAs findings (Arthur 1981) and the fact that deposition is extremely low and bedrock is exposed throughout the site, it is unlikely that intact significant buried prehistoric materials remain on the top of the ridge.

Prehistoric Archaeological Component Form

Resource Number: 5ST114 **Temporary Resource Number**:

5. **Non-Architectural** Prehistoric Features (note dimensions in centimeters or meters) N/A

Map Reference	Description	Construction Material	Dimensions

6. **Architectural** Prehistoric Features (note dimensions in centimeters or meters) N/A

Map Reference	Description	Construction Material	Dimensions

7. **Artifact classes** (flake, uniface, mano, scraper, etc.)

Description	Material	Quantity
See Arthur (1981)		

The above artifact quantities reflect (check one)

☐ total quantity of artifacts observed at the site ☐ only those artifacts that were collected

☐ extrapolated quantities based on a sample of the remains ☒ other, specify: See Arthur (1981)

8. **Chronology** (List all prehistoric components present. Attach continuation sheet if necessary)

A. Cultural Affiliation: Terminal period of the Archaic Era (2950 B.P. - 1950 B.P.) (see Reed and Metcalf 1999:79) — Date: 1500 – 500 B.C.

Dating Criteria: Projectile point typology

B. Cultural Affiliation: Formative Era (400 B.C. – A.D. 1300) (see Reed and Metcalf 1999:98) — Date: 1930 ± 315 B.P. (UGa-4164)

Dating Criteria: ^{14}C (radiocarbon)

9. **Depth of Cultural Deposits**: Unknown, no evidence of buried deposits. As a result of excavations conducted at the site by LOPA in 1981, it was determined that the "average depth to sterile subsoil was approximately 15 to 20 cm" (Arthur 1981:36).

Based on: ☐ cutbank ☐ auger ☐ shovel/trowel test ☐ road cut

☒ Other, explain: Excavation conducted by LOPA in 1981 (Arthur 1981)

10. **Activities inferred from the remains**: No artifacts were observed on the surface of the site when WCRM rerecorded it on 7/15/14. For full discussion of the excavation results at the site see Arthur (1981).

11. **Is this site likely to yield information important in prehistory?** ☐ Yes ☒ No ☐ Unknown

If yes or unknown, describe below. Identify research domains and supporting data.

Potential Within	Describe
a. Subsurface deposits within a feature	
b. Subsurface deposits outside a feature	

c. Midden	
d. Other	

12. **Recorder(s**): R. Fiske, J. Mueller, A. Sapula	**Date**: 7/15/2014

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Historic Archaeology Component Form

1. **Resource Number**:	5ST114	2. **Temporary Resource Number**:	
3. **Site Name:**			
4. **Does this form pertain to the site in general?**	☒ Yes	☐ No	
If no, please supply a feature/structure number or name:			
5. **Site, Component or Feature Type**:	Prehistoric lithic scatter and two historic mining features		

6. **Narrative History (based on archival research, expand as necessary)**:

The prehistoric component of 5ST114 was originally recorded in 1978 by Colorado State University's Laboratory of Public Archaeology (LOPA) (McNamara and Jennings 1979). At the time of recording, a historic prospect pit was noted but not recorded. LOPA was conducting a survey to provide resource information related to a land exchange between the Climax Molybdenum Company, Amax, Inc. and the United States Forest Service. (See the Prehistoric Archaeological Component Form for a full description of LOPA's activities at the site).

The site was rerecorded by WCRM on July 15, 2014 using the previously established LOPA datum. There was no evidence of either prehistoric or historic artifacts on the site surface. A previously unidentified historic prospect pit was recorded as F1, and a second prospect pit, previously noted by LOPA (McNamara and Jennings 1978; Arthur 1981), was recorded as F2. Review of available historic records found no information regarding prospecting at this site.

7. **Is this site located in a NRHP historic landscape**? ☐ **Yes** ☒ **No**; **If yes, please describe**:

8. **Component or Feature Description (expand as necessary)**:
The historic component consists of two prospect pits (F1 and F2.

- Feature 1 (F1) is a prospect pit located in the southeastern portion of the site 23 m from the LOPA datum. The pit is 10 feet in diameter and one foot deep. Waste rock is piled to the east/northeast for a distance of 10 feet, a width of eight feet, and a height of ½ foot.
- Feature 2 (F2) is a prospect pit located in the northeastern portion of the site 33 m from the LOPA datum. The pit is 12 feet in diameter and three feet deep. Waste rock is piled to the north, northeast, and east for a distance of 10 feet and a height of 1 ½ feet.

Review of available historic records found no information regarding prospecting at this site.

9. **Historic Component Date(s)**:	Historic -- Unknown
Justification and Sources Consulted:	

10. **Component Function(s)**: Prospecting/mining

Original Use:	Mineral exploration
Present Use:	Abandoned

11. **Ethnic affiliation of occupants**:	Unknown
Justification and Sources Consulted:	

12. **Historic Boundary Description**: The prospect pits are the only evidence of a historic component at the site. The site map has been redrawn to include F2, a prospect pit previously noted by McNamara and Jennings (1979).

Justification and Sources Consulted:

13. **NRHP Area of Significance**:	N/A
Justification and Sources Consulted:	
14. **NRHP Period of Significance**:	N/A
Justification and Sources Consulted:	

15. **Site, Component, or Feature Theme (use the Historic Archaeology Lexicon)**: Industry - Mining & Mineral Processing

16. **Does this component or feature support the NRHP eligibility of the entire resource?**

☐ Yes	☐ No	☐ Undetermined	☒ N/A

Justification: The two prospects pits represent the entire historic component.

17. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	18. **Date**:	7/18/14

19. **Presence and Quantity of Artifacts** (add types as necessary)

a. Vessel Glass	**Quantity**	**e. Cans**	**Quantity**
Amber (1860s-present)		Beverage: all aluminum (post-1970)	
Amethyst (pre-1920)		Beverage: aluminum ends (post-1953)	
Aqua (ca. 1870-1920s)		Beverage: cone-top (1935-1960)	
Cobalt		Beverage: flat top, all-steel (1935-1970s)	
Colorless (ca. 1920s-present)		Beverage: pull tab (1962-1983)	
Light green (1860s-present)		Beverage: UPC code (post-1980)	
Milk/White (1890s-present)		Hole-in-cap: double-locked side seam (1890-1915)	
Olive green (early 1860s)		Hole-in-cap: lapped side seam (ca. 1880s-1900)	
Yellowish (1918-1950s)		Round quart motor oil: all metal (1933-1970s)	
Brown liquor bottle		Round quart motor oil: paper-sided (late 1940s-late 1980s)	
Brown jug base		Sanitary can (1904 +)	
		Sanitary ends, lapped side seam (1904+; very rare)	
		Sardine tin: lapped and soldered (pre-1910)	
b. Ceramics	**Quantity**	Sardine tin: one piece bottom (early 1900s +)	
Earthenware		Tobacco tin: complex friction lid (post 1948)	
Porcelain		Tobacco tin: simple friction lid (1907-1948)	
Refined Earthenware		Tobacco tin: upright pocket (late 1890s-1988)	
Stoneware		Tobacco tin: hinged lid (ca. 1910-present)	
		Vent hole (hole-in-top) (1900-1980s)	
		Vent hole with two solder dots (hole-in-top) (1890s-early 1900s)	
		Flat top all steel	
		Stamped end can	
		Tobacco tin	
c. Nails	**Quantity**		
Hand-made cut (wrought)		**f. Structural Artifacts**	**Quantity**
Machine-made cut		Adobe	
Railroad Spike		Brick, common	
Wire		Brick, fire	
		Concrete: natural lime (pre-1915)	
d. Industrial Artifacts	**Quantity**	Concrete: Portland (post-1910)	
55-gallon drum		Corrugated sheet iron (post-1890)	
Animal shoe		Dimensional lumber	
Automobile/Truck Part		Fieldstone	
Bailing wire		Hinge	
Barbed wire		Log: hewn	
Barrel hoop		Log: peeled	
Bracket		Log: raw	
Bucket		Sheet iron	
Cable/Wire rope		Stovepipe	
Cartridge: centerfire		Tarpaper	
Cartridge: rimfire		Timber bolt	
Cartridge: pin fire		Timber spike	
Cartridge: shotgun shell		Window glass: aqua (pre-1920)	
Clinker		Window glass: colorless	
Coal		Window glass: yellowish tint (1918-1950s)	
Electric light fixture			
Electrical wire			
Flashing fragment			
Horseshoe			
Iron scrap: cut sheet metal		**g. Domestic Artifacts**	**Quantity**
Iron scrap: forge-cut		Beads	
Lag bolt		Bed frame/springs	
Machine bolt		Buttons	
Machine part		Clothing	
Mine rail		Cookware	
Nut: hex		Doll head	
Pick axe		Stove/parts (cast iron/tin)	

Shovel head – spade type			
Wagon parts			
Washer			

20. **Total assemblage size**:		Or estimate:	☒ 0-10	☐ 11-100	☐ 101-1000	☐ 1001-10,000	☐ >10,000

21. **Artifact density**: ☐ High ☐ Medium ☐ Low Describe: No historic artifacts present.

22. **Unique Artifact Descriptions.** Particularly important attributes are listed following the artifact class and standardized terminology can be found in the Appendix to the instructions. Expand or contract tables as necessary. All of these items should be included in the counts of the Artifact table above.

a. Glass: type, function, color, bottle part, manufacturing method, vessel style/contents, embossing/marking, dimensions, worked or modified?

b. Ceramics: type, function, surface treatment/glaze, color, shape, trademarks, decorations, dimensions.

c. Nails: type, function, dimensions.

d. Industrial: type, function, manufacturing method, marking, dimensions.

e. Cans: material type, side-seam, opening, vessel style/contents, embossing/marking, dimensions.

f. Structural: type, function, manufacturing method, marking, dimensions.

g. Domestic: type, function, manufacturing method, marking, dimensions.

h. Other/miscellaneous: type, function, manufacturing method, marking, dimensions.

23. **Are standing structures present on the site?** Yes ☐ No ☒

If yes, please complete Architectural Inventory Form(s)(1403)

24. **Feature Descriptions** Include a site map, to scale, with each feature listed below depicted on it. Please use the Historic Archaeology Lexicon for feature types. Insert rows and feature types into table as necessary. If desired, sort table by feature number.

Feature Type (add others as necessary)	Feature Number/Name	Dimensions (feet / inches)	Description
Adit			
Aspen art			
Cabin			
Cairn			
Corral			
Ditch/canal			
Depression			
Dugout			
Foundation			
House			
Log cabin			
Mine shaft			
Outbuilding			
Platform			
Privy			

Railroad grade/bed			
Road/Trail			
Shaft			
Trash scatter			
Waste Rock pile			
Prospect pit	F1	10’ diameter, 1’ deep	Waste rock is piled to the east/northeast 10’ for a width of 8’ and a height of one-half foot
Prospect pit	F2	12’ diameter, 3’ deep	Waste rock is piled to the north, northeast, and east for a distance of 10’ and a height of 1 ½ feet.

25. **Potential for Additional Archaeological Information**

Is there potential for additional information?	☐ Yes	☒ No	☐ Unknown	If yes or unknown describe below.

Potential Within:	**Describe**
a. Subsurface deposits within a structural feature	
b. Subsurface deposits outside a structural feature	
c. Trash area	
d. Privy pits	
e. Other	

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5ST114, site overview, view to south.

5ST114, site overview, prospect pit (F1) at center right, view to southeast.

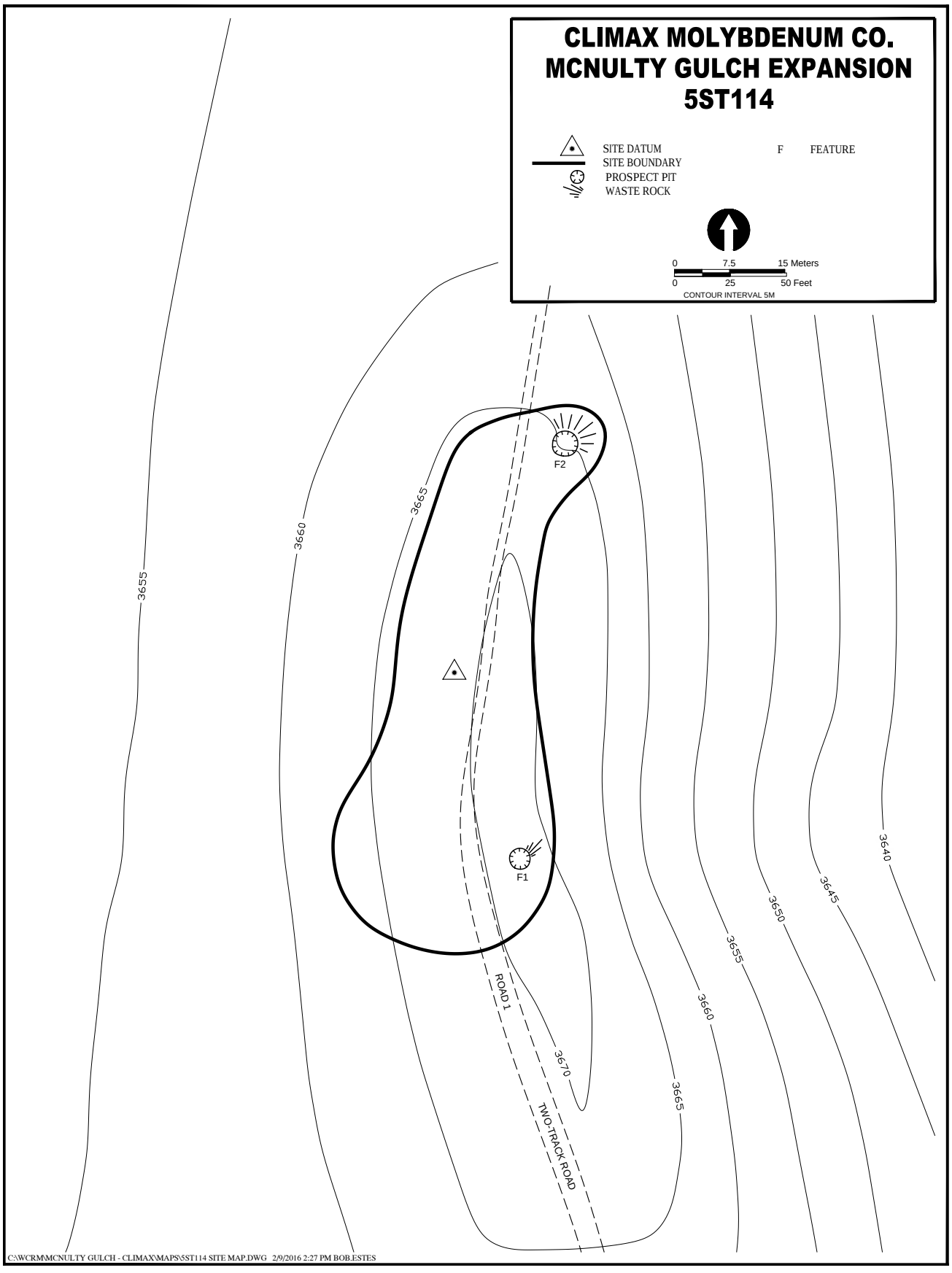
5ST114, site overview, two-track road exiting the site, view to south.

5ST114, site overview, prospect pit (F1) at left center, two track road at left crossing the site, view to north.

5ST114, overview of prospect pit (F2) along north/south ridge, view to east.

5ST114, overview of prospect pit (F2) along north/south ridge, view to southwest.

5ST114, site overview, two-track road across site, view to north.


CLIMAX MOLYBDENUM CO.
MCNULTY GULCH EXPANSION
5ST114
SITE DATUM
SITE BOUNDARY
PROSPECT PIT
WASTE ROCK
F FEATURE
0 7.5 15 Meters
0 25 50 Feet
CONTOUR INTERVAL 5M
F1
F2
ROAD 1
TWO-TRACK ROAD
3640
3645
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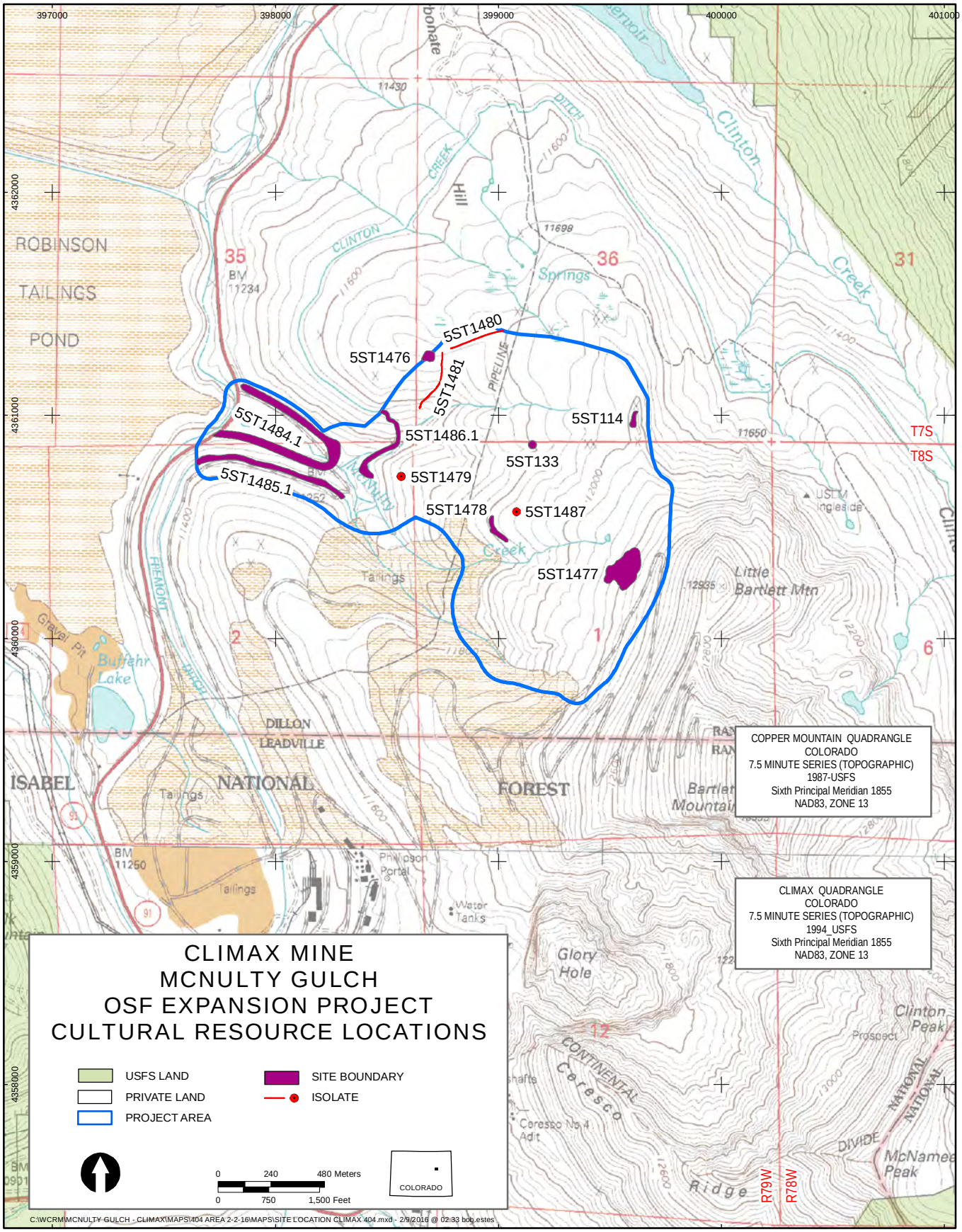
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5ST1487
5ST1477
ROBINSON
TAILINGS
POND
Clinton
Creek
Hill
Springs
PIPELINE
DITCH
CLINTON
FREMONT
Tailings
Little
Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
Glory
Hole
Clinton
Peak
Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
Adit
DIVIDE
McNamee
Peak
Ridge
R79W
R78W
T7S
T8S
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
0 240 480 Meters
0 750 1,500 Feet
COLORADO
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\SITE LOCATION CLIMAX 404.mxd - 2/9/2016 @ 02:33 bob.estes

Cultural Resource Re-Visitation Form

A Re-Visitation Form can only be used when a Management Data Form and component forms have been previously filed with the land managing agency and/or the Colorado Office of Archaeology and Historic Preservation and no substantive changes to the character of the site are required as a result of the current re-visitation. Please use the Management Data Form and supporting forms (archaeological component, linear, vandalism, etc.) when changes are required to: • Site type • Linear resources • Additional artifact assemblages and/or features • Boundary size • Vandalism • NRHP recommendations	**Official determination (OAHP use only)** ☐ Determined Eligible NR\SR ☐ Determined Not Eligible NR\SR ☐ Nominated ☐ Need Data NR\SR ☐ Contributing to NR Dist.\SR Dist. ☐ Not Contributing to NR Dist.\SR Dist. ☐ Supports overall linear eligibility NR\SR ☐ Does not support overall linear eligibility NR\SR

1. **Resource Number**:	5ST133	2. **Temporary Resource Number**:	N/A
3. **Resource Name**:	Cobble concentration		
4. **Project Name/Number**:	Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN		
5. **Government Involvement**:	☐ Local ☐ State ☒ Federal		
Agency:	U.S. Army Corps of Engineers		

6. **Site Categories**: (Check as many as apply)

Prehistoric:	☐ Archaeological site	☐ Paleontological site		
In existing National Register District?	☐ Yes	☐ No	Name:	
Local Landmark?	☐ Yes	☐ No	Name:	
Historic:	☐ Archaeological site	☐ Building (s)	☐ Structure(s)	☐ Object(s)
In existing National Register District?	☐ Yes	☐ No	Name:	
Local Landmark?	☐ Yes	☐ No	Name:	

7. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

8. **Was the site relocated?** ☐ Yes ☒ No If no, why? (100% collected in previous recording, ground disturbance, etc.) The ground visibilty is less than 5% due to tall, dense native grasses. It is possible that the dense ground cover is obscuring the site, that it was mis-plotted during the original recording, or that it is no longer present.

9. **Previous recordings**: Laboratory of Public Archaeology, Colorado State University, 1978 (McNamara and Jennings 1979)

10. **Most recent National Register Eligibility Assessment**: ☐ Eligible ☒ Not Eligible ☐ Need Data

Explain: As per Anne McNamara when originally recorded on 9/5/78 (see site form on file with the OAHP)

11. **Listed on Register**: ☐ National ☐ State ☒ None

Date Listed:

12. **Condition (describe)**: The isolated feature was not relocated.

13. **Threats to Resource**:	☐ Water Erosion	☐ Wind Erosion	☐ Grazing	☐ Neglect	☐ Vandalism
☐ Recreation	☐ Construction	☒ Other (specify):	Unknown – was not relocated		
14. **Existing Protection**:	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled
☐ Other	(specify):				
Comments:					

15. **Recorder's Management Recommendations**: The recommendation given by LOPA on the site form (on file with the OAHP and completed by Anne McNamara on 9/5/78) was that no further work was necessary with regard to the feature. WCRM could not relocate the feature on 7/15/14 to reevaluate it.

Cultural Resource Re-Visitation Form

Resource Number: 5ST133 **Temporary Resource Number**: N/A

16. **Known Collections, Reports, or Interviews**: Although this resource was not mentioned in the report by McNamara and Jennings (1979) titled *Archaeological Reconnaissance of the Selected USFS Lands, Climax Land Exchange* on file with the OAHP (Report # MC/FS/R253), it was recorded during the time period when resources mentioned in the report were recorded. It is unknown whether the resource is prehistoric or historic in nature.

17. **Site Description/Update**: The isolated feature was recorded as a site on 9/5/78 by Anne McNamara of LOPA and described as follows:

> "Site consists of a sandstone cobble concentration in circular form, with blackened faces. No cultural material was found in association with the feature. No charcoal was found within the concentration."

WCRM returned to the location of the feature as provided by McNamara on 7/15/14. The site could not be relocated; it is possible that the dense ground cover is obscuring the site and/or that it was mismapped during the original recording.

18. **Photograph Numbers**:	N/A
Digital files at:	

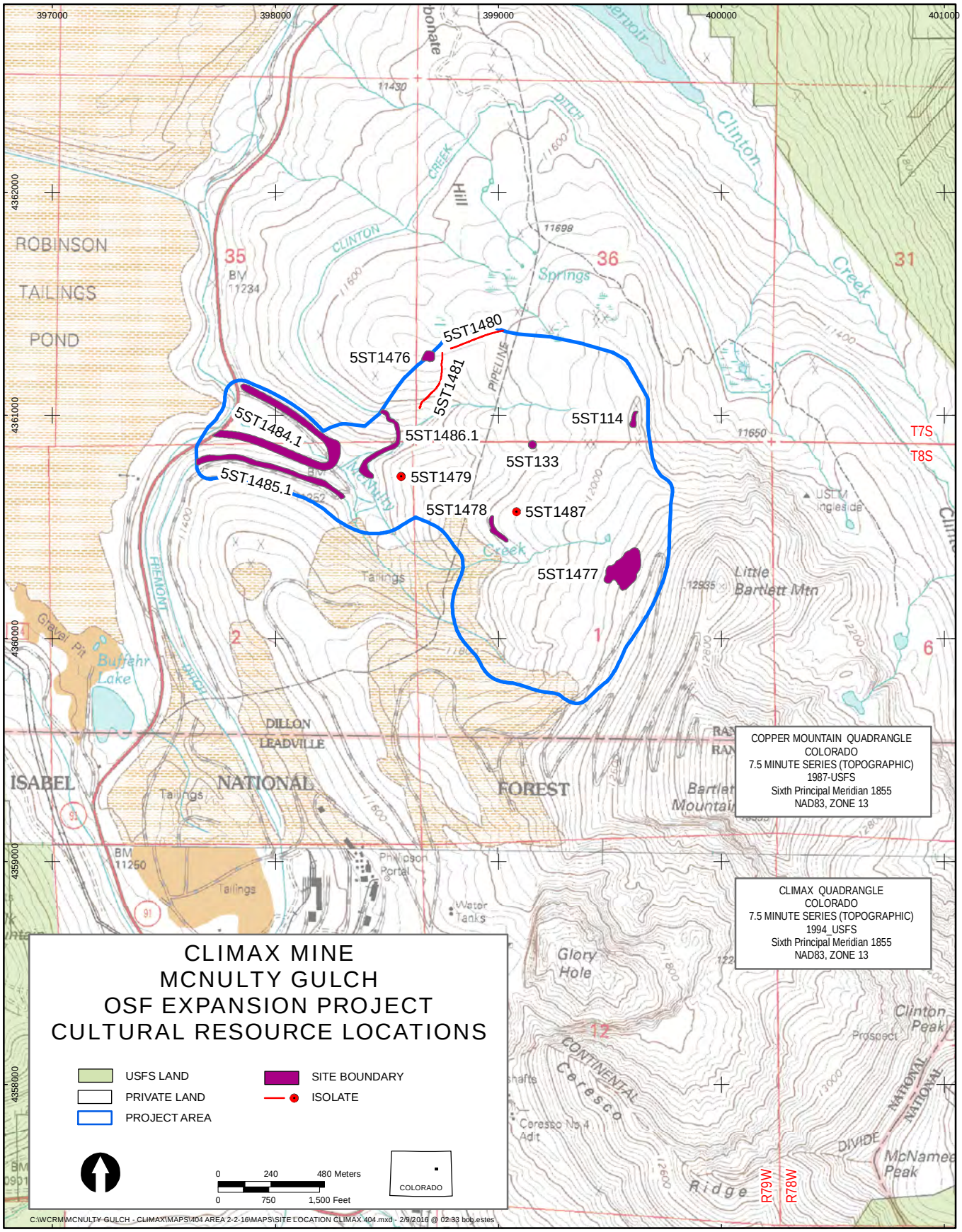
19. **Artifact and Field Documentation Storage Location**: WCRM, Inc., Boulder, CO office

20. **Report Title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089

21. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula
Date:	7/15/2014
22. **Recorder Affiliation**:	Western Cultural Resource Management, Inc. (WCRM)
Phone Number/Email:	303-449-1151 tom.lennon@wcrminc.com

Note: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

History Colorado – Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395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Tailings
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Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
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Clinton
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Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
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R79W
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T7S
T8S
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
0 240 480 Meters
0 750 1,500 Feet
COLORADO
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\SITE LOCATION CLIMAX 404.mxd - 2/9/2016 @ 02:33 bob.estes

COLORADO CULTURAL RESOURCE SURVEY OAHP1400

Management Data Form

Rev. 11/10

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number**:	5ST1476	2. **Temporary Resource Number**:	CCC10

3. **Attachments (check as many as apply)**	4. **Official determination (OAHP use only)**
☐ Prehistoric Archaeological Component	☐ Determined Eligible NR\SR _____
☒ Historic Archaeological Component	☐ Determined Not Eligible NR\SR _____
☐ Linear Component	☐ Nominated _____
☒ Sketch/Instrument Map (required)	☐ Need Data NR\SR _____
☒ U.S.G.S. Map Photocopy (required)	☐ Contributing to NR Dist.\SR Dist. _____
☒ Photograph(s) (required)	☐ Not Contributing to NR Dist.\SR Dist. _____
☐ Other, specify:	☐ Supports overall linear eligibility NR\SR _____
	☐ Does not support overall linear eligibility NR\SR _____

I. IDENTIFICATION

5. **Resource Name**: N/A

6. **Project Name/Number**: Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN

7. **Government Involvement**: ☐ Local ☐ State ☒ Federal

Agency: U.S. Army Corp of Engineers

8. **Site Categories (check as many as apply)**:

Prehistoric:	☐ archaeological site	☐ paleontological site	☐ In existing National Register District		
National Register District name:					
Historic:	☒ archaeology site	☐ building(s)	☐ structure(s)	☐ object(s)	☐ In existing National Register District
National Register District name:					

9. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

10. **Boundary Description and Justification**: The boundary of 5ST1476 is defined by the extent of historic cultural materials observed on the present ground surface within the project area.

11. **Site/Property Dimensions**	Length:	58 m	Width:	48 m	Area:	2,244 m^2	Acres (m^2/4047): .55
Area was calculated as:	☐ Length x Width (rectangle/square)		☐ Length x Width x 0.785 (Ellipse)		☒ GIS		

II. LOCATION

12. **Legal Location**

PM	6	Township	7S	Range	79W	Section	36	SW	¼	SW	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼

If section is irregular, explain alignment method: N/A

13. **USGS Quad**:	Copper Mountain Quad, 7.5' 1987	14. **County**:	Summit

15. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:	
A. Zone 13;	398697 mE	4361267 mN				
B. Zone __;	_____ mE	_____ mN				

C. Zone	__;	_____	mE	_____	mN
D. Zone	__;	_____	mE	_____	mN

16. **UTM Source**: ☐ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template

Other (explain): A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.

17. **Site elevation** (feet): 11,800 feet

18. **Address**:		Lot:		Block:		Addition:	

19. **Location/Access**: Access to the site must be obtained from the Climax Molybdenum Company. From the town of Leadville, Colorado, travel north on State Highway 91 for 12.4 miles to the main gate of the Climax Molybdenum Mine. After obtaining permission to access the mine area, travel from the main gate north for an additional 1.5 miles to a locked gate on the east side of the road. Park and walk approximately 940 m at 74° to reach the site boundary.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. **General Description** (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility):

Site 5ST1476 is a small historic artifact scatter located on the top of a west trending ridge east of Clinton Creek Ditch and west of Clinton Creek. The site is at an elevation of 11,800 feet, and the slope ranges from 0-15° with a southwestern (230°) aspect. Sources of water were not present on the site. The soil is a dark brown loam containing decomposing organic matter. Vegetation consists of native grasses, forbs, scrub brush, and a few mature spruce trees with ground visibility less than 5% except in bare areas below trees. Many of the trees have been cut down (axe, saw). A prospect pit is located approximately 45 m to the west of the site, outside of the project area. 5ST1481, an isolated earthen ditch, is located 30 m to the east and may be associated. No features or evidence of subsurface cultural deposits was observed.

21. **Soil depth (cm) and description**: The soil consists of a dark brown loam containing decomposing organic matter.

22. **Condition**

a. Architectural/Structural	b. Archaeological/Paleontological
☐ Excellent	☐ Undisturbed
☐ Good	☐ Light disturbance
☐ Fair	☒ Moderate disturbance
☐ Deteriorated	☐ Heavy disturbance
☐ Ruin	☐ Total disturbance

23. **Describe condition**: The site component is considered to be in good condition with moderate impacts resulting from elk and deer grazing, alluvial and eolian erosion, and the natural deterioration of the artifacts.

24. **Vandalism**: ☐ Yes ☒ No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. **Context or Theme**: Colorado Mountains Historic Context – Lead, Zinc, and other Mining (1860-1945)

26. **Applicable National Register Criteria**:

- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history
- ☐ B. Associated with the lives of persons significant in our past
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- ☐ D. Has yielded, or may be likely to yield, information important in history or prehistory
- ☒ Does not meet any of the National Register criteria
- ☐ Qualifies under exceptions A through G. List exception(s):

27. **Applicable State Register Criteria**:

- ☐ A. Property is associated with events that have made a significant contribution to history
- ☐ B. Property is connected with persons significant in history

☐ C. Property has distinctive characteristics of a type, period, method of construction or artisan			
☐ D. Property is of geographic importance			
☐ E. Property contains the possibility of important discoveries related to prehistory or history			
☒ Does not meet any of the State Register criteria			
28. **Area(s) of significance**: N/A			
29. **Period(s) of significance**: N/A			
30. **Level of significance**:	☐ National	☐ State	☐ Local

31. **Statement of significance**:
Site 5ST1476 is a historic trash scatter that includes sanitary cans, other tin cans, and bottle glass which date its occupation as a mineral exploration site to sometime between 1915 and 1940. Research of the extant archives did not yield specific information about this site. In addition, there are no unique features associated with the site nor is there evidence of intact subsurface cultural deposits. As a result, 5ST1476 does not qualify as an eligible site under the NRHP criteria; it does not contribute significantly to the theme of mining (Criterion *a*), is not associated with the significant person (Criterion *b*), is not unique (Criterion *c*), and will not yield additional information (Criterion *d*).

32. **Statement of historic integrity related to significance**: N/A			
33. **National Register Eligibility Field Assessment**:	☐ Eligible	☒ Not eligible	☐ Need data
Linear Segment Evaluation (if applicable):	☐ Supporting	☐ Non Supporting	
34. **Status in an Existing National Register Distric**t:	☐ Contributing	☐ Non-contributing	
35. **State Register Eligibility Field Assessmen**t:	☐ Eligible	☒ Not eligible	☐ Need data
36. **Status in an Existing State Register District**:	☐ Contributing	☐Non-contributing	

37. **National/State Register District Potential**: ☐ Yes ☒ No Describe:

38. **Cultural Landscape Potential**: ☐ Yes ☒ No Describe:

39. **If Yes to either 37 or 38, is this site**: ☐ Contributing ☐ Non-contributing Explain:

V. MANAGEMENT AND ADMINISTRATIVE DATA

40.**Threats to Resource**:	☒ Water erosion	☒ Wind erosion	☒ Grazing	☒ Neglect	☐ Vandalism
☐Recreation	☒ Construction	☐ Other (explain):			
41. **Existing protection**	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled
Other (specify):					
Comments:					

42. **Local landmark designation**:	N/A	43. **Easement**:	N/A

44. **Recorder's Management Recommendations**: No further work necessary.

VI. DOCUMENTATION

45. **Previous actions accomplished at the site**:	☐ Tested	☐ Partial excavation	☐ Complete excavation
Date(s):			
a. Excavations:			
b. Stabilization:		Date(s):	
c. HABS/HAER documentation [date(s) and numbers]:			
d. Other:			

Management Data Form

Resource Number: 5ST1476 **Temporary Resource Number**: CCC10

46. **Known collections/reports/interviews and other references (list)**: None							
47. **Primary location of additional data**: N/A							
48. **State or Federal Permit number**:	Colorado State Permit #2014-46						
49. **Collection**:	Artifact collection authorized:	☐ Yes	☒ No	Were artifacts collected:	☐ Yes	☒ No	
Artifact repository:							
Collection method:	☐ Diagnostics	☐ Grab Sample	☐ Random Sample				
Other (specify):							
50. **Photograph Numbers**:	Roll # RBF001, Exp: 239-251						
Files or negatives stored at:	WCRM, Inc., Boulder, CO office						
51. **Report title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089							
52. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula			Date: 7/18/14			
53. **Recorder affiliation**:	Western Cultural Resource Management, Inc. (WCRM)						
Phone number/Email:	303-449-1151, tom.lennon@wcrminc.com						

NOTE: Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

Historic Archaeology Component Form

1. **Resource Number**:	5ST1476	2. **Temporary Resource Number**:	CCC10
3. **Site Name:**	N/A		
4. **Does this form pertain to the site in general?**	☒ Yes	☐ No	
If no, please supply a feature/structure number or name:			
5. **Site, Component or Feature Type**:	Historic artifact scatter		

6. **Narrative History (based on archival research, expand as necessary)**:

Site 5ST1476 is a historic trash scatter located on lands patented by the United States Forest Service in 1942. 5ST1476 is near, but not on, the American Placer claim plotted by the General Land Office but not surveyed by the government (United States of America and American Metal Climax, Inc. "Patent 11204," 19 March 1942, Climax Molybdenum Mine, Leadville, CO and General Land Office Mineral Survey Connector Sheet for Section 35, T7S, R79W, General Land Office, U. S. Department of the Interior, Bureau of Land Management, Colorado State Office, Lakewood, CO).

7. **Is this site located in a NRHP historic landscape**? ☐ **Yes** ☒ **No**; **If yes, please describe**:

8. **Component or Feature Description (expand as necessary)**:

Site 5ST1476 is a small historic artifact scatter located on the top of a west trending ridge east of Clinton Creek Ditch and west of Clinton Creek. 5ST1476 is approximately 0.55 acres in area, and the assemblage includes a total of 35 artifacts dispersed evenly across the site consisting an array of late-1930s cans, bottles, and hand tools. Four domestic artifacts (FS-1 through FS-4) are included within this total; they consist of two complete bottles (FS-1 and FS-2), one tobacco tin (FS-3), and one pick axe (FS-4). Complete descriptions can be found under Items #19 and #22 below. A total of 22 cans were documented including 14 sanitary, four vent hole, two stamped end, one flat top all steel, and one hole-in-cap. Glass artifacts consist of three colorless glass fragments, one brown glass jug base, and one colorless glass jar. The miscellaneous artifacts consist of two shovel heads, one horseshoe, and one tin flashing fragment. It is likely that these items were associated with limited use camping related to mineral exploration. Many of the trees in the area have been cut down (axe, saw), and a prospect pit is located approximately 45 m to the west of the site, outside of the project area. 5ST1481, an isolated earthen ditch, is located 30 m to the east and may be associated. No features or evidence of subsurface cultural deposits was observed.

9. **Historic Component Date(s)**:	1915 – 1930; most likely the late 1930s

Justification and Sources Consulted: The site contains straight-sided sanitary cans, vent.hole cans, and a hole-in-cap can as well as bottle bases which likely date to the late 1930s.

Clark, Hyla M.
1977 *The Tin Can Book*. New American Library, New York.
Horn, Jonathon C.
2005 *Historic Artifact Handbook*. Appendix B of the History Colorado – Office of Archaeology and Historic Preservation's Historic Archaeological Component Form Instructions. History Colorado, Denver.
Rock, James T.
1978 Historical Archaeological Research on the Klamath. Unpublished paper presented at the Society for California Archaeology Meeting. Yosemite.

10. **Component Function(s)**: Prospecting/mining

Original Use:	Mineral exploration
Present Use:	Abandoned

11. **Ethnic affiliation of occupants**:	Unknown

Justification and Sources Consulted:

Historic Archaeology Component Form

Resource Number: 5ST1476 **Temporary Resource Number**: CCC10

12. **Historic Boundary Description**: The boundary of 5ST1476 is defined by the extent of historic cultural materials observed on the present ground surface within the project area.

Justification and Sources Consulted: There is no record of the site in the literature. General Land Office Mineral Survey Connector Sheet for Section 35, T7S, R79W, General Land Office, U. S. Department of the Interior, Bureau of Land Management, Colorado State Office, Lakewood, CO

13. **NRHP Area of Significance**: N/A

Justification and Sources Consulted:

14. **NRHP Period of Significance**: N/A

Justification and Sources Consulted:

15. **Site, Component, or Feature Theme (use the Historic Archaeology Lexicon)**: Mining & Mineral Processing

16. **Does this component or feature support the NRHP eligibility of the entire resource?**

☐ Yes ☐ No ☐ Undetermined ☒ N/A

Justification:

17. **Recorder(s)**: R. Fiske, J. Mueller, A. Sapula 18. **Date**: 7/18/14

19. **Presence and Quantity of Artifacts** (add types as necessary)

a. Vessel Glass	Quantity
Amber (1860s-present)	
Amethyst (pre-1920)	
Aqua (ca. 1870-1920s)	
Cobalt	
Colorless (ca. 1920s-present)	5 (FS-1)
Light green (1860s-present)	
Milk/White (1890s-present)	
Olive green (early 1860s)	
Yellowish (1918-1950s)	
Brown liquor bottle	1 (FS-2)
Brown jug base	1

b. Ceramics	Quantity
Earthenware	
Porcelain	
Refined Earthenware	
Stoneware	

c. Nails	Quantity
Hand-made cut (wrought)	
Machine-made cut	
Railroad Spike	
Wire	

d. Industrial Artifacts	Quantity
55-gallon drum	
Animal shoe	
Automobile/Truck Part	
Bailing wire	
Barbed wire	
Barrel hoop	
Bracket	
Bucket	
Cable/Wire rope	
Cartridge: centerfire	
Cartridge: rimfire	
Cartridge: pin fire	
Cartridge: shotgun shell	

e. Cans	Quantity
Beverage: all aluminum (post-1970)	
Beverage: aluminum ends (post-1953)	
Beverage: cone-top (1935-1960)	
Beverage: flat top, all-steel (1935-1970s)	
Beverage: pull tab (1962-1983)	
Beverage: UPC code (post-1980)	
Hole-in-cap: double-locked side seam (1890-1915)	1
Hole-in-cap: lapped side seam (ca. 1880s-1900)	
Round quart motor oil: all metal (1933-1970s)	
Round quart motor oil: paper-sided (late 1940s-late 1980s)	
Sanitary can (1904 +)	14
Sanitary ends, lapped side seam (1904+; very rare)	
Sardine tin: lapped and soldered (pre-1910)	
Sardine tin: one piece bottom (early 1900s +)	
Tobacco tin: complex friction lid (post 1948)	
Tobacco tin: simple friction lid (1907-1948)	
Tobacco tin: upright pocket (late 1890s-1988)	
Tobacco tin: hinged lid (ca. 1910-present)	
Vent hole (hole-in-top) (1900-1980s)	4
Vent hole with two solder dots (hole-in-top) (1890s-early 1900s)	
Flat top all steel	1
Stamped end can	1
Tobacco tin	1 (FS-3)

f. Structural Artifacts	Quantity
Adobe	
Brick, common	
Brick, fire	
Concrete: natural lime (pre-1915)	
Concrete: Portland (post-1910)	
Corrugated sheet iron (post-1890)	
Dimensional lumber	
Fieldstone	
Hinge	
Log: hewn	
Log: peeled	
Log: raw	
Sheet iron	
Stovepipe	
Tarpaper	
Timber bolt	
Timber spike	
Window glass: aqua (pre-1920)	

Clinker		Window glass: colorless	
Coal		Window glass: yellowish tint (1918-1950s)	
Electric light fixture			
Electrical wire			
Flashing fragment	1		
Horseshoe	1		
Iron scrap: cut sheet metal		**g. Domestic Artifacts**	**Quantity**
Iron scrap: forge-cut		Beads	
Lag bolt		Bed frame/springs	
Machine bolt		Buttons	
Machine part		Clothing	
Mine rail		Cookware	
Nut: hex		Doll head	
Pick axe	1 (FS-4)	Stove/parts (cast iron/tin)	
Shovel head – spade type	2		
Wagon parts			
Washer			

20. **Total assemblage size**:		Or estimate:	☐ 0-10	☒ 11-100	☐ 101-1000	☐ 1001-10,000	☐ >10,000

21. **Artifact density**: ☐ High ☐ Medium ☒ Low Describe: Maximum artifact density is 2/m^2, average is 1/5m^2.

22. **Unique Artifact Descriptions.** Particularly important attributes are listed following the artifact class and standardized terminology can be found in the Appendix to the instructions. Expand or contract tables as necessary. All of these items should be included in the counts of the Artifact table above.

a. Glass: type, function, color, bottle part, manufacturing method, vessel style/contents, embossing/marking, dimensions, worked or modified?

Three colorless body fragments from a single bottle. One shoulder fragment reads Duraglas [script]. ABM Manufacture

One brown liquor bottle (FS-2)

One colorless, pickled olive or caper bottle (FS-1)

One ABM brown glass jug base, with a base mark of " ". No oval in the mark – not Owens Illinois. Approximately 5½" diameter; base is too incomplete for diameter measure

One colorless glass jar, large-mouth external thread finish, round base. Knurling on the heel, shoulder, and base. Part of a ferrous cap remains. Stands 8½" tall, 4¼" base diameter. Base mark reads "8558/ /B 36"

b. Ceramics: type, function, surface treatment/glaze, color, shape, trademarks, decorations, dimensions.

c. Nails: type, function, dimensions.

d. Industrial: type, function, manufacturing method, marking, dimensions.

e. Cans: material type, side-seam, opening, vessel style/contents, embossing/marking, dimensions.

Two stamped-end cans, crushed. Indeterminate opening. Stamped-end, indeterminate rolled side. No labels or markings, Indeterminate function

Three sanitary cans, single-serve size. Rotary opening. Sanitary with indeterminate rolled side. No labels or markings. Indeterminate function

Two vent hole cans, crushed. Hole-punched opening. Stamped end, indeterminate side. No labels or markings. Indeterminate function

Four sanitary, single-serve size cans. Indeterminate opening. Sanitary end with indeterminate rolled side. No label or markings. Indeterminate function

One crushed vent hole can. Indeterminate opening. Stamped end, indeterminate rolled side. No label or markings. Indeterminate function

Six sanitary, single-serve size. Bayonet opening. Sanitary end, indeterminate rolled side. No label or markings. Indeterminate function

One sanitary, multi-serve size can. Bayonet opening. Sanitary end, indeterminate rolled side. Three large ribs. Used for coffee

One vent hole, $3\ ^{7}/_{8}$" tall. Diameter is $2\ ^{15}/_{16}$". Hole punched opening. Stamped end, indeterminate rolled side. No label or markings. Likely used for milk or juice

One flat top all steel. $2^{11}/_{16}$" diameter, indeterminate height. Hole punched opening. Sanitary end, indeterminate rolled side. No label or markings. Indeterminate function

One hole-in-cap can. Can is crushed. $1^{11}/_{16}$" cap diameter. Indeterminate opening. Stamped end, soldered side seam.

No label or markings. Indeterminate function

One aluminum tobacco tin lid (FS-3). 3¼"x2", with a hinge on one end. Stamped lettering reads, "BOOTJACK/PLUG/Best chew on earth"

f. Structural: type, function, manufacturing method, marking, dimensions.

g. Domestic: type, function, manufacturing method, marking, dimensions.

h. Other/miscellaneous: type, function, manufacturing method, marking, dimensions.

Two shovel heads – spade type

One pick axe head (FS-4) measuring 23" between the tips. Stamped on each side are the letters " B&RGRR"

One horseshoe

One flashing fragment

23. **Are standing structures present on the site?** Yes ☐ No ☒

If yes, please complete Architectural Inventory Form(s)(1403)

24. **Feature Descriptions** Include a site map, to scale, with each feature listed below depicted on it. Please use the Historic Archaeology Lexicon for feature types. Insert rows and feature types into table as necessary. If desired, sort table by feature number.

Feature Type (add others as necessary)	Feature Number/Name	Dimensions (feet / inches)	Description
Adit			
Aspen art			
Cabin			
Cairn			
Corral			
Ditch/canal			
Depression			
Dugout			
Foundation			
House			
Log cabin			
Mine shaft			
Outbuilding			
Platform			
Privy			
Railroad grade/bed			
Road/Trail			
Shaft			
Trash scatter			
Waste Rock pile			

25. **Potential for Additional Archaeological Information**

Is there potential for additional information? ☐ Yes ☒ No ☐ Unknown If yes or unknown describe below.

Potential Within:	Describe
a. Subsurface deposits within a structural feature	
b. Subsurface deposits outside a structural feature	
c. Trash area	
d. Privy pits	
e. Other	

5ST1476, site overview, view to southwest.

5ST1476, site overview, view to west.

5ST1476, FS-1 body detail.

5ST1476, FS-1, base detail.

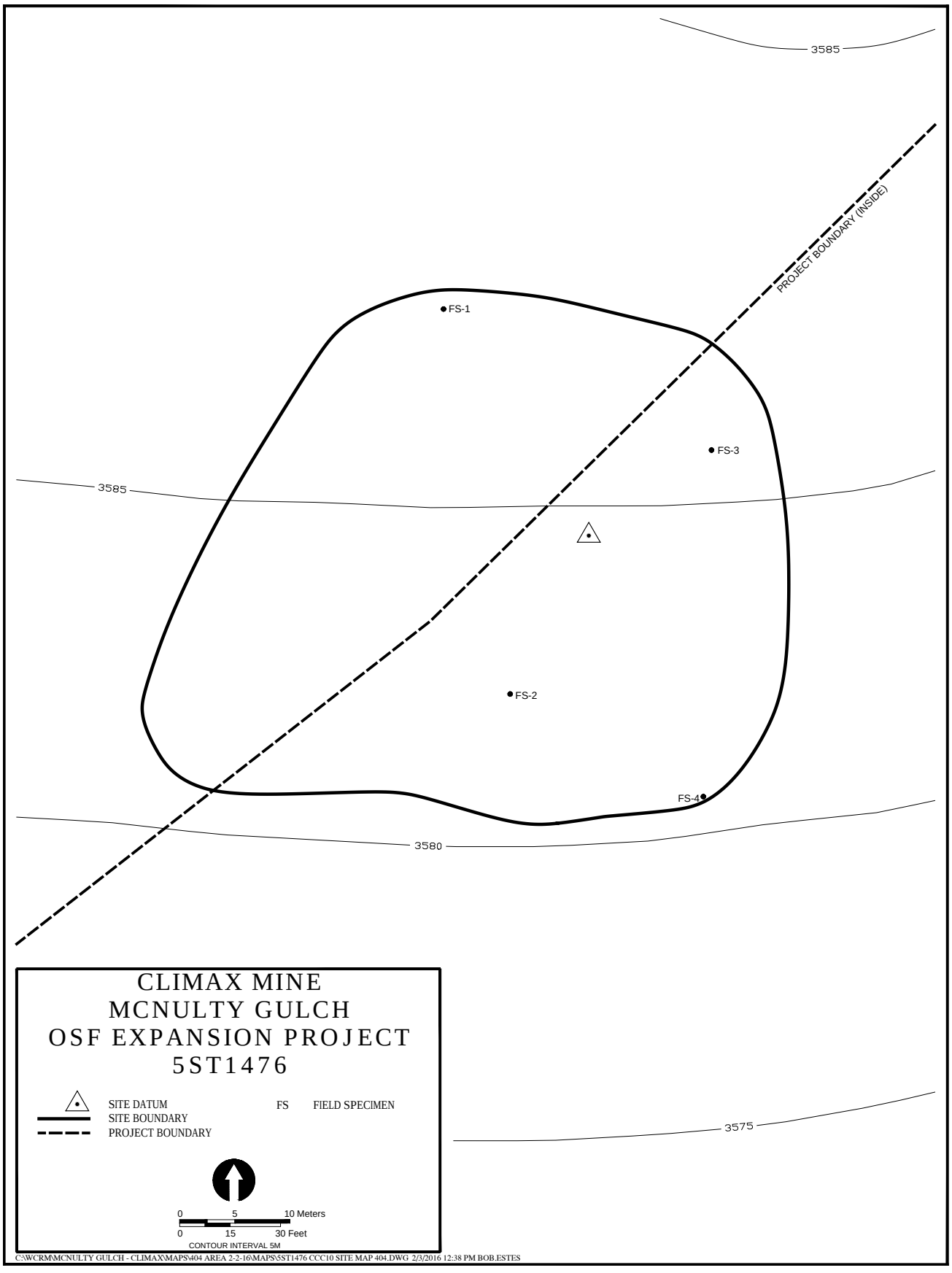
5ST1476, FS-2, body detail.

5ST1476, FS-2, base detail.

5ST1476, FS-3, detail.

5ST1476, FS-4, detail.

5ST1476, FS-4, stamping detail.



CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
5ST1476

SITE DATUM
SITE BOUNDARY
PROJECT BOUNDARY

FS FIELD SPECIMEN

0 5 10 Meters
0 15 30 Feet

CONTOUR INTERVAL 5M

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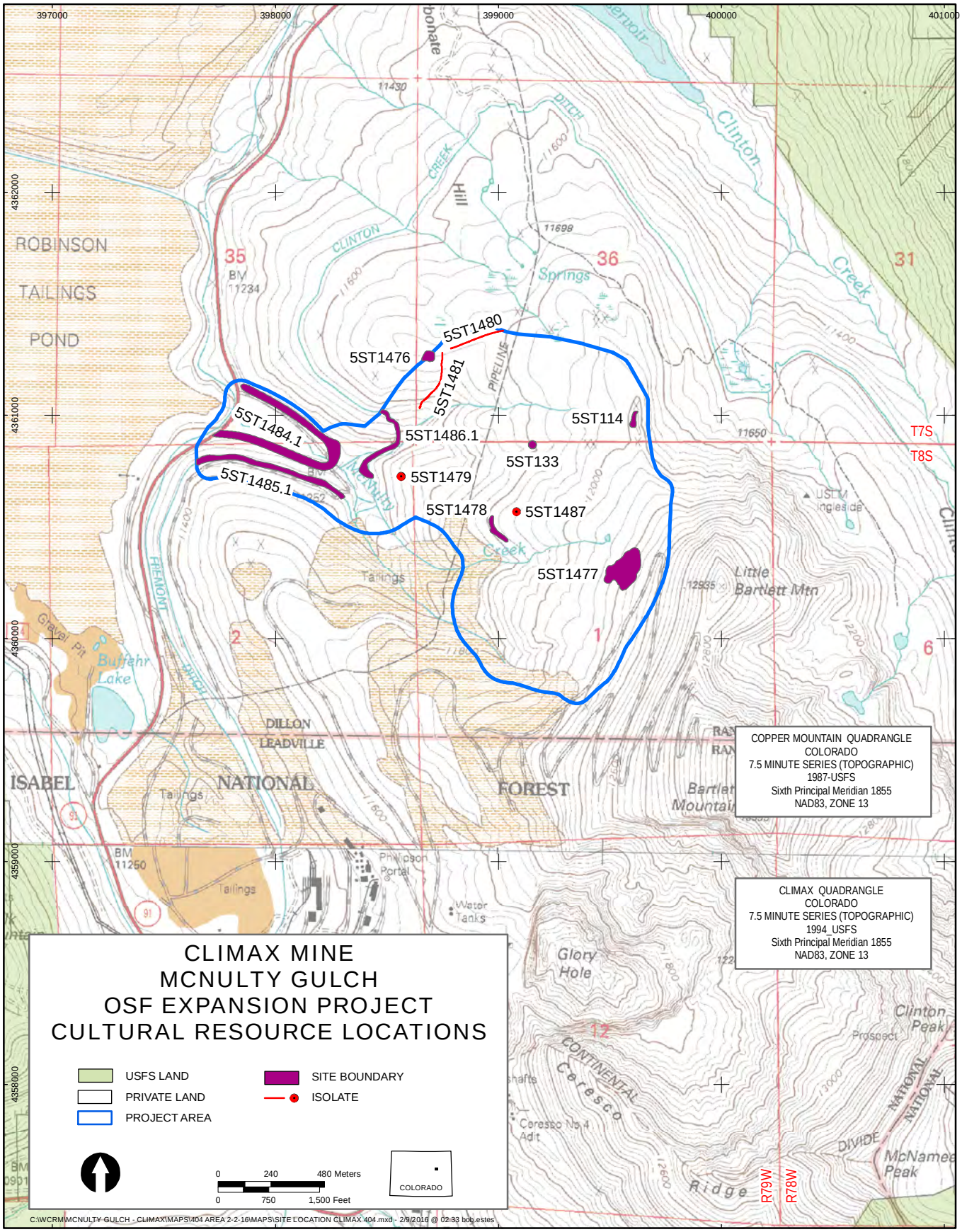
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ROBINSON
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Clinton
Creek
Hill
Springs
PIPELINE
DITCH
CLINTON
FREMONT
Tailings
Little
Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
Glory
Hole
Clinton
Peak
Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
Adit
DIVIDE
McNamee
Peak
Ridge
R79W
R78W
T7S
T8S
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
0 240 480 Meters
0 750 1,500 Feet
COLORADO
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\SITE LOCATION CLIMAX 404.mxd - 2/9/2016 @ 02:33 bob.estes

COLORADO CULTURAL RESOURCE SURVEY OAHP1400

Management Data Form

Rev. 11/10

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number**:	5ST1477	2. **Temporary Resource Number**:	CCC30
3. **Attachments (check as many as apply)**		4. **Official determination (OAHP use only)**	
☐ Prehistoric Archaeological Component		☐ Determined Eligible NR\SR	_____
☒ Historic Archaeological Component		☐ Determined Not Eligible NR\SR	_____
☐ Linear Component		☐ Nominated	_____
☒ Sketch/Instrument Map (required)		☐ Need Data NR\SR	_____
☒ U.S.G.S. Map Photocopy (required)		☐ Contributing to NR Dist.\SR Dist.	_____
☒ Photograph(s) (required)		☐ Not Contributing to NR Dist.\SR Dist.	_____
☐ Other, specify:		☐ Supports overall linear eligibility NR\SR	_____
		☐ Does not support overall linear eligibility NR\SR	_____

I. IDENTIFICATION

5. **Resource Name**: N/A

6. **Project Name/Number**: Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN

7. **Government Involvement**: ☐ Local ☐ State ☒ Federal

Agency: U.S. Army Corp of Engineers

8. **Site Categories (check as many as apply)**:

Prehistoric:	☐ archaeological site	☐ paleontological site	☐ In existing National Register District

National Register District name:

Historic:	☒ archaeology site	☐ building(s)	☒ structure(s)	☐ object(s)	☐ In existing National Register District

National Register District name:

9. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

10. **Boundary Description and Justification**: The boundary of 5ST1477 is defined by the extent of historic cultural materials and features observed on the present ground surface within the project area.

11. **Site/Property Dimensions**	Length:	202 m	Width:	120 m	Area:	18,578 m^2	Acres (m^2/4047): 4.59

Area was calculated as:	☐ Length x Width (rectangle/square)	☐ Length x Width x 0.785 (Ellipse)	☒ GIS

II. LOCATION

12. **Legal Location**

PM	6	Township	8S	Range	79W	Section	1	SW	¼	NE	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼

If section is irregular, explain alignment method: Template anchored on NE corner

13. **USGS Quad**:	Copper Mountain Quad, 7.5' 1987	14. **County**:	Summit

15. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:	
A. Zone	13;	399565 mE		4360319 mN		

B. Zone	__;	_____	mE	_____	mN
C. Zone	__;	_____	mE	_____	mN
D. Zone	__;	_____	mE	_____	mN

16. **UTM Source**:	☐ Corrected GPS/rectified survey (<5m error)	☐ Uncorrected GPS	☐ Map template

Other (explain): A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.

17. **Site elevation** (feet): 12,120 - 12,200 feet

18. **Address**:		Lot:		Block:		Addition:	

19. **Location/Access**: Access to the site must be obtained from the Climax Molybdenum Company. From the town of Leadville, Colorado, travel north on State Highway 91 for 12.4 miles to the main gate of the Climax Molybdenum Mine. After obtaining permission to access the mine area, drive an additional 1.25 miles up Bartlett Road to the intersection of the project area and the road, then park.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. **General Description** (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility):

Site 5ST1477 is a historic mining site located on a W/NW facing slope west of Little Bartlett Mountain. The Climax Mine tailings are located to the southwest and west of the site. The site is at an elevation of between 12,120 and 12,200 feet, and the slope ranges from 25-35º with a west/northwest aspect. Several small creeks are present within the site boundary; it is unclear whether they are spring fed or are associated with mine runoff. It is likely that drainage work has occurred to remove water and/or move water away from the mine. The soil is a brown loam containing active and decaying organic matter and, although the depth is unknown, exposed soils within some features suggest it is at least 10' deep. Located in a colluvial depositional environment, granitic and limestone cobbles to boulders are present across the site and slope, in general. On-site vegetation consists of native grasses, cutgrass, paintbrush, yarrow, willow, forbs, and young alpine spruce. Ground visibility is extremely limited with dense vegetation obscuring 95%+ except in bare areas and below trees.

21. **Soil depth (cm) and description**: The soil is a brown loam containing decomposing organic matter. Depth is unknown but feature depths suggest it is at least 10'. Granitic and limestone cobbles to boulders are present across the site and slope, in general.

22. **Condition**

a. Architectural/Structural	b. Archaeological/Paleontological
☐ Excellent	☐ Undisturbed
☐ Good	☐ Light disturbance
☒ Fair	☒ Moderate disturbance
☐ Deteriorated	☐ Heavy disturbance
☐ Ruin	☐ Total disturbance

23. **Describe condition**: The site is considered to be in good to fair condition with moderate impacts resulting from abandonment and erosional forces (alluvial, eolian and colluvial). All structural debris, except rock foundations, has likely been removed and re-used elsewhere.

24. **Vandalism**:	☐ Yes	☒ No
Describe:		

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. **Context or Theme**: Colorado Mountains Historic Context – Lead, Zinc, and other Mining (1860-1945)

26. **Applicable National Register Criteria**:

- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history
- ☐ B. Associated with the lives of persons significant in our past
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity

whose components may lack individual distinction			
☐ D. Has yielded, or may be likely to yield, information important in history or prehistory			
☒ Does not meet any of the National Register criteria			
☐ Qualifies under exceptions A through G. List exception(s):			
27. **Applicable State Register Criteria**:			
☐ A. Property is associated with events that have made a significant contribution to history			
☐ B. Property is connected with persons significant in history			
☐ C. Property has distinctive characteristics of a type, period, method of construction or artisan			
☐ D. Property is of geographic importance			
☐ E. Property contains the possibility of important discoveries related to prehistory or history			
☒ Does not meet any of the State Register criteria			
28. **Area(s) of significance**: N/A			
29. **Period(s) of significance**: N/A			
30. **Level of significance**:	☐ National	☐ State	☐ Local

31. **Statement of significance**: Site 5ST1477 is a mineral exploration site that includes 22 prospecting-related features. The limited artifact assemblage indicates that the site was likely occupied before World War I (i.e., pre-1914). Even though the historic record of the site begins during the late 1870s to early 1880s when the silver mining boom was encouraging rapid expansion of exploration and claiming activities in the Ten Mile Consolidated Mining District, the site is not considered to be a significant representative of the mining theme and, therefore, is not recommended eligible for inclusion in the NRHP under Criterion *a*. The archival record found no information to indicate that the site's owners or occupants were important figures in local mining and, as a result, the site does not merit consideration under Criterion *b*. The site's limited architectural/engineering presence precludes it from being considered eligible under Criterion *c*. The limited artifact assemblage, lack of intact subsurface deposits, and common nature of prospect pits and other mineral exploration features within the project area, indicate that the site will not yield additional significant information about local mining history; thus, the site is not recommended eligible under Criterion *d*.

32. **Statement of historic integrity related to significance**: N/A

33. **National Register Eligibility Field Assessment**:	☐ Eligible	☒ Not eligible	☐ Need data
Linear Segment Evaluation (if applicable):	☐ Supporting	☐ Non Supporting	
34. **Status in an Existing National Register Distric**t:	☐ Contributing	☐ Non-contributing	
35. **State Register Eligibility Field Assessmen**t:	☐ Eligible	☒ Not eligible	☐ Need data
36. **Status in an Existing State Register District**:	☐ Contributing	☐Non-contributing	

37. **National/State Register District Potential**: ☐ Yes ☒ No Describe:

38. **Cultural Landscape Potential**: ☐ Yes ☒ No Describe:

39. **If Yes to either 37 or 38, is this site**: ☐ Contributing ☐ Non-contributing Explain:

V. MANAGEMENT AND ADMINISTRATIVE DATA

40.**Threats to Resource**:	☒ Water erosion	☒ Wind erosion	☒ Grazing	☒ Neglect	☐ Vandalism
☐Recreation	☒ Construction	☒ Other (explain):	Colluvial impacts		

41. **Existing protection**	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled

Other (specify):

Comments:

42. **Local landmark designation**:	N/A	43. **Easement**:	N/A

44. **Recorder's Management Recommendations**: No further work necessary.

VI. DOCUMENTATION

Management Data Form

Resource Number: 5ST1477 **Temporary Resource Number**: CCC30

45. **Previous actions accomplished at the site**:	☐ Tested	☐ Partial excavation	☐ Complete excavation
Date(s):			
a. Excavations:			
b. Stabilization:		Date(s):	
c. HABS/HAER documentation [date(s) and numbers]:			
d. Other:			
46. **Known collections/reports/interviews and other references (list)**: None			
47. **Primary location of additional data**: N/A			
48. **State or Federal Permit number**:	Colorado State Permit #2014-46		
49. **Collection**: Artifact collection authorized:	☐ Yes	☒ No	Were artifacts collected: ☐ Yes ☒ No
Artifact repository:			
Collection method:	☐ Diagnostics	☐ Grab Sample	☐ Random Sample
Other (specify):			
50. **Photograph Numbers**:	Roll # RBF001, Exp: 80, 265-319		
Files or negatives stored at:	WCRM, Inc., Boulder, CO office		
51. **Report title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089			
52. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	Date: 7/19/2014	
53. **Recorder affiliation**:	Western Cultural Resource Management, Inc. (WCRM)		
Phone number/Email:	303-449-1151/tom.lennon@wcrminc.com		

NOTE: Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

Historic Archaeology Component Form

1. **Resource Number**:	5ST1477	2. **Temporary Resource Number**:	CCC30
3. **Site Name:**	N/A		
4. **Does this form pertain to the site in general?**	☒ Yes	☐ No	
If no, please supply a feature/structure number or name:			
5. **Site, Component or Feature Type**:	Mining site		

6. **Narrative History (based on archival research, expand as necessary)**:
The historic record of the site begins during the late 1870s to early 1880s silver mining boom that encouraged rapid expansion of exploration and claiming activities in the Ten Mile Consolidated Mining District. Four lode claims, the New Discovery, the Blue Float, the West Side, and the High Chief, had been filed by 1880; these claims covered part of the site. The GLO completed Mineral Surveys of the Blue Float and West Side lodes that were approved by the Surveyor General on December 30, 1880. The Scottish American Mining Company owned the claims in 1880. The Mineral Survey connecting sheet for the section does not show surveys for the other two claims made by Albert Johnson (General Land Office 1880a, 1880b). By 1964, the two claims were owned by Walter W. and Helen C. Byron who in June of that year sold them to American Metal Climax, Inc. (General Land Office 1964). This purchase took place as the mine prepared for its 1970s expansion into the Ten Mile Creek area that led the company to the purchase of dozens of claims as well as to undertake land exchanges with the USFS.

7. **Is this site located in a NRHP historic landscape**? ☐ **Yes** ☒ **No**; **If yes, please describe**:

8. **Component or Feature Description (expand as necessary)**:
The component is approximately 4.59 acres in area and consists of 22 features directly associated with mineral exploration including three adits (F1, F11, F21), two waste rock piles (F2, F10), three structural foundations (F3, F6, F12), one prospect cut (F4), one stope (F5), one platform (F7), four mountain cuts (F8, F9, F19, F20), five prospect pits (F13, F14, F17, F18, F22), and two shafts (F15, F16). The mining features are all excavated into the west facing slope of Little Bartlett Mountain. The features found on the site were documented as follows:

- Feature 1 (F1), located in the center of the site, is a collapsed adit and associated trench which trends west/northwest by east/southeast. The portal would have been on the east/southeast end. Feature 2, a waste rock dump, is related to this feature. The north/norteast side is bermed 15' out, while the S/SW side borders the F19 cut. The adit is 54 ft long, 14 ft wide, and averages five ft deep.
- Feature 2 (F2), located in west central portion of the site, is a waste rock dump associated with F1, an adit. It extends 75 ft west/northwest from the mouth of the F1 trench, is 35 ft wide and 15 ft in height. Situated on top are seven 4 " by 4" lumber sections, likely from subsequent claimants in the area making claimposts after this site was abandoned. One piece of amethyst bottle body glass is on the slope of the dump.
- Feature 3 (F3), located in the center of the site, is a structure foundation constructed with locally available granite rocks. No coursing is apparent. The outside dimensions are 18 ft^2 by 2 ½ ft tall by 3 ft thick. The foundation is oriented northwest/southeast. The entryway is on the northwest side where the wall is missing. The other side is set into F19 fill.
- Feature 4 (F4), located in the center of the site, is a prospect cut and associated waste rock pile. The cut runs northwest/southeast with the western side truncated by the F1 berm. The waste rock pile is on the northwest end. The cuts is 23 ft long, 12 ft wide and has a maximum depth of two ft. The waste rock pile extends for a distance of 12 ft, is 12 ft wide, and 2 ½ ft in height.
- Feature 5 (F5), located in the east central portion of the site, is a collapsed stope. It is 16 ft wide, 30 ft long, and 8 ft deep.
- Feature 6 (F6), located in the east central portion of the site, is a structure foundation. The entire foundation is 15 ft long and 8-9 ft wide; the interior measures 15 ft by 4 ft. The walls are constructed with locally available granitic rocks and are 2-foot wide and 2 ½ ft tall. The east/southeast side is set into the side of the F8 cut and the west/northwest end is open.
- Feature 7 (F7), located in the east central portion of the site, is a leveled platform set on the F8 cut and using rock from it. The feature is 16 ft east/west by 18 ft north/south and one foot in height.
- Feature 8 (F8), located in the east central to south central portion of the site, is a cut into the mountain side with a northeast/southwest orientation; it is 200 ft long and 25 ft wide. Fill from the cut extends 25-50 ft downhill to the northwest. One hole-in-cap can is located in the cut.
- Feature 9 (F9), located in the southern portion of the site, is a cut into the side of the Little Bartlett Mountain; it measures 25 ft wide northwest/southeast and 35 ft long northeast/southwest. It was filled with snow at the time of recording. A possible drainage trench, 6' wide, extends to the northwest. This cut may be the location of a

dewatering tunnel.

- Feature 10 (F10), located on the western side of the site, is a waste rock dump measuring 95 ft northwest/southeast by 60 ft wide north to south and approximately 15 ft in height. It has no adjacent shaft, adit, or trench and is likely associated with F1. A chute or tram may have transported the waste rock to this location.
- Feature 11 (F11), located in the north central portion of the site, is a collapsed adit, trench and associated waste rock platform. The adit runs southeast to northwest and is 25 ft long, 6 ft wide, and 4 ft deep. The collapsed portal of the trench is on the southeast side. The waste rock platform extends 22 ft to the northwest from the mouth of the trench and is 22 ft in width.
- Feature 12 (F12), located in the northern portion of the site, is a structure foundation set into the slope of Little Bartlett Mountain; it is possible that it served as a powder magazine. It consists of a trench measuring 25 ft southeast/northwest, 8 ft wide, and approximately 6 ft deep. The sides are reinforced with non-coursed rock walls 1½ ft thick.
- Feature 13 (F13), located in the northern portion of the site, is a prospect pit with waste rock piled to the northwest. The pit is 10 ft in diameter and 5 ft deep, while the waste rock extends out from the pit for a distance of 16 ft at a width of 16 ft.
- Feature 14 (F14), the most northern feature at the site, is a prospect pit with waste rock piled to the northwest. The pit is 10 ft in diameter and 5 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 16 ft.
- Feature 15 (F15), located in the northern central portion of the site, is a collapsed shaft with waste rock piled to the west and northwest. The portal is 9 ft in diameter and 5 ft deep, and the waste rock extends out from the shaft for a distance of 12 ft with a width of 14 ft.
- Feature 16 (F16), located at the southeastern boundary of the site, is a small collapsed shaft with waste rock piled to the north and northwest. The portal is 6 ft in diameter and 3 ft deep, and the waste rock extends out from the shaft for a distance of 16 ft with a width of 8 ft.
- Feature 17 (F17), located in the southeastern portion of the site, is a prospect pit with waste rock piled to the north/northwest. The pit is 7 ft in diameter and 3 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 10 ft.
- Feature 18 (F18), located in the southeastern portion of the site located just north of F17, is a prospect pit. All associated waste rock has either washed away or is included in the waste rock found with F17. The pit is 7 ft in diameter and 3 ft deep.
- Feature 19 (F19), located in the center of the site, is a cut into the mountainside with a northeast/southwest orientation; it is 85 ft long and 25 ft wide. Fill from the cut extends 25 ft to the west/northwest. One hole-in-cap can is located on the platform.
- Feature 20 (F20), located in the north central portion of the site, is a cut into the mountainside with a southeast/northwest orientation; it is 60 ft long and 25 ft wide. Waste rock is pushed to the northwest and extends for a distance of 25-50 ft. One round spout can, one stamped end can, and one bucket were found in association with the feature.
- Feature 21 (F21), located in the southwestern corner of the site, is a collapsed adit and associated trench. The adit runs southeast to northwest and is 50 ft long, 12 ft wide, and 6 ft deep. The collapsed portal of the trench would have been on the southeast end. The northwest end has been filled with granite rocks and boulders; they are likely ad hoc water baffles. This feature may have served as a dewatering tunnel.
- Feature 22 (F22), located at the southern boundary of the site located, is a prospect pit with waste rock to the west/northwest. The pit is 10 ft in diameter and 2 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 10 ft. A piece of lumber, possibly a claim marker, sits atop the waste rock pile.

The materials found in the waste rock dumps are generally friable granite with inclusions of rose quartz and pyrite. The site has a small artifact assemblage including four cans, one bucket, and one piece of amethyst glass. The limited artifact assemblage indicates that the site was likely occupied before World War I (i.e., pre-1914).

The site is considered to be in good to fair condition with moderate impacts resulting from abandonment and erosional forces (alluvial, eolian, and colluvial). All structural debris, except rock foundations, has likely been removed and re-used elsewhere.

9. **Historic Component Date(s)**:	Likely occupied before World War I (pre-1914)

Justification and Sources Consulted: Based on artifact assemblage (i.e., presence of amethyst glass and hole-in-cap cans).

Clark, Hyla M.
1977 *The Tin Can Book*. New American Library, New York.
Horn, Jonathon C.
2005 *Historic Artifact Handbook*. Appendix B of the History Colorado – Office of Archaeology and Historic Preservation's Historic Archaeological Component Form Instructions. History Colorado, Denver.
Rock, James T.
1978 Historical Archaeological Research on the Klamath. Unpublished paper presented at the Society for California Archaeology Meeting. Yosemite.

10. **Component Function(s)**: Prospecting/mining

Original Use:	Mineral exploration/Mining
Present Use:	Abandoned

11. **Ethnic affiliation of occupants**: Unknown

Justification and Sources Consulted:

12. **Historic Boundary Description**: The boundary of 5ST1477 is based on the distribution of historic mining features.

Justification and Sources Consulted:

General Land Office (GLO)
1880a Survey No. 1170, Plat of the Claim of Albert Johnson of the Scottish American Mining Company upon the Blue Float Lode, Colorado Mineral Surveys (30 December 1880), Summit County, State of Colorado. Electronic documents, www.glorecords.blm.gov, accessed September 18, 2013.

1880b Survey No. 1171, Plat of the Claim of Albert Johnson of the Scottish American Mining Company upon the West Side Lode, Colorado Mineral Surveys (30 December 1880), Summit County, State of Colorado. Electronic documents, www.glorecords.blm.gov, accessed September 18, 2013.

1964 Walter W. Byron, Helen C. Byron and American Metal Climax, Inc. "Special Warranty Deed," 11 June 1964, Climax Molybdenum Mine, Leadville, Colorado. Electronic documents, www.glorecords.blm.gov, accessed September 18, 2013.

13. **NRHP Area of Significance**: N/A

Justification and Sources Consulted:

14. **NRHP Period of Significance**: N/A

Justification and Sources Consulted:

15. **Site, Component, or Feature Theme (use the Historic Archaeology Lexicon)**: Mining & Mineral Processing

16. **Does this component or feature support the NRHP eligibility of the entire resource?**

☐ Yes	☐ No	☐ Undetermined	☒ N/A

Justification:

17. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	18. **Date**:	7/19/2014

19. **Presence and Quantity of Artifacts** (add types as necessary)

a. Vessel Glass	Quantity	e. Cans	Quantity
Amber (1860s-present)		Beverage: all aluminum (post-1970)	
Amethyst (pre-1920)	1	Beverage: aluminum ends (post-1953)	
Aqua (ca. 1870-1920s)		Beverage: cone-top (1935-1960)	
Cobalt		Beverage: flat top, all-steel (1935-1970s)	
Colorless (ca. 1920s-present)		Beverage: pull tab (1962-1983)	
Light green (1860s-present)		Beverage: UPC code (post-1980)	
Milk/White (1890s-present)		Hole-in-cap: double-locked side seam (1890-1915)	
Olive green (early 1860s)		Hole-in-cap: lapped side seam (ca. 1880s-1900)	2

Yellowish (1918-1950s)		Round quart motor oil: all metal (1933-1970s)	
		Round quart motor oil: paper-sided (late 1940s-late 1980s)	
		Sanitary can (1904 +)	1
		Sanitary ends, lapped side seam (1904+; very rare)	
		Sardine tin: lapped and soldered (pre-1910)	
b. Ceramics	**Quantity**	Sardine tin: one piece bottom (early 1900s +)	
Earthenware		Tobacco tin: complex friction lid (post 1948)	
Porcelain		Tobacco tin: simple friction lid (1907-1948)	
Refined Earthenware		Tobacco tin: upright pocket (late 1890s-1988)	
Stoneware		Tobacco tin: hinged lid (ca. 1910-present)	
		Vent hole (hole-in-top) (1900-1980s)	
		Vent hole with two solder dots (hole-in-top) (1890s-early 1900s)	
c. Nails	**Quantity**		
Hand-made cut (wrought)		**f. Structural Artifacts**	**Quantity**
Machine-made cut		Adobe	
Railroad Spike		Brick, common	
Wire		Brick, fire	
		Concrete: natural lime (pre-1915)	
d. Industrial Artifacts	**Quantity**	Concrete: Portland (post-1910)	
55-gallon drum		Corrugated sheet iron (post-1890)	
Animal shoe		Dimensional lumber	
Automobile/Truck Part		Fieldstone	
Bailing wire		Hinge	
Barbed wire		Log: hewn	
Barrel hoop		Log: peeled	
Bracket		Log: raw	
Bucket	1	Sheet iron	
Cable/Wire rope		Stovepipe	
Cartridge: centerfire		Tarpaper	
Cartridge: rimfire		Timber bolt	
Cartridge: pin fire		Timber spike	
Cartridge: shotgun shell		Window glass: aqua (pre-1920)	
Clinker		Window glass: colorless	
Coal		Window glass: yellowish tint (1918-1950s)	
Electric light fixture			
Electrical wire			
Forge-cut iron scrap			
Horse tack/harness			
Iron scrap: cut sheet metal		**g. Domestic Artifacts**	**Quantity**
Iron scrap: forge-cut		Beads	
Lag bolt		Bed frame/springs	
Machine bolt		Buttons	
Machine part		Clothing	
Mine rail		Cookware	
Nut: hex		Doll head	
Nut: jamb		Stove/parts (cast iron/tin)	
Pipe			
Wagon parts			
Washer			

20. **Total assemblage size**:		Or estimate:	☒ 0-10	☐ 11-100	☐ 101-1000	☐ 1001-10,000	☐ >10,000

21. **Artifact density**: ☐ High ☐ Medium ☒ Low Describe: Maximum is 2m^2, only a couple of others within the site.

22. **Unique Artifact Descriptions.** Particularly important attributes are listed following the artifact class and standardized terminology can be found in the Appendix to the instructions. Expand or contract tables as necessary. All of these items should be included in the counts of the Artifact table above.

a. Glass: type, function, color, bottle part, manufacturing method, vessel style/contents, embossing/marking, dimensions, worked or modified?

Feature 2 -- one body fragment of amethyst glass

b. Ceramics: type, function, surface treatment/glaze, color, shape, trademarks, decorations, dimensions.

c. Nails: type, function, dimensions.
d. Industrial: type, function, manufacturing method, marking, dimensions.
e. Cans: material type, side-seam, opening, vessel style/contents, embossing/marking, dimensions.
Feature 8 -- one hole-in-cap crushed can, soldered side and stamped end, bayonet opening, no label or markings, $3^{4}/_{16}$" diameter, $1^{10}/_{16}$" cap diameter, indeterminate function.
Feature 19 -- one hole-in-cap end fragment, soldered side and stamped end, indeterminate opening, no label or markings, $4^{8}/_{16}$" diameter, $2^{8}/_{16}$" cap diameter, indeterminate function.
Feature 20 -- one cylindrical can, soldered side and sanitary-style end seam, spot opening, no label or markings, wire handle, $4^{3}/_{4}$" diameter and indeterminate height, possibly used for fuel.
Feature 20 -- one stamped end can, solderd side and stamped end, bayonet opening, no labels or markings, $3^{1}/_{2}$" diameter, $4^{10}/_{16}$" tall, indeterminate function.
Feature 20 -- one pail/bucket,undetermined size due to broken condition, illegible markings (see photos), indeterminate function.
f. Structural: type, function, manufacturing method, marking, dimensions.
g. Domestic: type, function, manufacturing method, marking, dimensions.
h. Other/miscellaneous: type, function, manufacturing method, marking, dimensions.

23. **Are standing structures present on the site?**	Yes ☐	No ☒
If yes, please complete Architectural Inventory Form(s)(1403)		

24. **Feature Descriptions** Include a site map, to scale, with each feature listed below depicted on it. Please use the Historic Archaeology Lexicon for feature types. Insert rows and feature types into table as necessary. If desired, sort table by feature number.

Feature Type (add others as necessary)	Feature Number/Name	Dimensions (feet / inches)	Description
Adit	F1	54' long,14' wide, and generally 5' deep	Collapsed adit and associated trench which runs W/NW -- E/SE. The portal would have been on the E/SE end. Feature 2, a waste rock dump, is related. The N/NE side is bermed 15' out, while the S/SW side borders the F19 cut.
Waste Rock Pile	F2	35' wide, approximately 15' tall	A waste rock dump associated with the F1 adit. It extends 75' W/NW from the mouth of the F1 trench. Situated on top are seven 4"x4" lumber sections, likely from subsequent claimants in the area making claimposts after this site was abandoned. One piece of amethyst bottle body glass is on the slope of the dump.
Foundation	F3	18ft^2, 2½' tall, walls 3' thick	Structure foundation constructed with locally available granite rocks. No coursing is apparent. Its outside dimensions are 18ft^2, and it is oriented NW/SE. The entryway is on the northwest side, consisting of a missing wall. The other side is set into F19 fill.
Prospect Cut/Waste Rock Pile	F4	Cut is 23' long, 12' wide with 2' maximum depth. Rock pile is 12' out, 12' wide, about 2½' tall.	Prospect cut and associated waste rock pile. The cut runs NW/SE with the western side truncated by the F1 berm. The waste rock pile is on the northwest end.
Stope	F5	16' wide, 30' long, approximately 8' deep	A collapsed stope 16' wide N-NE/S-SW and 30' long W-NW/E-SE.

Foundation	F6	15' long, 8-9' wide	Structure foundation set on the northeast end of the Feature 8 cut. Its length runs E-SE/W-NW with 2' wide rock walls constructed with locally available granitic rocks. The E/SE side is set into the side of the F8 cut and the W/NW end is open. Maximum wall height is 2½'. The interior measures 15x4'.
Platform	F7	16' E/W by 18' N/S. 1' tall.	Leveled platform set on the F8 cut. It is constructed with rock from the F8 cut.
Mountainside Cut	F8	200' long, 25' wide	A cut into the side of the mountain with a NE/SW orientation. Fill from the cut extends 25-50' downhill to the northwest. A hole-in-cap can is in the cut.
Mountainside Cut	F9	25’ wide, 35’ long	A cut set into the side of Little Bartlett Mountain. It measures 25’ wide W-NW/E-SE, 35’ long N-NE/S-SW. It was filled with snow at the time of recording. A possible drainage trench, 6’ wide, extends to the northwest. This cut may be the location of a dewatering tunnel.
Waste Rock Dump	F10	95’ long, 60’ wide, 15’ tall	Waste rock dump measuring 95’ W-NW/E-SE, 60’ wide and approximately 15’ tall. It has no adjacent shaft, adit, or trench, and is likely associated with F1. A chute or tram may have transported the waste rock to this location.
Adit	F11	25’ long, 6’ wide, 4’ deep	Collapsed adit, trench, and associated waste rock platform. The length of the trench runs W-NW/E-SE with the collapsed portal on the E/SE side. The waste rock platform extends 22’ N/NW from the mouth of the trench, 22’ wide.
Foundation	F12	25’ long, 8’ wide, 6’ deep.	Structure foundation set into the slope of Little Bartlett Mountain, likely a powder magazine. It consists of a trench measuring 25’ E-SE/W-NW, 8’ wide, and approximately 6’ deep. The sides are reinforced with non-coursed rock walls 1½’ thick.
Prospect Pit	F13	10’ diameter, 5’ deep	Prospect pit with waste rock piled to the northwest, 16’ out, 16’ wide.
Prospect Pit	F14	10’ diameter, 5’ deep	Prospect pit with waste rock piled to the west, 16’ wide, and 12’ out.
Shaft	F15	Portal: 9' diameter, 5' deep.	Collapsed shaft with waste rock piled to the W/NW, 14' wide, 12' out.
Shaft	F16	Portal: 6’ diameter, 3’ deep	Small collapsed shaft, likely a vent shaft. Waste rock extends 16’ to the west, 8’ wide.
Prospect Pit	F17	7’ diameter, 3’ deep	Prospect pit with waste rock piled to the N/NW, 12’ out, 10’ wide.
Prospect Pit	F18	7’ diameter, 3’ deep	Prospect pit, all associated waste rock has washed away or is included in the F17 waste rock.
Mountainside Cut	F19	85' long, 25' wide	Mountainside cut with S-SW/N-NE orientation. Fill from the cut extends 25' to the W/NW. A hole-in-cap can is on the platform.
Mountainside Cut	F20	60' long, 25' wide	A N-NE/S-SWcut set into the side of the mountain. Waste rock is pushed to the northwest, 25-50' out. Three cans are atop the waste rock: a round spout can, a stamped end can, and a bucket.

Adit	F21	50’ long, 12’ wide, 6’ deep	Collapsed adit and trench. The trench measures 50’ NW/SE, 12’ wide, 6’ deep. The adit portal would have been on the southeast end. The northwest end has been filled with granite rocks and boulders, likely ad hoc water baffles. This feature may be a dewatering tunnel.
Prospect Pit	F22	10’ diameter, 2’ deep	A prospect pit sitting on a west-facing slope and measuring 10’ diameter, 2’ deep. Waste rock extends 12’ to the west, 10’ wide. A piece of lumber, possibly a claim marker, sits atop the waste rock pile.

25. **Potential for Additional Archaeological Information**

Is there potential for additional information?	☐ Yes	☒ No	☐ Unknown	If yes or unknown describe below.

Potential Within:	**Describe**
a. Subsurface deposits within a structural feature	
b. Subsurface deposits outside a structural feature	
c. Trash area	
d. Privy pits	
e. Other	

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303-866-3395

5ST1477, site overview from slope of Little Bartlett Mountain, view to north.

5ST1477, site overview from slope of Little Bartlett Mountain at southern site boundary, view to northwest.

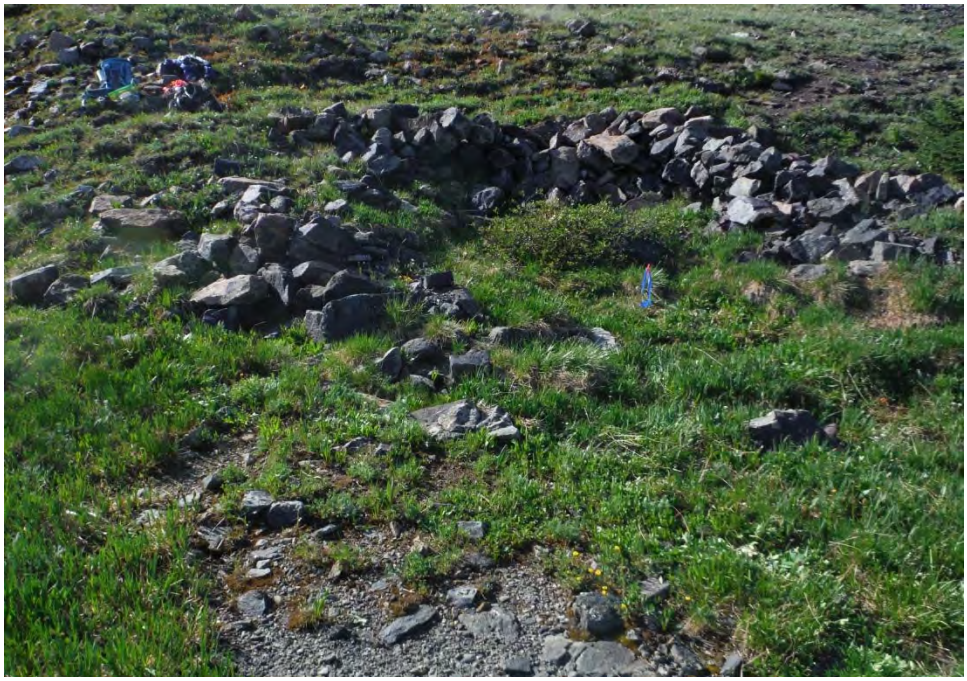
5ST1477, site overview from slope of Little Bartlett Mountain above Features 16-18, view to north.

5ST1477, site overview from slope of Little Bartlett Mountain below Features 16-18, view to north.

5ST1477, site overview from slope of Little Bartlett Mountain, view to west.

5ST1477, adit (F1), view to east.

5ST1477, waste rock pile (F2), below F1, view to west.



5ST1477, foundation (F3), view to southeast.

5ST1477, prospect cut and waste rock pile (F4), view to west.

5ST1477, stope (F5), view to east.

5ST1477, foundation (F6), view to east.

5ST1477, platform (F7), view to east.

5ST1477, mountainside cut (F8) from southeast corner of feature, view to northeast.

5ST1477, mountainside cut (F9), view to east.

5ST1477, waste rock pile (F10), view to northeast.

5ST1477, adit (F11), view to east.

5ST1477, foundation (F12), view to west.

5ST1477, prospect pit (F13), view to southeast.

5ST1477, prospect pit (F14), view to north.

5ST1477, shaft (F15), view to northeast.

5ST1477, shaft (F16), view to west.

5ST1477, prospect pit (F17), view to northwest.

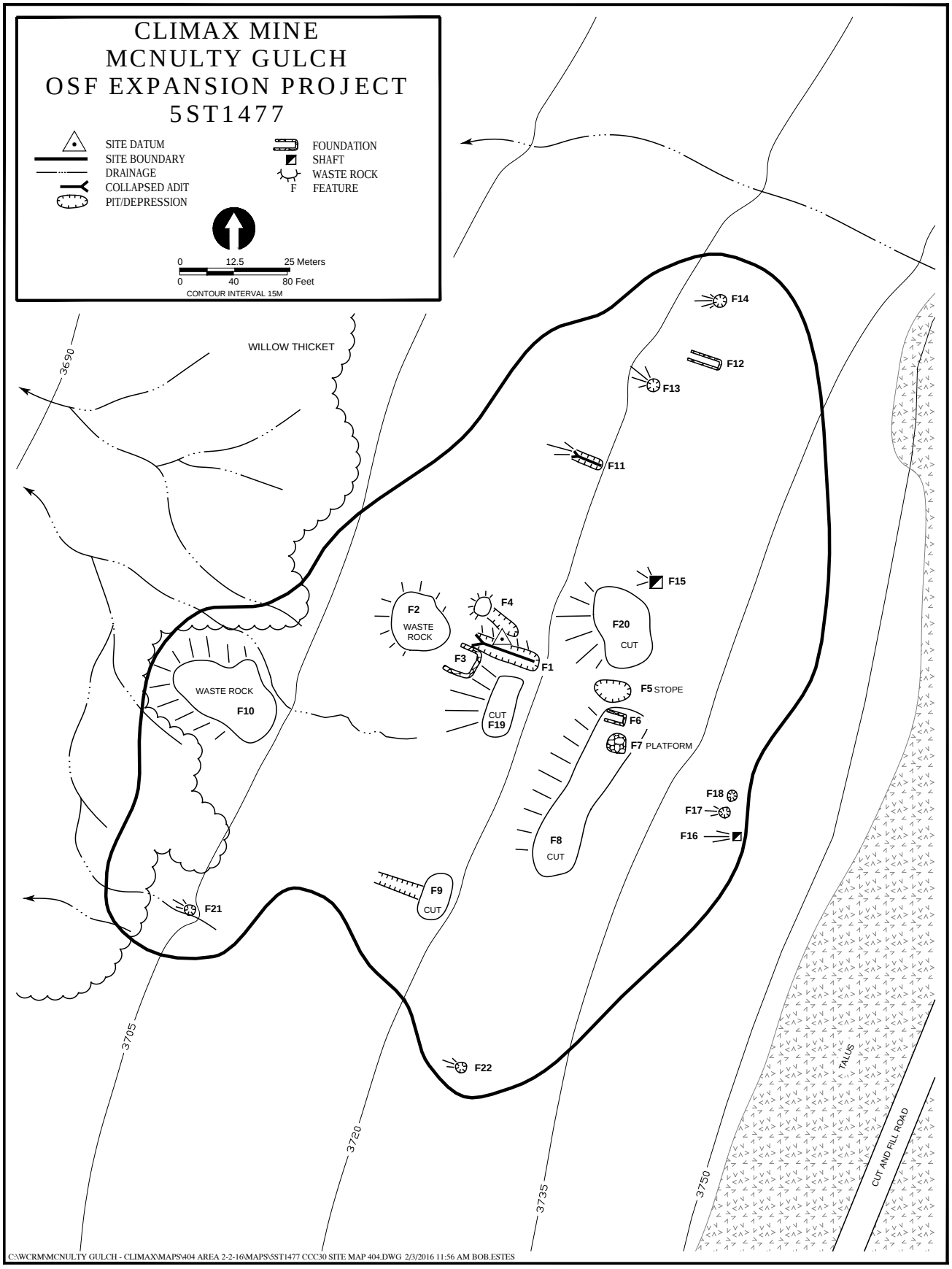
5ST1477, prospect pit (F18), view to west.

5ST1477, mountainside cut (F19), view to southwest.

5ST1477, mountainside cut (F20), view to northeast.

5ST1477, adit (F21), view to northwest.

5ST1477, prospect pit (F22), view to northwest.


CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
5ST1477
SITE DATUM
SITE BOUNDARY
DRAINAGE
COLLAPSED ADIT
PIT/DEPRESSION
FOUNDATION
SHAFT
WASTE ROCK
F FEATURE
0 12.5 25 Meters
0 40 80 Feet
CONTOUR INTERVAL 15M
WILLOW THICKET
3690
F14
F12
F13
F11
F15
F2
WASTE ROCK
F4
F20
CUT
F3
F1
F5 STOPE
WASTE ROCK
F10
CUT
F19
F6
F7 PLATFORM
F18
F17
F16
F8
CUT
F9
CUT
F21
F22
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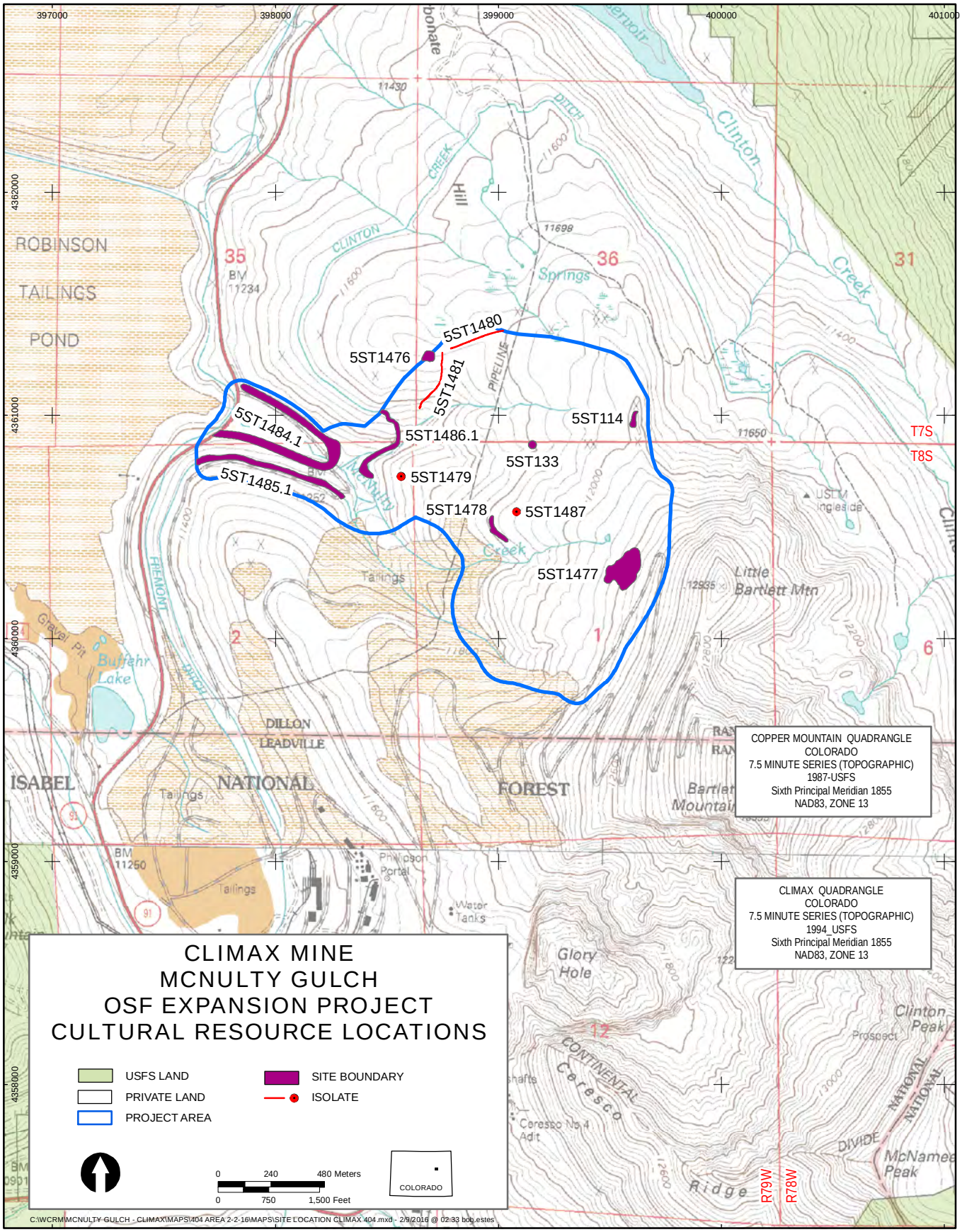
TALUS
CUT AND FILL ROAD
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\5ST1477 CCC30 SITE MAP 404.DWG 2/3/2016 11:56 AM BOB.ESTES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5ST1487
5ST1477
ROBINSON
TAILINGS
POND
Clinton
Creek
Hill
Springs
PIPELINE
DITCH
CLINTON
FREMONT
Tailings
Little
Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
Glory
Hole
Clinton
Peak
Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
Adit
DIVIDE
McNamee
Peak
Ridge
R79W
R78W
T7S
T8S
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
0 240 480 Meters
0 750 1,500 Feet
COLORADO
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\SITE LOCATION CLIMAX 404.mxd - 2/9/2016 @ 02:33 bob.estes

COLORADO CULTURAL RESOURCE SURVEY OAHP1400

Management Data Form

Rev. 11/10

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number**:	5ST1478	2. **Temporary Resource Number**:	CCC39
3. **Attachments (check as many as apply)**		4. **Official determination (OAHP use only)**	
☒ Prehistoric Archaeological Component		☐ Determined Eligible NR\SR	_____
☒ Historic Archaeological Component		☐ Determined Not Eligible NR\SR	_____
☐ Linear Component		☐ Nominated	_____
☒ Sketch/Instrument Map (required)		☐ Need Data NR\SR	_____
☒ U.S.G.S. Map Photocopy (required)		☐ Contributing to NR Dist.\SR Dist.	_____
☒ Photograph(s) (required)		☐ Not Contributing to NR Dist.\SR Dist.	_____
☐ Other, specify:		☐ Supports overall linear eligibility NR\SR	_____
		☐ Does not support overall linear eligibility NR\SR	_____

I. IDENTIFICATION

5. **Resource Name**: N/A

6. **Project Name/Number**: Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN

7. **Government Involvement**: ☐ Local ☐ State ☒ Federal

Agency: U.S. Army Corp of Engineers

8. **Site Categories (check as many as apply)**:

Prehistoric:	☒ archaeological site	☐ paleontological site	☐ In existing National Register District

National Register District name:

Historic:	☒ archaeology site	☐ building(s)	☐ structure(s)	☐ object(s)	☐ In existing National Register District

National Register District name:

9. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

10. **Boundary Description and Justification**: The boundary of 5ST1478 is defined by the extent of the cultural materials and features observed on the present ground surface within the project area.

11. **Site/Property Dimensions**	Length:	138 m	Width:	29 m	Area:	2,974 m^2	Acres (m^2/4047): .73

Area was calculated as:	☐ Length x Width (rectangle/square)	☐ Length x Width x 0.785 (Ellipse)	☒ GIS

II. LOCATION

12. **Legal Location**

PM	6	Township	8S	Range	79W	Section	1	NW	¼	NW	¼
PM	6	Township	8S	Range	79W	Section	1	SW	¼	NW	¼
PM	6	Township	8S	Range	79W	Section	1	SE	¼	NW	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼

If section is irregular, explain alignment method: Template anchored at NE corner.

13. **USGS Quad**:	Copper Mountain Quad, 7.5' 1987	14. **County**:	Summit

15. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:	
A. Zone 13;	398969 mE		4360544 mN			

B. Zone	__;	_____	mE	_____	mN
C. Zone	__;	_____	mE	_____	mN
D. Zone	__;	_____	mE	_____	mN

16. **UTM Source**: ☐ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template

Other (explain): A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS

17. **Site elevation** (feet): 11,800 feet

18. **Address**:		Lot:		Block:		Addition:	

19. **Location/Access**: Access to the site must be obtained from the Climax Molybdenum Company. From the town of Leadville, Colorado, travel north on State Highway 91 for 12.4 miles to the main gate of the Climax Molybdenum Mine. After obtaining permission to access the mine area, travel from the main gate north for an additional 1.5 miles to a locked gate on the east side of the road. Park and walk 900 m east to reach the site.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. **General Description** (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility):

Site 5ST1478 is a multicomponent site consisting of one prehistoric chert biface, eight historic features, and two historic cans. The site is approximately 0.73 acres in area. The site is located on the western slope of Carbonate Hill, west and downslope of Little Bartlett Mountain at an elevation of 11,800 ft. The slope ranges from 20-25˚, the aspect is to the west, and the 5ST1478 is in a colluvial depositional environment, with occasional outcrops of limestone, sandstone, and granite. Some minor ponding is present on the southern portion of the site and is likely a result of snow and mine runoff. The soil consists of light brown silt loam containing abundant decomposing organic matter. Soil depth is unknown, but visible deposits in the prospect pits suggest that it is at least 3 ft deep. Vegetation is dense and consists of forbs, paintbrush, flat leaf willow, oatgrass, thistle, native grasses, and spruce. As a result, ground visibility is considered poor at 5-10%. Saw cut trees are present in the western portion of the site.

21. **Soil depth (cm) and description**: The soil consists of light brown silt loam containing abundant decomposing organic matter. Soil depth is unknown, but visible deposits in the prospect pits suggest that it is at least 3 ft deep.

22. **Condition**

a. Architectural/Structural	b. Archaeological/Paleontological
☐ Excellent	☐ Undisturbed
☐ Good	☐ Light disturbance
☐ Fair	☒ Moderate disturbance
☐ Deteriorated	☐ Heavy disturbance
☐ Ruin	☐ Total disturbance

23. **Describe condition**: Site 5ST1478 is considered to be in good to fair condition with moderate impacts resulting from abandonment and erosional forces (alluvial, eolian and colluvial).

24. **Vandalism**: ☐ Yes ☒ No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. **Context or Theme**: Colorado Mountains Historic Context – Lead, Zinc, and other Mining (1860-1945)

26. **Applicable National Register Criteria**:

- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history
- ☐ B. Associated with the lives of persons significant in our past
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- ☐ D. Has yielded, or may be likely to yield, information important in history or prehistory
- ☒ Does not meet any of the National Register criteria
- ☐ Qualifies under exceptions A through G. List exception(s):

Management Data Form

Resource Number: 5ST1478 **Temporary Resource Number**: CCC39

27. **Applicable State Register Criteria**:			
☐ A. Property is associated with events that have made a significant contribution to history			
☐ B. Property is connected with persons significant in history			
☐ C. Property has distinctive characteristics of a type, period, method of construction or artisan			
☐ D. Property is of geographic importance			
☐ E. Property contains the possibility of important discoveries related to prehistory or history			
☒ Does not meet any of the State Register criteria			
28. **Area(s) of significance**: NA			
29. **Period(s) of significance**: N/A			
30. **Level of significance**:	☐ National	☐ State	☐ Local

31. **Statement of significance**: Site 5ST1478 is a multi-component site that yielded one prehistoric biface, eight mineral exploration-related features, and two cans. The available archival records found that the site is not located on historic claims. The lack of an adequate historic record for the site, its nature as a minor prospecting location, and the limited historic artifact assemblage supports a recommendation of not eligible as a significant representative of the mining theme and local mining history under Criterion *a*. There was no information in the archival record to indicate that the owners or occupants of the site were important figures in local mining history and, as a result, it does not merit consideration under Criterion *b*. The limited architectural/engineering presence at the site precludes it from being considered eligible under Criterion *c*. Intact prehistoric or historic cultural deposits were not evident in the disturbed soils that resulted from excavation of the seven prospect pits; therefore, the site is not recommended eligible under Criterion *d*.

32. **Statement of historic integrity related to significance**: N/A			
33. **National Register Eligibility Field Assessment**:	☐ Eligible	☒ Not eligible	☐ Need data
Linear Segment Evaluation (if applicable):	☐ Supporting	☐ Non Supporting	
34. **Status in an Existing National Register Distric**t:	☐ Contributing	☐ Non-contributing	
35. **State Register Eligibility Field Assessmen**t:	☐ Eligible	☒ Not eligible	☐ Need data
36. **Status in an Existing State Register District**:	☐ Contributing	☐Non-contributing	
37. **National/State Register District Potential**: ☐ Yes ☒ No Describe:			
38. **Cultural Landscape Potential**: ☐ Yes ☒ No Describe:			
39. **If Yes to either 37 or 38, is this site**: ☐ Contributing ☐ Non-contributing Explain:			

V. MANAGEMENT AND ADMINISTRATIVE DATA

40.**Threats to Resource**:	☒ Water erosion	☒ Wind erosion	☒ Grazing	☒ Neglect	☐ Vandalism
☐Recreation	☒ Construction	☒ Other (explain): Colluvial impacts			
41. **Existing protection**	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled
Other (specify):					
Comments:					

42. **Local landmark designation**:	N/A	43. **Easement**:	N/A
44. **Recorder's Management Recommendations**: No further work necessary.			

VI. DOCUMENTATION

45. **Previous actions accomplished at the site**:	☐ Tested	☐ Partial excavation	☐ Complete excavation
Date(s):			
a. Excavations:			

Management Data Form

Resource Number: 5ST1478 **Temporary Resource Number**: CCC39

b. Stabilization:						Date(s):	
c. HABS/HAER documentation [date(s) and numbers]:							
d. Other:							
46. **Known collections/reports/interviews and other references (list)**: None							
47. **Primary location of additional data**: N/A							
48. **State or Federal Permit number**:	Colorado State Permit #2014-46						
49. **Collection**:	Artifact collection authorized:	☐ Yes	☒ No	Were artifacts collected:	☐ Yes	☒ No	
Artifact repository:							
Collection method:	☐ Diagnostics	☐ Grab Sample	☐ Random Sample				
Other (specify):							
50. **Photograph Numbers**:	Roll # RBF001, Exp: 320-340						
Files or negatives stored at:	WCRM, Inc., Boulder, CO office						
51. **Report title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089							
52. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula					Date: 7/19/14	
53. **Recorder affiliation**:	Western Cultural Resource Management, Inc. (WCRM)						
Phone number/Email:	303-449-1151, tom.lennon@wcrminc.com						

NOTE: Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

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Prehistoric Archaeological Component Form

Use this form in conjunction with the Management Data Form. One of these forms should be completed for each cultural resource with a prehistoric component.

1. **Resource Number**:	5ST1478	2. **Temporary Resource Number**:	CCC39

3. **Site Type**:	Prehistoric biface and historic mining features

4. **General Component Description**:

The prehistoric component consists of one chert biface (FS-1) that was found in the northern part of the site near a historic post (F8) and two cans. The tool that measures 5 cm (length) by 3 cm (width) with a maximum thickness of 0.6 cm located at a platform facet adjacent to a bending fracture at the base of the biface. The chert is multi-colored, containing gray, pink, and white veins. Less than 5% of the biface contains cortical material, including a possible cortical platform at the tip. The chert exhibits differential luster on several flake scars along the lateral margins of the biface, indicating heat-treatment for improved flaking. Three significant step fractures occur on the dorsal face that would prevent further thinning of the tool. Use wear was not evident. No other prehistoric cultural material was present on the site.

5. **Non-Architectural** Prehistoric Features (note dimensions in centimeters or meters) N/A

Map Reference	Description	Construction Material	Dimensions

6. **Architectural** Prehistoric Features (note dimensions in centimeters or meters) N/A

Map Reference	Description	Construction Material	Dimensions

7. **Artifact classes** (flake, uniface, mano, scraper, etc.)

Description	Material	Quantity
Biface – See #4 above	Chert	1

The above artifact quantities reflect (check one)

☒ total quantity of artifacts observed at the site ☐ only those artifacts that were collected

☐ extrapolated quantities based on a sample of the remains ☐ other, specify:

8. **Chronology** (List all prehistoric components present. Attach continuation sheet if necessary)

A. Cultural Affiliation: Unknown	Date:
Dating Criteria:	
B. Cultural Affiliation:	Date:
Dating Criteria:	

9. **Depth of Cultural Deposits**: Intact prehistoric or historic cultural deposits were not evident in the disturbed soils that resulted from excavation of the seven prospect pits. No other prehistoric artifacts were found on the surface or in the disturbed areas.

Based on:	☐ cutbank	☐ auger	☐ shovel/trowel test	☐ road cut

☒ Other, explain: Examination of the prospect pits did not indicate intact deposits.

Prehistoric Archaeological Component Form

Resource Number: 5ST1478 **Temporary Resource Number**: CCC39

10. **Activities inferred from the remains**: Tool reduction and possible flake production			
11. **Is this site likely to yield information important in prehistory?**	☐ Yes	☒ No	☐ Unknown
If yes or unknown, describe below. Identify research domains and supporting data.			

Potential Within	**Describe**
a. Subsurface deposits within a feature	
b. Subsurface deposits outside a feature	
c. Midden	
d. Other	

12. **Recorder(s)**: R. Fiske, J. Mueller, A. Sapula	**Date**: 7/19/2014

Colorado Historical Society - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

Historic Archaeology Component Form

1. **Resource Number**:	5ST1478	2. **Temporary Resource Number**:	CCC39
3. **Site Name:**	N/A		
4. **Does this form pertain to the site in general?**	☒ Yes	☐ No	
If no, please supply a feature/structure number or name:			
5. **Site, Component or Feature Type**:	Mining site		

6. **Narrative History (based on archival research, expand as necessary)**:
Review of archival records found that the site was not located on historic claims but sat near an unpatented placer claim known as the "Gold Placer." American Metal Climax, Inc. acquired the property during the late 1960s as the mine prepared for its 1970s expansion into the Tenmile Creek area that led the company to the purchase of dozens of claims as well as enter into land exchanges with the USFS (General Land Office 1965).

7. **Is this site located in a NRHP historic landscape**? ☐ **Yes** ☒ **No**; **If yes, please describe**:

8. **Component or Feature Description (expand as necessary)**:
The historic component consists of seven prospect pits (F1 – F7), a post (F8), and two tin cans. The prospect pits are situated along the rim of a drainage with occasional outcrops of limestone, sandstone, and granite. The post and tin cans are nearby, to the northwest. It is unclear whether the historic artifacts are associated with the harvesting of trees or with mineral exploration. The features found on the site were documented as follows:

- Feature 1 (F1), located at the southeastern end of the site, is a prospect pit with waste rock pushed to the south, southwest, and west. The pit is 13 ft northeast/southwest by 11 ft northwest by southeast and 1 ½ ft deep, while the waste rock extends out from the pit for a distance of 10 ft to the southwest at a width of 15 ft.
- Feature 2 (F2), also located at the southeastern end of the site, is a prospect pit with waste rock piled to the southwest. The pit is 12 ft in diameter and 1 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 12 ft.
- Feature 3 (F3), located in the south central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest, but a good portion of it has washed away. The pit is 14 ft northeast/southwest by 11 ft northwest by southeast and 1 ½ ft deep.
- Feature 4 (F4), located in the central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest. The pit is 12 ft in diameter and 2 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 14 ft.
- Feature 5 (F5), also located in the central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest. The pit is 11 ft in diameter and 2 ½ ft deep, while the waste rock extends out from the pit for a distance of 10 ft at a width of 12 ft.
- Feature 6 (F6), located in the west central portion of the site, is a prospect pit or collapsed prospect shaft with waste rock piled downhill to the southwest. The pit is 10 ft in diameter and 3 ft deep, while the waste rock extends out from the pit for a distance of 10 ft at a width of 18 ft. A six-inch high spruce tree is growing inside of the depression.
- Feature 7 (F7), located in the north central portion of the site, is a prospect pit with waste rock piled downhill to the west/southwest. The pit is 10 ft in diameter and 2 ft deep, while the waste rock extends out from the pit for a distance of 12 ft at a width of 18 ft.
- Feature 8 (F8), located at the extreme northern boundary of the site, is a wooden post 2 ½ inches in diameter and 16 inches above ground. It is capped with a ferrous sleeve that has two copper rivets and appears to have been hammered into place. This feature may be a claim marker.

Site 5ST1478 is considered to be in good to fair condition with moderate impacts resulting from abandonment and erosional forces (alluvial, eolian and colluvial). Intact historic cultural deposits were not evident in the disturbed soils that resulted from excavation of the seven prospect pits. No other artifacts were found on the surface or in the disturbed areas. The limited historic artifact assemblage includes two tin cans that date to the 20th century; one can is crushed with a stamped end, a hole punched opening, and an indeterminate rolled side seam, and the other can is a sanitary can with an indeterminate rolled side seam.

9. **Historic Component Date(s)**:	Unknown

Justification and Sources Consulted:
The mining features have no associated artifacts, and the cans date generally throughout the 20th century.

Clark, Hyla M.
1977 *The Tin Can Book*. New American Library, New York.
Horn, Jonathon C.
2005 *Historic Artifact Handbook*. Appendix B of the History Colorado – Office of Archaeology and Historic Preservation's Historic Archaeological Component Form Instructions. History Colorado, Denver.

10. **Component Function(s)**: Prospecting/mining

Original Use:	Mineral exploration/Mining
Present Use:	Abandoned

11. **Ethnic affiliation of occupants**:	Unknown

Justification and Sources Consulted:

12. **Historic Boundary Description**: The boundary of 5ST1487 is based on the distribution of historic mining features and artifacts.

Justification and Sources Consulted:
General Land Office (GLO)
1965 Robert A. Theobold to A.J. Laing, September 17, 1965, Climax Molybdenum Mine, Leadville, Colorado. Electronic documents, www.glorecords.blm.gov, accessed September 18, 2013.

13. **NRHP Area of Significance**:	N/A

Justification and Sources Consulted:

14. **NRHP Period of Significance**:	N/A

Justification and Sources Consulted:

15. **Site, Component, or Feature Theme (use the Historic Archaeology Lexicon)**: Mining & Mineral Processing

16. **Does this component or feature support the NRHP eligibility of the entire resource?**

☐ Yes	☐ No	☐ Undetermined	☒ N/A

Justification:

17. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	18. **Date**:	7/19/14

19. **Presence and Quantity of Artifacts** (add types as necessary)

a. Vessel Glass	Quantity	e. Cans	Quantity
Amber (1860s-present)		Beverage: all aluminum (post-1970)	
Amethyst (pre-1920)		Beverage: aluminum ends (post-1953)	
Aqua (ca. 1870-1920s)		Beverage: cone-top (1935-1960)	
Cobalt		Beverage: flat top, all-steel (1935-1970s)	
Colorless (ca. 1920s-present)		Beverage: pull tab (1962-1983)	
Light green (1860s-present)		Beverage: UPC code (post-1980)	
Milk/White (1890s-present)		Hole-in-cap: double-locked side seam (1890-1915)	
Olive green (early 1860s)		Hole-in-cap: lapped side seam (ca. 1880s-1900)	
Yellowish (1918-1950s)		Round quart motor oil: all metal (1933-1970s)	
		Round quart motor oil: paper-sided (late 1940s-late 1980s)	
		Sanitary can (1904 +)	1
		Sanitary ends, lapped side seam (1904+; very rare)	
		Sardine tin: lapped and soldered (pre-1910)	
b. Ceramics	**Quantity**	Sardine tin: one piece bottom (early 1900s +)	
Earthenware		Tobacco tin: complex friction lid (post 1948)	
Porcelain		Tobacco tin: simple friction lid (1907-1948)	
Refined Earthenware		Tobacco tin: upright pocket (late 1890s-1988)	
Stoneware		Tobacco tin: hinged lid (ca. 1910-present)	
		Vent hole (hole-in-top) (1900-1980s)	
		Vent hole with two solder dots (hole-in-top) (1890s-early 1900s)	
		Stamped end	1
c. Nails	**Quantity**		
Hand-made cut (wrought)		**f. Structural Artifacts**	**Quantity**

Machine-made cut		Adobe	
Railroad Spike		Brick, common	
Wire		Brick, fire	
		Concrete: natural lime (pre-1915)	
d. Industrial Artifacts	**Quantity**	Concrete: Portland (post-1910)	
55-gallon drum		Corrugated sheet iron (post-1890)	
Animal shoe		Dimensional lumber	
Automobile/Truck Part		Fieldstone	
Bailing wire		Hinge	
Barbed wire		Log: hewn	
Barrel hoop		Log: peeled	
Bracket		Log: raw	
Bucket		Sheet iron	
Cable/Wire rope		Stovepipe	
Cartridge: centerfire		Tarpaper	
Cartridge: rimfire		Timber bolt	
Cartridge: pin fire		Timber spike	
Cartridge: shotgun shell		Window glass: aqua (pre-1920)	
Clinker		Window glass: colorless	
Coal		Window glass: yellowish tint (1918-1950s)	
Electric light fixture			
Electrical wire			
Forge-cut iron scrap			
Horse tack/harness			
Iron scrap: cut sheet metal		**g. Domestic Artifacts**	**Quantity**
Iron scrap: forge-cut		Beads	
Lag bolt		Bed frame/springs	
Machine bolt		Buttons	
Machine part		Clothing	
Mine rail		Cookware	
Nut: hex		Doll head	
Nut: jamb		Stove/parts (cast iron/tin)	
Pipe			
Wagon parts			
Washer			

20. **Total assemblage size**:		Or estimate:	☒ 0-10	☐ 11-100	☐ 101-1000	☐ 1001-10,000	☐ >10,000

21. **Artifact density**: ☐ High ☐ Medium ☒ Low Describe: There are only two artifacts.

22. **Unique Artifact Descriptions.** Particularly important attributes are listed following the artifact class and standardized terminology can be found in the Appendix to the instructions. Expand or contract tables as necessary. All of these items should be included in the counts of the Artifact table above.

a. Glass: type, function, color, bottle part, manufacturing method, vessel style/contents, embossing/marking, dimensions, worked or modified?

b. Ceramics: type, function, surface treatment/glaze, color, shape, trademarks, decorations, dimensions.

c. Nails: type, function, dimensions.

d. Industrial: type, function, manufacturing method, marking, dimensions.

e. Cans: material type, side-seam, opening, vessel style/contents, embossing/marking, dimensions.

One stamped end, crushed can. Hole punched opening, stamped end and indeterminate rolled side seam. No label or markings. Indeterminate function.

One sanitary, multi-serve size can. Rotary opening, sanitary end, indeterminate rolled side. No label or markings. Indeterminate function.

f. Structural: type, function, manufacturing method, marking, dimensions.

g. Domestic: type, function, manufacturing method, marking, dimensions.

h. Other/miscellaneous: type, function, manufacturing method, marking, dimensions.

23. **Are standing structures present on the site?** Yes ☐ No ☒

If yes, please complete Architectural Inventory Form(s)(1403)

24. **Feature Descriptions** Include a site map, to scale, with each feature listed below depicted on it. Please use the Historic Archaeology Lexicon for feature types. Insert rows and feature types into table as necessary. If desired, sort table by feature number.

Feature Type (add others as necessary)	Feature Number/Name	Dimensions (feet / inches)	Description
Prospect Pit	F1	13' NE/SW x 11' NW/SE, 1½' deep	Feature 1 is a prospect pit. Waste rock is pushed to the south, southwest, and west, 10' out to the southwest, 15' wide.
Prospect Pit	F2	12' diameter, approximately 1' deep	Feature 2 is a prospect pit. Waste rock is piled to the southwest, 12' wide, 12' out.
Prospect Pit	F3	14' NE/SW x 11' NW/SE, approximately 1½' deep	Feature 3 is a prospect pit. Waste rock was piled downhill to the southwest but has washed away.
Prospect Pit	F4	12' diameter, 2' deep	Feature 4 is a prospect pit. Waste rock is piled downhill to the W/SW, 12' out, 14' wide.
Prospect Pit	F5	11' diameter, 2½' deep	Feature 5 is a prospect pit. Waste rock is piled downhill to the W/SW, 10' out, 12' wide.
Prospect Pit	F6	10' diameter, 3' deep	Feature 6 is a prospect pit or possible collapsed prospect shaft. Waste rock is piled to the southwest, 10' out, 18' wide. A 6" high spruce tree is growing inside.
Prospect Pit	F7	10' diameter, 2' deep	Feature 7 is a prospect pit. Waste rock is piled downhill to the W/SW, 12' out, 18' wide.
Post	F8	2½" diameter, 16" above ground	Feature 8 is a wood post capped with a ferrous sleeve that has two copper rivets and appears to have been hammered into place. It is a possible claim marker.

25. **Potential for Additional Archaeological Information**

Is there potential for additional information? ☐ Yes ☒ No ☐ Unknown If yes or unknown describe below.

Potential Within:	Describe
a. Subsurface deposits within a structural feature	
b. Subsurface deposits outside a structural feature	
c. Trash area	
d. Privy pits	
e. Other	

5ST1478, site overview from Carbonate Hill ridge slope, view to southwest. Note Climax Mine tailings at rear.

5ST1478, site overview from Carbonate Hill ridge slope, view to north.

5ST1478, chert biface (FS-1), dorsal side, detail.

5ST1478, chert biface (FS-1), ventral side, detail.

5ST1478, prospect pit (F1) in foreground at ridge top, prospect pit (F2) at rear, view to southwest. Note Climax Mine tailings at rear.

5ST1478, prospect pit (F2) in foreground at ridge top, McNulty Gulch at rear, view to southeast.

5ST1478, prospect pit (F3) at center, view to southwest. Note Climax Mine tailings at rear.

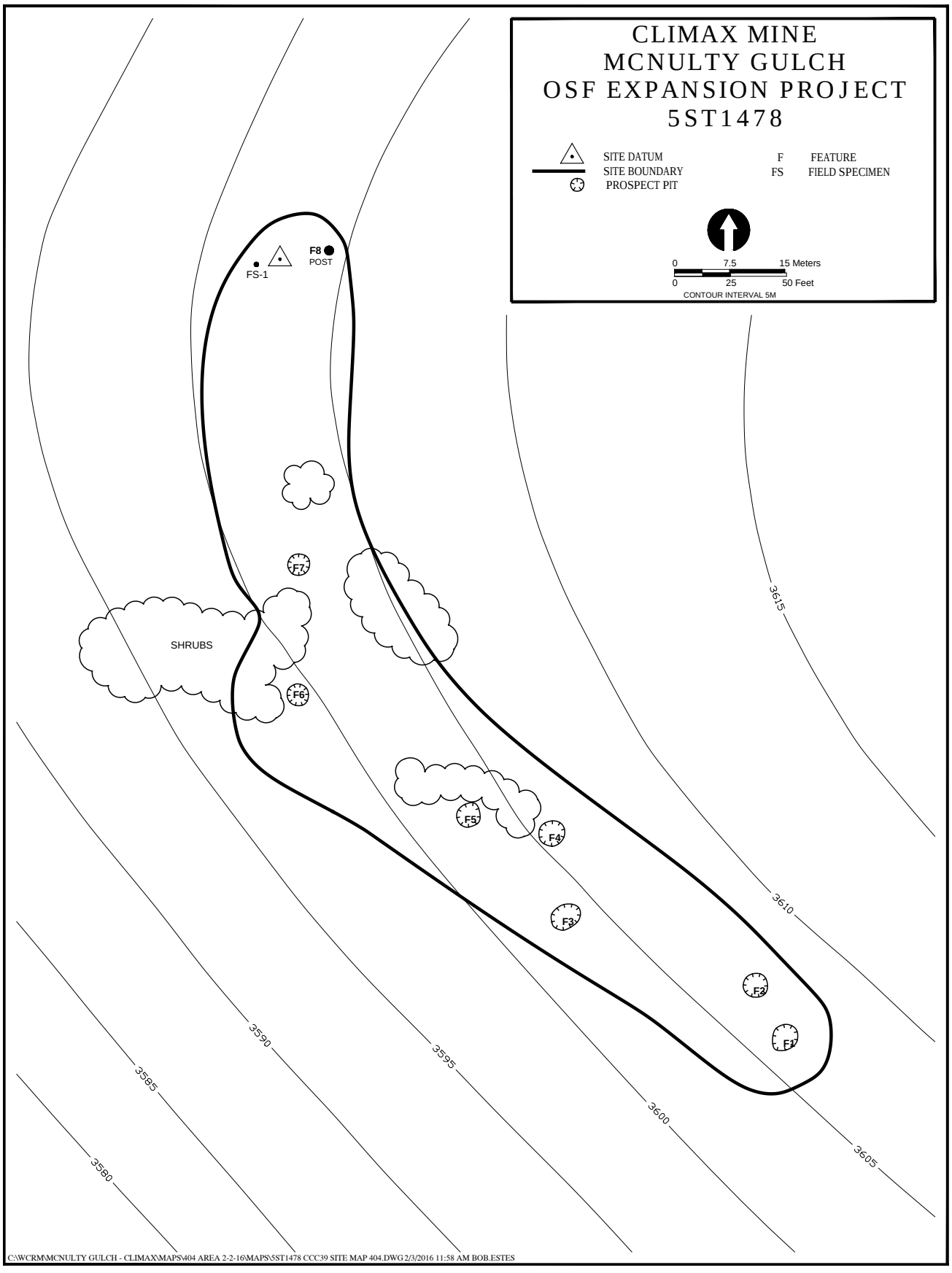
5ST1478, prospect pit (F4) along ridge, view to west.

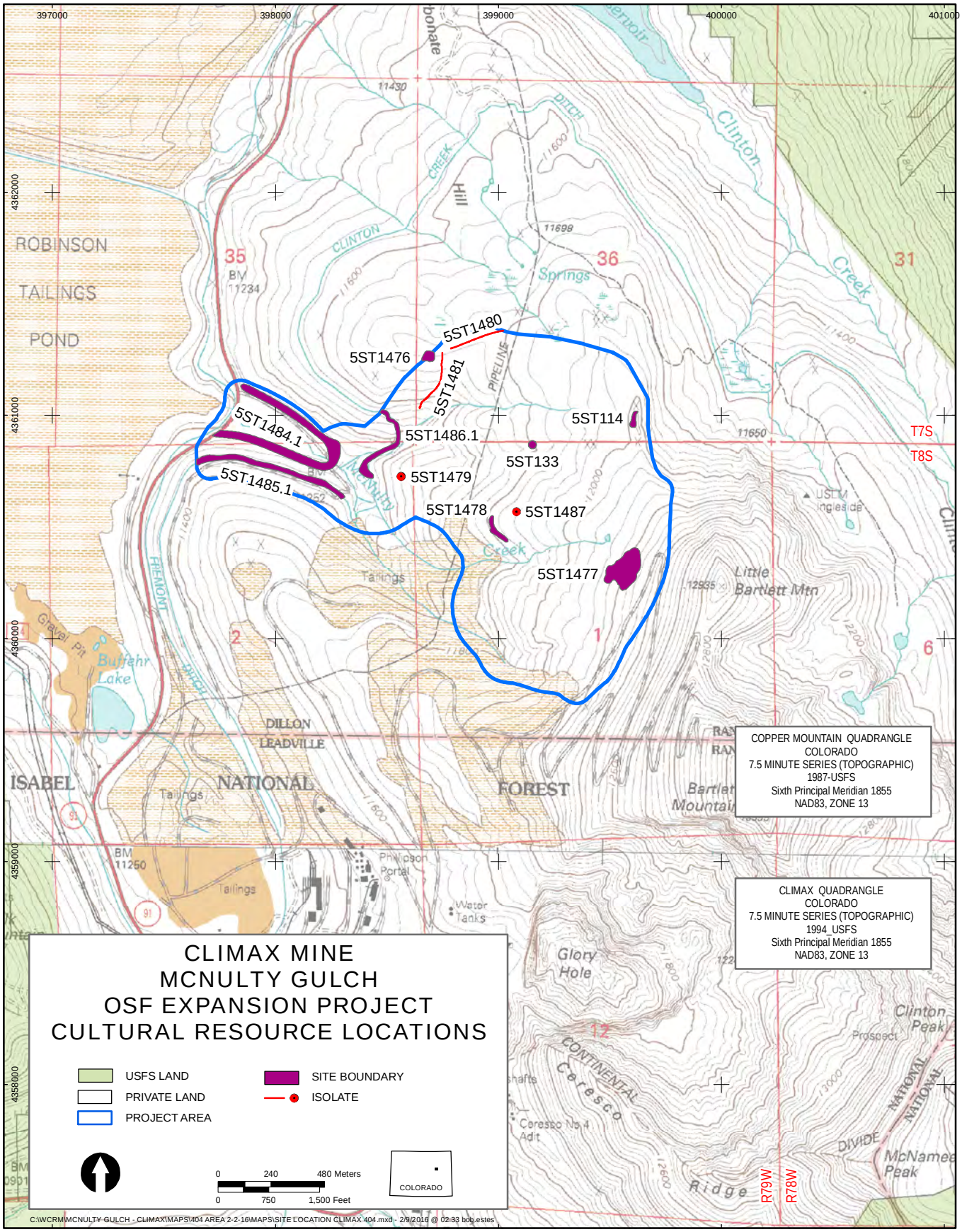
5ST1478, prospect pit (F5) at center, view to west. Note Robinson Tailings Pond at rear.

5ST1478, prospect pit (F6) at center, view to southwest. Note spruce tree growing in pit.

5ST1478, prospect pit (F7) in foreground at ridge top, view to west. Note Robinson Tailings Pond and Climax Mine tailings at rear.

5ST1478, prospect pit (F8), detail.


CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
5ST1478
SITE DATUM
SITE BOUNDARY
PROSPECT PIT
F FEATURE
FS FIELD SPECIMEN
0 7.5 15 Meters
0 25 50 Feet
CONTOUR INTERVAL 5M
F8
POST
FS-1
F7
F6
F5
F4
F3
F2
F1
SHRUBS
3615
3610
3605
3600
3595
3590
3585
3580
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\5ST1478 CCC39 SITE MAP 404.DWG 2/3/2016 11:58 AM BOB.ESTES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5ST114
5ST133
5ST1479
5ST1478
5ST1487
5ST1477
ROBINSON
TAILINGS
POND
Clinton
Creek
Hill
Springs
PIPELINE
DITCH
CLINTON
FREMONT
Tailings
Little
Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
Glory
Hole
Clinton
Peak
Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
Adit
DIVIDE
McNamee
Peak
Ridge
R79W
R78W
T7S
T8S
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
0 240 480 Meters
0 750 1,500 Feet
COLORADO
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\SITE LOCATION CLIMAX 404.mxd - 2/9/2016 @ 02:33 bob.estes

Management Data Form

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number**:	5ST1484.1	2. **Temporary Resource Number**:	CCC80

3. **Attachments (check as many as apply)**	4. **Official determination (OAHP use only)**
☐ Prehistoric Archaeological Component	☐ Determined Eligible NR\SR _____
☐ Historic Archaeological Component	☐ Determined Not Eligible NR\SR _____
☐ Linear Component	☐ Nominated _____
☐ Sketch/Instrument Map (required)	☐ Need Data NR\SR _____
☐ U.S.G.S. Map Photocopy (required)	☐ Contributing to NR Dist.\SR Dist. _____
☐ Photograph(s) (required)	☐ Not Contributing to NR Dist.\SR Dist. _____
☐ Other, specify:	☐ Supports overall linear eligibility NR\SR _____
	☐ Does not support overall linear eligibility NR\SR _____

I. IDENTIFICATION

5. **Resource Name**: Old Colorado State Highway 91 Segment

6. **Project Name/Number**: Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN

7. **Government Involvement**: ☐ Local ☐ State ☒ Federal

Agency: U.S. Army Corp of Engineers

8. **Site Categories (check as many as apply)**:

Prehistoric: ☐ archaeological site ☐ paleontological site ☐ In existing National Register District

National Register District name:

Historic: ☐ archaeology site ☐ building(s) ☐ structure(s) ☒ object(s) ☐ In existing National Register District

National Register District name:

9. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

10. **Boundary Description and Justification**: The boundary of 5ST1484.1 is defined by the extent of the historic road bed segment and its associated features.

11. **Site/Property Dimensions**	Length:	1,107 m	Width:	36 m	Area:	38,573 m^2	Acres (m^2/4047): 9.53

Area was calculated as:	☐ Length x Width (rectangle/square)	☐ Length x Width x 0.785 (Ellipse)	☒ GIS

II. LOCATION

12. **Legal Location**

PM	6	Township	7S	Range	79W	Section	35	SW	¼	SE	¼
PM	6	Township	8S	Range	79W	Section	35	SE	¼	SW	¼
PM	6	Township	8S	Range	79W	Section	2	NW	¼	NE	¼
PM	6	Township	8S	Range	79W	Section	2	NE	¼	NE	¼

If section is irregular, explain alignment method: Template anchored at NE corner of Section 2.

13. **USGS Quad**:	Copper Mountain Quad, 7.5' 1987	14. **County**:	Summit

15. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:

A. Zone	13;	397845	mE	4361132	mN
B. Zone	13;	398280	mE	4360793	mN

Management Data Form

Resource Number: 5ST1484.1 **Temporary Resource Number**: CCC80

C. Zone	13;	397737	mE	4360922	mN
D. Zone	__;	_____	mE	_____	mN

16. **UTM Source**: ☐ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template

Other (explain): A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.

17. **Site elevation** (feet): 11,150 feet

18. **Address**:		Lot:		Block:		Addition:	

19. **Location/Access**: Access to the site must be obtained from the Climax Molybdenum Company. From the town of Leadville, Colorado, travel north on State Highway 91 (SH 91) for 12.4 miles to the main gate of the Climax Molybdenum Mine. After obtaining permission to access the mine area, travel from the main gate north for an additional 1.5 miles to a locked gate on the east side of the road. This turn off is the site location.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. **General Description** (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility):

Site 5ST1484.1 is a "U" shaped segment of Old State Highway 91 located along the northern slope of a NW-SE trending ridge and southern slope of a parallel NW-SE trending ridge in an entrenched drainage (i.e., McNulty Gulch). The site is located at an elevation of 11,150 ft., and the aspect is to northwest 300˚ with a 5˚ slope. The segment is a curve that served to take the highway around McNulty Gulch; thus, the gulch drainage exits the area between the "U" of the segment. When the site was recorded, water runoff was flowing along the south side of the south leg of the segment, occasionally routed by modern plastic pipe set in concrete. Water has ponded in the gulch between the segment legs as a result of the grading and construction of the modern highway across the gulch, thereby eliminating the segment from use. The soil consists of a dark brown loam containing decomposing organic matter; the depth is unknown. On-site vegetation consists of native grasses, forbs, scrub brush, and a few mature spruce trees. Ground visibility is 0-5% with heavy vegetation and asphalt present.

21. **Soil depth (cm) and description**: The soil consists of a dark brown loam containing decomposing organic matter; the depth is unknown.

22. **Condition**

a. Architectural/Structural	b. Archaeological/Paleontological
☐ Excellent	☐ Undisturbed
☒ Good	☐ Light disturbance
☒ Fair	☒ Moderate disturbance
☒ Deteriorated	☒ Heavy disturbance
☐ Ruin	☒ Total disturbance

23. **Describe condition**: Site 5ST1484.1 is considered to be in good to deteriorated condition with moderate impacts to total disturbance resulting from erosional forces (alluvial and eolian), abandonment, and mining activities. The western portions of the original road have been truncated by the location of the current SH 91 where it was constructed across McNulty Gulch. The eastern portion of the roadbed has been covered by mining debris, and the area around the site has been impacted by mining activities (grading) over many years.

24. **Vandalism**: ☐ Yes ☒ No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. **Context or Theme**: Colorado Mountains Historic Context – Automobiles and Their Impacts (1890-1945)

26. **Applicable National Register Criteria**:

☐ A. Associated with events that have made a significant contribution to the broad pattern of our history

☐ B. Associated with the lives of persons significant in our past

☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

☐ D. Has yielded, or may be likely to yield, information important in history or prehistory

Management Data Form

Resource Number: 5ST1484.1 **Temporary Resource Number**: CCC80

☒ Does not meet any of the National Register criteria					
☐ Qualifies under exceptions A through G. List exception(s):					
27. **Applicable State Register Criteria**:					
☐ A. Property is associated with events that have made a significant contribution to history					
☐ B. Property is connected with persons significant in history					
☐ C. Property has distinctive characteristics of a type, period, method of construction or artisan					
☐ D. Property is of geographic importance					
☐ E. Property contains the possibility of important discoveries related to prehistory or history					
☒ Does not meet any of the State Register criteria					
28. **Area(s) of significance**: N/A					
29. **Period(s) of significance**: N/A					
30. **Level of significance**:	☐ National	☐ State	☐ Local		
31. **Statement of significance**: Site 5ST1484.1., a "U" shaped segment of SH 91, was abandoned when the road was improved during the 1970s and 1980s. The highway segment has been disturbed by erosional forces (alluvial and eolian), abandonment, and mining activities, and the western portions of the original road have been truncated by the construction of the current SH 91 across McNulty Gulch thereby eliminating the segment from use. The segment lacks integrity precluding it from contributing to the significance of the overall resource (i.e., entire SH 91) under Criteria *a*, *b*, or *c*. The highway segment has a limited archaeological presence that does not hold important data about 20th century highway construction or operation; as a result, the segment is not recommended eligible for inclusion in the NRHP under Criterion *d*.					
32. **Statement of historic integrity related to significance**: N/A					
33. **National Register Eligibility Field Assessment**:	☐ Eligible	☒ Not eligible	☐ Need data		
Linear Segment Evaluation (if applicable):	☐ Supporting	☐ Non Supporting			
34. **Status in an Existing National Register Distric**t:	☐ Contributing	☐ Non-contributing			
35. **State Register Eligibility Field Assessmen**t:	☐ Eligible	☒ Not eligible	☐ Need data		
36. **Status in an Existing State Register District**:	☐ Contributing	☐Non-contributing			
37. **National/State Register District Potential**: ☐ Yes ☒ No Describe:					
38. **Cultural Landscape Potential**: ☐ Yes ☒ No Describe:					
39. **If Yes to either 37 or 38, is this site**: ☐ Contributing ☐ Non-contributing Explain:					
V. MANAGEMENT AND ADMINISTRATIVE DATA					
40.**Threats to Resource**:	☒ Water erosion	☒ Wind erosion	☐ Grazing	☒ Neglect	☐ Vandalism
☐Recreation	☒ Construction	☐ Other (explain):			
41. **Existing protection**	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled
Other (specify):					
Comments:					
42. **Local landmark designation**:	N/A	43. **Easement**:	N/A		
44. **Recorder's Management Recommendations**: No further work necessary.					
VI. DOCUMENTATION					
45. **Previous actions accomplished at the site**:	☐ Tested	☐ Partial excavation	☐ Complete excavation		
Date(s):					
a. Excavations:					

Management Data Form

Resource Number: 5ST1484.1 **Temporary Resource Number**: CCC80

b. Stabilization:		Date(s):					
c. HABS/HAER documentation [date(s) and numbers]:							
d. Other:							
46. **Known collections/reports/interviews and other references (list)**: None							
47. **Primary location of additional data:** N/A							
48. **State or Federal Permit number**:	Colorado State Permit #2014-46						
49. **Collection**:	Artifact collection authorized:	☐ Yes	☒ No	Were artifacts collected:	☐ Yes	☒ No	
Artifact repository:							
Collection method:	☐ Diagnostics	☐ Grab Sample	☐ Random Sample				
Other (specify):							
50. **Photograph Numbers**:	Roll # RBF001, Exp: 261-262, 392-403						
Files or negatives stored at:	WCRM, Inc., Boulder, CO office						
51. **Report title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089							
52. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	Date: 7/20/14					
53. **Recorder affiliation**:	Western Cultural Resource Management, Inc. (WCRM)						
Phone number/Email:	303-449-1151/tom.lennon@wcrminc.com						

NOTE: Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

Linear Component Form

This form should be completed for each linear resource or linear segment. Use this form in conjunction with the *Management Data Form.* Call OAHP staff (303-866-5216) prior to assigning a resource number.

I. Resource Identification			
1. **Resource Number**:	5ST1484.1	2. T**emporary Resource Number**:	CCC80
3. **Site Name**:	Old Colorado State Highway 91 Segment		
4. **Record of**:	☐ Entire resource	☒ Segment	

II. Resource Description				
5. **Resource Type**:	☒ Road	☐ Railroad	☐ Trail	☐ Ditch/Canal
Other (specify):				

6. **Component Description**: 5ST1484.1 is an abandoned "U" shaped segment of Old Colorado State Highway 91 that was removed from service during the 1970s and 1980s after road improvements were implemented. The segment is 1,107 m long, 36 m wide, and consists of a curve constructed to take the highway around McNulty Gulch and its drainage. Improvements subsequently resulted in bypassing McNulty Gulch using modern highway grading and drainage culvert systems; the current route of the highway crosses the drainage near its mouth. The recorded segment consists of a section of roadbed with intact asphalt (F1), three culverts (F2 - F4), and a highway marker (F5). The intact asphalt section (F1) has some remnants of a yellow-painted centerline. Borrow ditches parallel portions of the segment to divert drainage water to the three culverts. Within the remainder of the abandoned segment, little of the original road surface remains; the majority has either deteriorated, eroded away, or been destroyed by mining activity. When the site was recorded, water runoff was flowing along the south side of the south leg of the segment, occasionally routed by modern plastic pipe set in concrete.

7. **Original use**:	Highway
8. **Current use**:	Abandoned

9. **Modifications (describe and include dates)**: Site 5ST1584.1 is considered to be in good to deteriorated condition with moderate impacts to total disturbance resulting from erosional forces (alluvial and eolian), abandonment, and mining activities after removal from use in the 1970s and 1980s. The western portions of the original road have been truncated by the location of the current State Highway 91 where it was constructed across McNulty Gulch.

10. **Extent of Entire Resource**: State Highway 91 is an original 1920s state highway that ran from Leadville northeast over Fremont Pass, across the project area, down Ten Mile Creek canyon to Frisco, then over Loveland Pass to Silver Plume and Georgetown before terminating at a junction with United States Highway 40 (US 40) in Empire; the total distance of the current highway is 22.61 miles.

11. **Associated Artifacts**: None

12. **Associated Features or Resources**:
Five features are associated with the abandoned highway segment and documented as follows:

- Feature 1 (F1) is a section of the old asphalt roadbed that remains on an abandoned segment of Old Colorado State Highway 91. The asphalt road bed is 23 ft wide and 558 ft long. There are also some remnants of a yellow-painted centerline on the asphalt.
- Feature 2 (F2) is a 24-inch corrugated galvanized steel culvert set into F1 (i.e., the asphalt roadbed) and oriented NE-SW; it is approximately 375 ft east of the current highway. The intake is set into concrete, 7½' wide, 1' thick. Next to the intake is a pile of excess concrete.
- Feature 3 (F3) is a 24-inch corrugated galvanized steel culvert set into F1 (i.e., the asphalt roadbed) and oriented NE-SW; it is approximately 550 ft east of the current highway. The intake is set into concrete, 7½' wide, 1' thick.
- Feature 4 (F4) is a 24-inch corrugated galvanized steel culvert set into F1 (i.e., the asphalt roadbed) and oriented NE-SW; it is approximately 800 ft east of the current highway. The intake is set into concrete, 10" wide, 1' thick.
- Feature 5 (F5) is a concrete highway ROW marker with a brass cap located in the bend of the abadoned segment's curve. The marker consists of a tapering cylinder (8" in diameter at base, 6" in diameter at the top) with a brass-capped piece of rebar inside. The cap at the top is 3" in diameter and stamped "State Highway Marker/FAP Nº/233 DI/Sta. 121 + 09.5/EI./R.O.W. Marker."

No artifacts were found in association with the segment or its associated features.

III. Research Information

13. **Architect/Engineer**:	Colorado Department of Highways
Source(s) of Information:	Salek (2014); Study of Colorado Highways
14. **Builder**:	Colorado Department of Highways
Source(s) of Information:	Salek (2014); Study of Colorado Highways
15. **Date of Construction / Date Range**:	1920s
Source(s) of Information:	Salek (2014) Study of Colorado Highways

16. **Historical / Archival Data**: Historic research found that SH 91 is an original 1920s state highway that ran from Leadville northeast over Fremont Pass, across the current survey area, down Ten Mile Creek canyon on to Frisco, then over Loveland Pass to Silver Plume and Georgetown before it terminated at a junction with U.S. Highway 40 (US 40) in Empire. By 1936, the section from Leadville to Climax had been paved; however, the record is unclear about the exact location of the paving end point. In 1939, the eastern terminus was moved to a point east of Empire at US 40 rather than running into town. Following World War II, in 1946, the entire highway was paved except for the summits of Fremont and Loveland passes. The highway over those passes was paved in 1954. In 1938, the Highway Commission designated the entire route of SH 91 from Leadville to Empire as U.S. Highway 6 (US 6); this designation was changed in 1941 when the road over Vail Pass was completed and the new route was designated US 6. During the late 1960s, the route between Copper Mountain and Empire was shifted from SH 91 to I-70. By 1969, the current terminus of SH 91had been established and it remains as a connector between Leadville and the new ski resort at Copper Mountain. Before the development of the Copper Mountain Resort, the junction of SH 91 and US 6/I-70 was known as Wheeler Junction (Salek 2014).

17. **Cultural Affiliation and Justification**: Euro-American, based on building/ownership by Colorado Department of Transportation (CDOT)

IV. Management Recommendations

18. **Eligibility of Entire Resource**

☐ Eligible	☐ Not Eligible	☒ Need Data	Is this an official determination?	☐ Yes	☒ No

Remarks / Justification: Examination of the OAHP COMPASS records indicates that the entire resource has not been previously evaluated with regard to its NRHP status.

19. **Evaluation of integrity of the segment of the entire linear resource being recorded** (Complete only if "Segment" under item 4 is checked and the entire resource is marked as Eligible under item 18)

☐ Supporting	☐ Non-supporting	☐ Not applicable

Remarks / Justification:

20. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	21. **Date**:	7/20/2014

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1560 Broadway, Suite 400 Denver, CO 80202
303-866-3395

5ST1484.1, Old Colorado State Highway 91 Loop, remaining pavement (F1), view to east.

5ST1484.1, Old Colorado State Highway 91 Loop, disintegrating pavement on the roadbed (F1), at western project area boundary, view to east.

5ST1484.1, Old Colorado State Highway 91 Loop (F1) is in the foreground and the background at the western project boundary, view to south. Note the current State Highway 91 (on right) was constructed to remove the old highway loop.

5ST1484.1, Old Colorado State Highway 91 Loop (F1), site overview, view to east. Note truck is parked on F1.

5ST1484.1, Old Colorado State Highway 91 Loop (F1), site overview, view to west. Note water ponded in McNulty Gulch as a result of the modern highway construction across it.

Site 5ST1484.1, Old Colorado State Highway 91 Loop (F1) and concrete culvert (F2) on left, view to east.

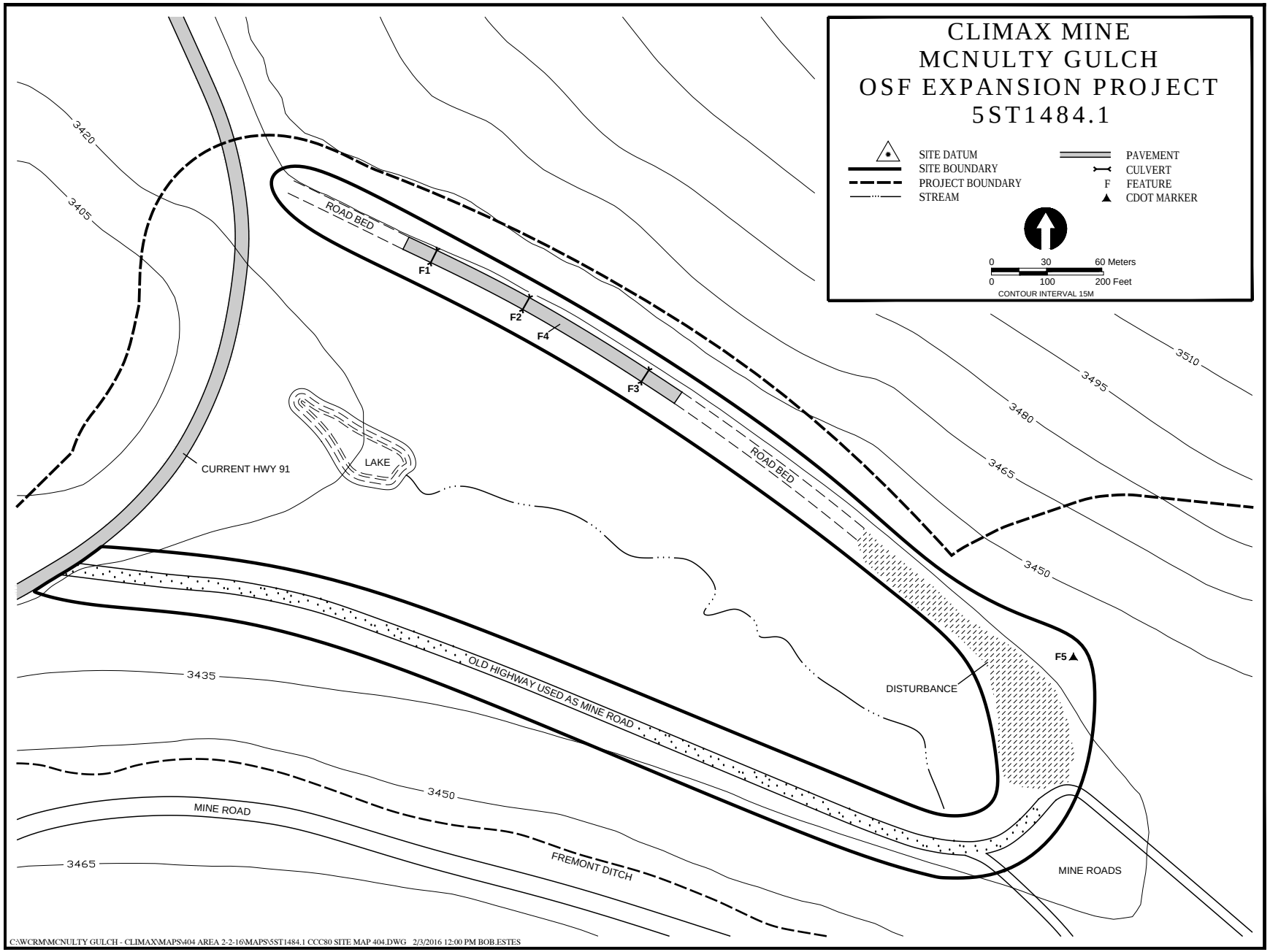
5ST1484.1, Old Colorado State Highway 91 Loop (F1) and concrete culvert (F3) at center, view to southwest.

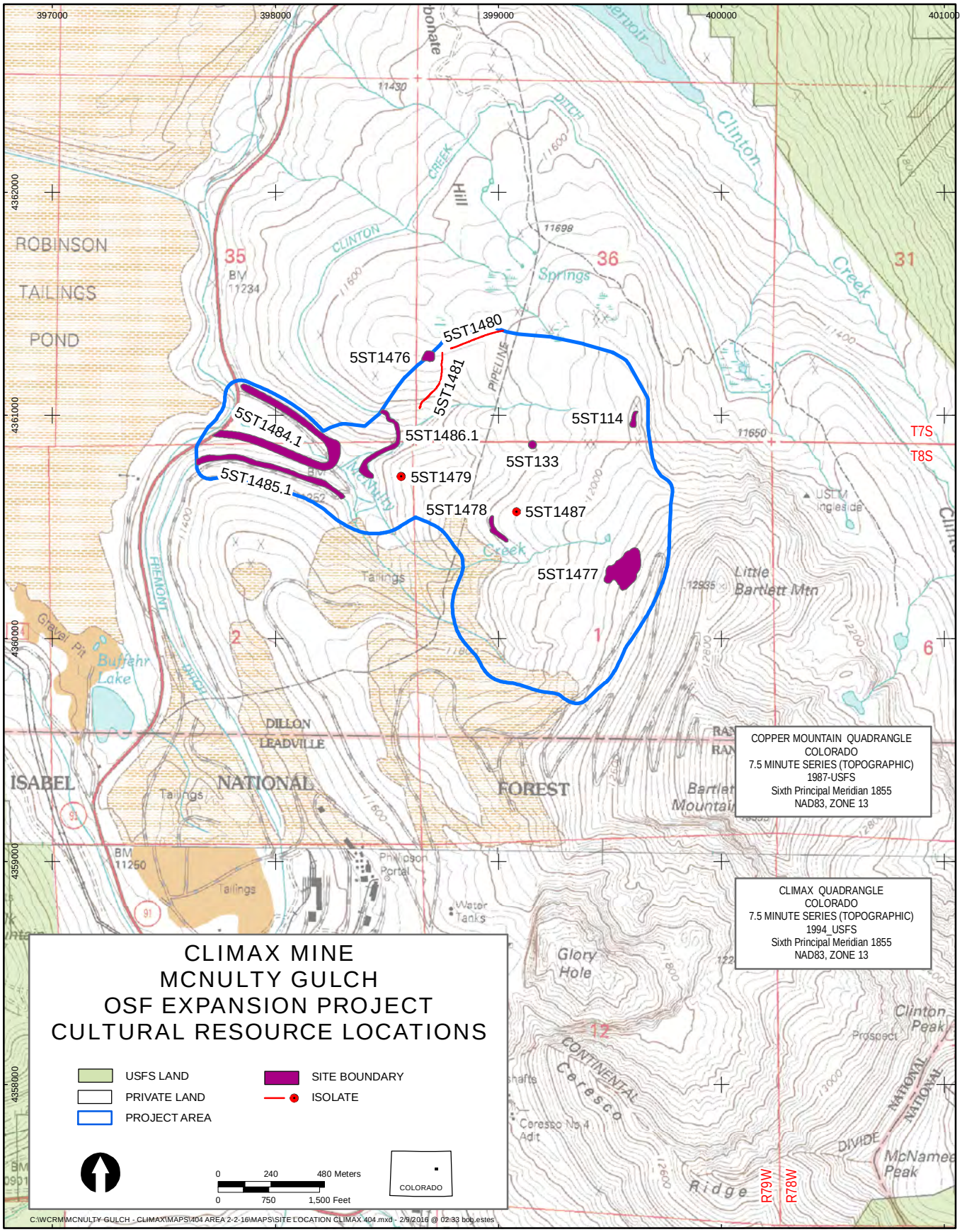
5ST1484.1, Old Colorado State Highway 91 Loop (F1) and concrete culvert (F4) at front, view to southwest.

5ST1484.1, Old Colorado State Highway 91 Loop (F1) and concrete culvert (F4) at front, view to west.

5ST1484.1, Old Colorado State Highway 91 Loop (F1) and State Highway Department right-of-way marker (F5), detail.

5ST1484.1, Old Colorado State Highway 91 Loop (F1) and State Highway Department right-of-way marker (F5), view to north.


CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
5ST1484.1
SITE DATUM
SITE BOUNDARY
PROJECT BOUNDARY
STREAM
PAVEMENT
CULVERT
F FEATURE
CDOT MARKER
0 30 60 Meters
0 100 200 Feet
CONTOUR INTERVAL 15M
3420
3405
3510
3495
3480
3465
3450
3435
3450
3465
ROAD BED
F1
F2
F4
F3
ROAD BED
CURRENT HWY 91
LAKE
OLD HIGHWAY USED AS MINE ROAD
DISTURBANCE
F5
MINE ROAD
FREMONT DITCH
MINE ROADS
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\5ST1484.1 CCC80 SITE MAP 404.DWG 2/3/2016 12:00 PM BOB.ESTES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5ST114
5ST133
5ST1479
5ST1478
5ST1487
5ST1477
ROBINSON
TAILINGS
POND
Clinton
Creek
Hill
Springs
PIPELINE
DITCH
CLINTON
FREMONT
Tailings
Little
Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
Glory
Hole
Clinton
Peak
Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
Adit
DIVIDE
McNamee
Peak
Ridge
R79W
R78W
T7S
T8S
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
0 240 480 Meters
0 750 1,500 Feet
COLORADO
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\SITE LOCATION CLIMAX 404.mxd - 2/9/2016 @ 02:33 bob.estes

COLORADO CULTURAL RESOURCE SURVEY OAHP1400

Management Data Form

Rev. 11/10

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number**:	5ST1485.1	2. **Temporary Resource Number**:	CCC04

3. **Attachments (check as many as apply)**	4. **Official determination (OAHP use only)**
☐ Prehistoric Archaeological Component	☐ Determined Eligible NR\SR _____
☐ Historic Archaeological Component	☐ Determined Not Eligible NR\SR _____
☒ Linear Component	☐ Nominated _____
☒ Sketch/Instrument Map (required)	☐ Need Data NR\SR _____
☒ U.S.G.S. Map Photocopy (required)	☐ Contributing to NR Dist.\SR Dist. _____
☒ Photograph(s) (required)	☐ Not Contributing to NR Dist.\SR Dist. _____
☐ Other, specify:	☐ Supports overall linear eligibility NR\SR _____
	☐ Does not support overall linear eligibility NR\SR _____

I. IDENTIFICATION

5. **Resource Name**: Fremont Ditch Segment

6. **Project Name/Number**: Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN

7. **Government Involvement**: ☐ Local ☐ State ☒ Federal

Agency: U.S. Army Corp of Engineers

8. **Site Categories (check as many as apply)**:

Prehistoric:	☐ archaeological site	☐ paleontological site			☐ In existing National Register District
National Register District name:					
Historic:	☐ archaeology site	☐ building(s)	☐ structure(s)	☒ object(s)	☐ In existing National Register District
National Register District name:					

9. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

10. **Boundary Description and Justification**: Site 5ST1485.1 is defined by the extent of the ditch, its features, and the associated ditch rider's path within the project area.

11. **Site/Property Dimensions**	Length:	703 m	Width:	25 m	Area:	16,620m^2	Acres (m^2/4047): 4.11

Area was calculated as:	☐ Length x Width (rectangle/square)	☐ Length x Width x 0.785 (Ellipse)	☒ GIS

II. LOCATION

12. **Legal Location**

PM	6	Township	8S	Range	79W	Section	2	NE	¼	NW	¼
PM	6	Township	8S	Range	79W	Section	2	NW	¼	NE	¼
PM	6	Township	8S	Range	79W	Section	2	NE	¼	NE	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼

If section is irregular, explain alignment method: Template anchored on northwest corner.

13. **USGS Quad**:	Copper Mountain Quad, 7.5' 1987	14. **County**:	Summit

15. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:	

Management Data Form

Resource Number: 5ST1485.1 **Temporary Resource Number**: CCC04

A. Zone	13;	397646	mE	4360792	mN
B. Zone	13;	397984	mE	4360770	mN
C. Zone	13;	398306	mE	4360629	mN
D. Zone	__;	_____	mE	_____	mN

16. **UTM Source**: ☐ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template

Other (explain): A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.

17. **Site elevation** (feet): 11,300 feet

18. **Address**:		Lot:		Block:		Addition:	

19. **Location/Access**: Access to the site must be obtained from the Climax Molybdenum Company. From the town of Leadville, Colorado, travel north on State Highway 91 (SH 91) for 12.4 miles to the main gate of the Climax Molybdenum Mine. After obtaining permission to access the mine area, travel from the main gate north for an additional 1.5 miles to a locked gate on the east side of the road. Enter the project area approximately 110 meters to the south at 208˚.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. **General Description** (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility):

Site 5ST1485.1 is a segment of the Fremont Ditch, a historic water diversion ditch, located along the northern and northeastern slope of a SE/NW trending ridge in the western portion of the project area. The ditch lies above and to the southwest of McNulty Gulch at an altitude of 11,300 ft. The aspect is to the east with a slope of less than 5˚. The soil consists of a dark brown loam containing decomposing organic matter; the depth is unknown. Vegetation consists of native grasses, forbs, scrub brush, and mature spruce trees. The area is overgrown and has not been maintained. Ground visibility is considered less than 10% except in a few bare areas. The eastern end of the ditch has been completely buried by mine tailings.

21. **Soil depth (cm) and description**: The soil consists of a dark brown loam containing decomposing organic matter; the depth is unknown.

22. **Condition**

a. Architectural/Structural	b. Archaeological/Paleontological
☐ Excellent	☐ Undisturbed
☐ Good	☐ Light disturbance
☒ Fair	☐ Moderate disturbance
☒ Deteriorated	☒ Heavy disturbance
☒ Ruin	☐ Total disturbance

23. **Describe condition**: Site 5ST1485.1 is considered to be in fair condition overall with some sections of the ditch channel (F1) exhibiting significant signs of neglect and deterioration; portions of the ditch channel have been heavily disturbed by mining and logging activities. The same disturbance has also obliterated sections of the ditch rider's path (F2). The remainder of the ditch is overgrown and has not been maintained for number of years. The eastern end of the segment has been completely buried by modern mine tailings.

24. **Vandalism**: ☐ Yes ☒ No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. **Context or Theme**: Colorado Mountains Historic Context – Lead, Zinc, and other Mining (1860-1945)

26. **Applicable National Register Criteria**:

- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history
- ☐ B. Associated with the lives of persons significant in our past
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- ☐ D. Has yielded, or may be likely to yield, information important in history or prehistory
- ☒ Does not meet any of the National Register criteria

Management Data Form

Resource Number: 5ST1485.1 **Temporary Resource Number**: CCC04

☐ Qualifies under exceptions A through G. List exception(s):			
27. **Applicable State Register Criteria**:			
☐ A. Property is associated with events that have made a significant contribution to history			
☐ B. Property is connected with persons significant in history			
☐ C. Property has distinctive characteristics of a type, period, method of construction or artisan			
☐ D. Property is of geographic importance			
☐ E. Property contains the possibility of important discoveries related to prehistory or history			
☒ Does not meet any of the State Register criteria			
28. **Area(s) of significance**: N/A			
29. **Period(s) of significance**: N/A			
30. **Level of significance**:	☐ National	☐ State	☐ Local

31. **Statement of significance**: Site 5ST1485.1 is a segment of the Fremont Ditch system, a 20th century water diversion ditch built as part of the expansion of the Climax Mine during the 1920s. The overall ditch is approximately five miles in length and has never been officially recorded or evaluated with regard to the NRHP. The ditch segment recorded by WCRM has been heavily disturbed; the majority of the ditch channel (F1) piping has been salvaged or has rotted away, the ditch rider's path (F2) is overgrown and not maintained, and the eastern end of the segment has been completely buried by modern mine tailings. The segment's lack of integrity precludes it from being recommended as individually eligible under NRHP Criteria *a*, *b*, or *c*. No artifacts or evidence of significant intact subsurface deposits are present; a portion of the ditch has been piped underground, but the subsurface remains are not considered to hold any important data about 20th century water resource utilization and/or mining. As a result, the site is recommended not eligible for inclusion in the NRHP under Criterion *d*.

32. **Statement of historic integrity related to significance**: N/A

33. **National Register Eligibility Field Assessment**:	☐ Eligible	☒ Not eligible	☐ Need data
Linear Segment Evaluation (if applicable):	☐ Supporting	☐ Non Supporting	
34. **Status in an Existing National Register Distric**t:	☐ Contributing	☐ Non-contributing	
35. **State Register Eligibility Field Assessmen**t:	☐ Eligible	☒ Not eligible	☐ Need data
36. **Status in an Existing State Register District**:	☐ Contributing	☐Non-contributing	

37. **National/State Register District Potential**: ☐ Yes ☒ No Describe:

38. **Cultural Landscape Potential**: ☐ Yes ☒ No Describe:

39. **If Yes to either 37 or 38, is this site**: ☐ Contributing ☐ Non-contributing Explain:

V. MANAGEMENT AND ADMINISTRATIVE DATA

40.**Threats to Resource**:	☒ Water erosion	☒ Wind erosion	☐ Grazing	☒ Neglect	☐ Vandalism
☐Recreation	☒ Construction	☐ Other (explain):			
41. **Existing protection**	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled

Other (specify):

Comments:

42. **Local landmark designation**:	N/A	43. **Easement**:	N/A

44. **Recorder's Management Recommendations**: No further work necessary.

VI. DOCUMENTATION

45. **Previous actions accomplished at the site**:	☐ Tested	☐ Partial excavation	☐ Complete excavation

Date(s):		
a. Excavations:		
b. Stabilization:		Date(s):
c. HABS/HAER documentation [date(s) and numbers]:		

d. Other:							
46. **Known collections/reports/interviews and other references (list)**: Voynick, Stephen M. 1996 *Climax, The History of Colorado's Climax Molybdenum Mine*. Mountain Press Publishing Co., Missoula, MT.							
47. **Primary location of additional data**: Voynick (1996) on file with the Denver Public Library and Climax Mine.							
48. **State or Federal Permit number**:	Colorado State Permit #2014-46						
49. **Collection**:	Artifact collection authorized:	☐ Yes	☒ No	Were artifacts collected:	☐ Yes	☒ No	
Artifact repository:							
Collection method:	☐ Diagnostics	☐ Grab Sample	☐ Random Sample				
Other (specify):							
50. **Photograph Numbers**:	Roll # RBF001, Exp: 344-356						
Files or negatives stored at:	WCRM, Inc., Boulder, CO office						
51. **Report title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089							
52. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula			Date: 7/20/14			
53. **Recorder affiliation**:	Western Cultural Resource Management, Inc. (WCRM)						
Phone number/Email:	303-449-1151/tom.lennon@wcrminc.com						

NOTE: Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

Linear Component Form

This form should be completed for each linear resource or linear segment. Use this form in conjunction with the *Management Data Form.* Call OAHP staff (303-866-5216) prior to assigning a resource number.

I. Resource Identification			
1. **Resource Number**:	5ST1485.1	2. T**emporary Resource Number**:	CCC04
3. **Site Name**:	Fremont Ditch Segment		
4. **Record of**:	☐ Entire resource	☒ Segment	

II. Resource Description				
5. **Resource Type**:	☐ Road	☐ Railroad	☐ Trail	☒ Ditch/Canal
Other (specify):				

6. **Component Description**: Site 5ST1485.1 is a segment of the Fremont Ditch system whose boundary is defined by its extent within the project area. The segment is 703 m long by 25 m wide, located along the northern and northeastern slope of a southeast/northwest trending ridge in the western portion of the project area, and includes three features: the ditch channel (F1), the ditch rider's path (F2), and a concrete culvert (F3). Two ditch construction styles are represented within the segment; the first style is a simple above ground canal, approximately 15' wide by 5' deep, and the second style consists of underground piping, which was employed when there was surface disturbance from mining or logging. The subsurface portion of the ditch transitions from above ground to a buried concrete canal with wooden intakes and outtakes. Often, the water is channeled through a 24-inch (inside diameter) pipe made with redwood staves wrapped in ¼-inch ferrous wire. The majority of the wood piping has been salvaged leaving the wire remains. Occasional pieces of mangled ferrous pipe are present in the ditch rider's path. No artifacts or significant intact subsurface deposits were observed in association with the ditch segment.

7. **Original use**:	Mine water supply
8. **Current use**:	Abandoned

9. **Modifications (describe and include dates)**: None

10. **Extent of Entire Resource**: The Fremont Ditch system extends from the Climax Mine surface plant to the lands near the survey area; the entire ditch is approximately five miles in length.

11. **Associated Artifacts**: None. There are occasional pieces of mangled ferrous pipe are present in the ditch rider's path.

12. **Associated Features or Resources**:
Three features are included in the ditch segment and are documented as follows:

- Feature 1 (F1) is the ditch channel. It consists of two styles of ditch construction; the first style is a simple above ground canal, approximately 15' wide by 5' deep, and the second style consists of underground piping, which was employed when there was surface disturbance from mining or logging. The subsurface portion of the ditch transitions from above ground to a buried concrete canal with wooden intakes and outtakes. Often, the water is channeled through a 24-inch (inside diameter) pipe made with redwood staves wrapped in ¼-inch ferrous wire. The majority of the wood piping has been salvaged or has rotted away leaving the wire wrappings.
- Feature 2 (F2), a ditch rider's path, is located adjacent and north of the ditch proper. It is sometimes bounded by an earthen berm on its north side and has been bladed with no apparent fill. The path ranges from 12-20' wide, is overgrown with vegetation, and is not maintained. Occasional pieces of mangled ferrous pipe are present in the ditch rider's path.
- Feature 3 (F3), a concrete culvert, measures 10' wide, approximately $2^1/_2$' thick, and retains fill dirt which is preserving the pipe underneath. The fill is from a mine road upslope to the south. The culvert has been set around a section of wire wrapped wooden pipe, consists of imported sand and gravel aggregate, and extends for 10' to the west. At this point, the pipe extends out to the west side with the canal and is held in place by locally available stacked granite rocks. Although the outtake consists of a wooden pipe, the buried ditch route is a concrete channel reinforced with wire mesh.

Linear Component Form

Resource Number: 5ST1485.1 **Temporary Resource Number**: CCC04

III. Research Information					
13. **Architect/Engineer**:	Climax Mine Engineering Department				
Source(s) of Information:	Voynick (1996); a study of Climax Mine				
14. **Builder**:	Climax Mine				
Source(s) of Information:	Voynick (1996); a study of Climax Mine				
15. **Date of Construction / Date Range**:	1920s				
Source(s) of Information:	Voynick (1996); a study of Climax Mine				
16. **Historical / Archival Data**: The entire Fremont Ditch system extends from the Climax Mine surface plant to the lands near the survey area; the entire ditch is approximately five miles in length. Historic records indicate that portions of the ditch were originally built during the 1920s expansion of the Climax Mine as Brainerd Phillipson, president of the mine, found new markets for molybdenum within the auto industry. The ditch appears to have been abandoned as a result of the 1970s expansion of the mine and its tailings and the rerouting of Colorado State Highway 91 (see: 1934 USGS Climax topographic map; Voynick 1996: 75-100).					
17. **Cultural Affiliation and Justification**: Euro-American based on the history of the development of the Climax Mine.					
IV. Management Recommendations					
18. **Eligibility of Entire Resource**					
☐ Eligible	☐ Not Eligible	☒ Need Data	Is this an official determination?	☐ Yes	☒ No
Remarks / Justification: Examination of the OAHP COMPASS records indicates that the entire resource has not been previously evaluated with regard to its NRHP status.					
19. **Evaluation of integrity of the segment of the entire linear resource being recorded** (Complete only if "Segment" under item 4 is checked and the entire resource is marked as Eligible under item 18)					
☐ Supporting	☐ Non-supporting	☐ Not applicable			
Remarks / Justification:					
20. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	21. **Date**:	7/20/2014		

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1560 Broadway, Suite 400 Denver, CO 80202
303-866-3395

5ST1485.1, Fremont Ditch (F1), at western project area boundary, view to east.

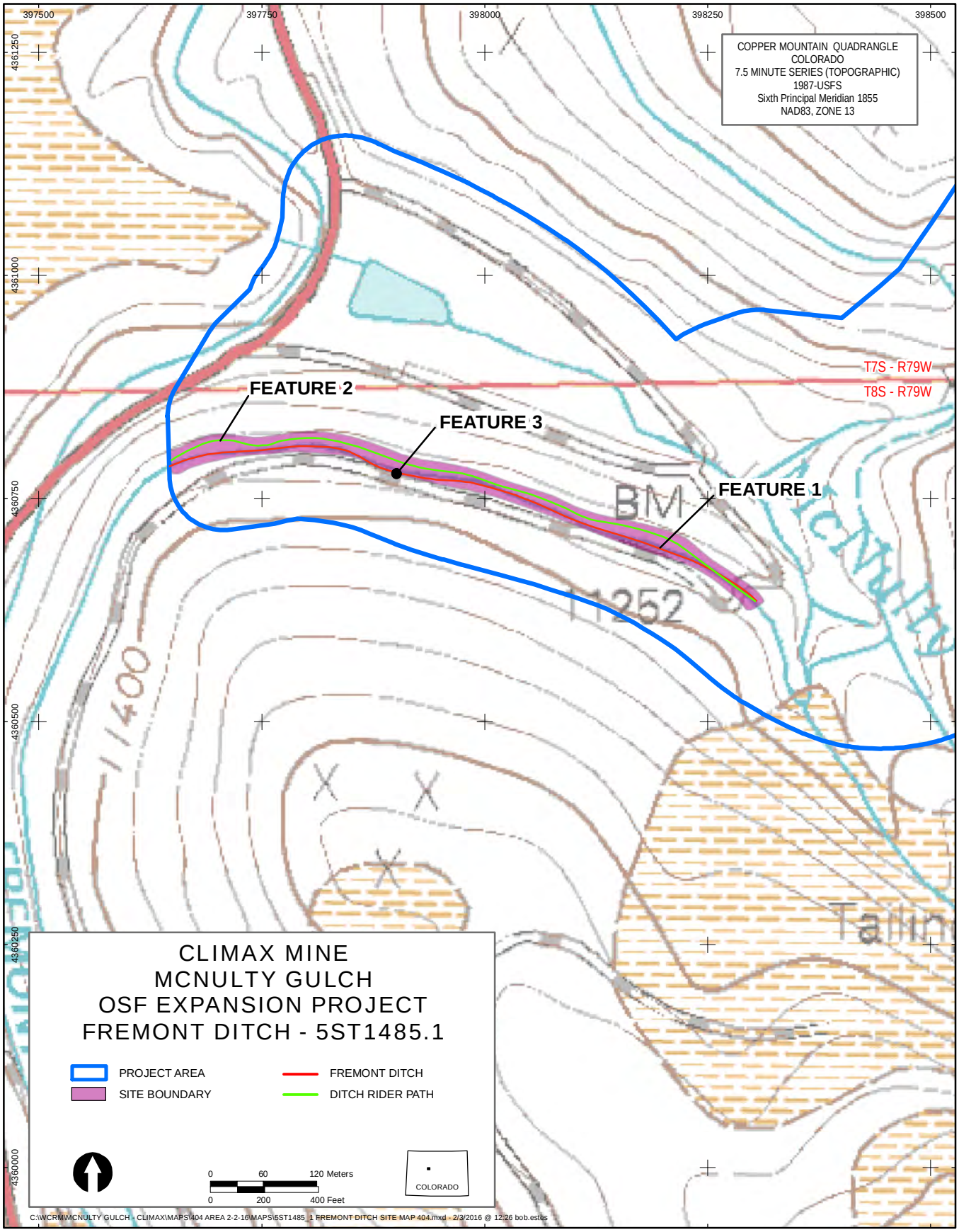
5ST1485.1, Fremont Ditch (F1), intact portion of ditch below present ground surface.

5ST1485.1, ditch rider's path (F2), adjacent and north of the Fremont Ditch, view to east. Note overgrown vegetation.

5ST1485.1, Fremont Ditch (F1) and concrete culvert (F3), view to east.

5ST1485.1, Fremont Ditch (F1) and concrete culvert (F3), view to east.

5ST1485.1, Fremont Ditch (F1), at its eastern terminus and buried by mine tailings, view to west.


397500
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COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
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Sixth Principal Meridian 1855
NAD83, ZONE 13
T7S - R79W
T8S - R79W
FEATURE 2
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BM
11252
11400
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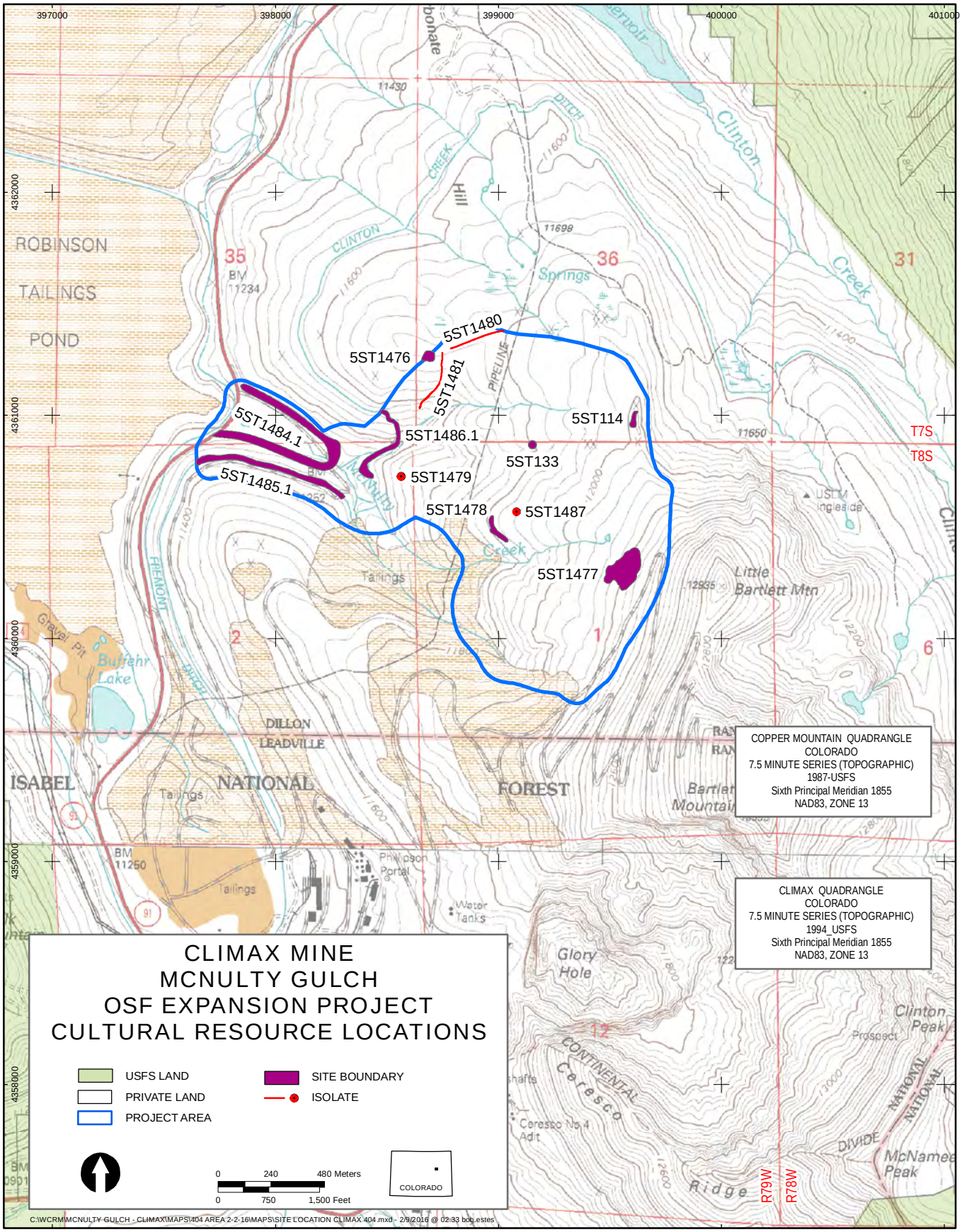
Tailin
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
FREMONT DITCH - 5ST1485.1
PROJECT AREA
SITE BOUNDARY
FREMONT DITCH
DITCH RIDER PATH
0 60 120 Meters
0 200 400 Feet
COLORADO
C:\WCRM\MCNULTY GULCH - CLIMAX\MAPS\404 AREA 2-2-16\MAPS\5ST1485_1 FREMONT DITCH SITE MAP 404.mxd - 2/3/2016 @ 12:26 bob.estes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5ST114
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5ST1487
5ST1477
ROBINSON
TAILINGS
POND
Clinton
Creek
Hill
Springs
PIPELINE
DITCH
CLINTON
FREMONT
Tailings
Little
Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
Glory
Hole
Clinton
Peak
Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
Adit
DIVIDE
McNamee
Peak
Ridge
R79W
R78W
T7S
T8S
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
0 240 480 Meters
0 750 1,500 Feet
COLORADO
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Management Data Form

A *Management Data Form* should be completed for each cultural resource recorded during an archaeological survey. Isolated finds and revisits are the exception and they do not require a *Management Data Form*. Please attach the appropriate component forms and use continuation pages if necessary. Fields can be expanded or compressed as necessary.

1. **Resource Number**:	5ST1486.1	2. **Temporary Resource Number**:	CCC79

3. **Attachments (check as many as apply)**	4. **Official determination (OAHP use only)**
☐ Prehistoric Archaeological Component	☐ Determined Eligible NR\SR _____
☐ Historic Archaeological Component	☐ Determined Not Eligible NR\SR _____
☒ Linear Component	☐ Nominated _____
☒ Sketch/Instrument Map (required)	☐ Need Data NR\SR _____
☒ U.S.G.S. Map Photocopy (required)	☐ Contributing to NR Dist.\SR Dist. _____
☒ Photograph(s) (required)	☐ Not Contributing to NR Dist.\SR Dist. _____
☐ Other, specify:	☐ Supports overall linear eligibility NR\SR _____
	☐ Does not support overall linear eligibility NR\SR _____

I. IDENTIFICATION

5. **Resource Name**: Clinton Creek Ditch Segment

6. **Project Name/Number**: Climax Mine McNulty Gulch OSF Expansion Project/13-B-089 CLIM-MCN

7. **Government Involvement**: ☐ Local ☐ State ☒ Federal
Agency: U.S. Army Corp of Engineers

8. **Site Categories (check as many as apply)**:

Prehistoric:	☐ archaeological site	☐ paleontological site	☐ In existing National Register District

National Register District name:

Historic:	☐ archaeology site	☐ building(s)	☐ structure(s)	☒ object(s)	☐ In existing National Register District

National Register District name:

9. **Owner(s) Name and Address**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

10. **Boundary Description and Justification**: Site 5ST1486.1 is defined by the extent of the ditch and its features within the project area.

11. **Site/Property Dimensions**	Length:	441 m	Width:	21 m	Area:	9,439 m^2	Acres (m^2/4047): 2.33

Area was calculated as:	☐ Length x Width (rectangle/square)	☐ Length x Width x 0.785 (Ellipse)	☒ GIS

II. LOCATION

12. **Legal Location**

PM	6	Township	7S	Range	79W	Section	35	SE	¼	SE	¼
PM	6	Township	8S	Range	79W	Section	2	NE	¼	NE	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼
PM	___	Township	_____	Range	_____	Section	___	__	¼	__	¼

If section is irregular, explain alignment method: Template anchored on northwest corner of Section 2.

13. **USGS Quad**:	Copper Mountain Quad, 7.5' 1987	14. **County**:	Summit

15. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:		
A. Zone	13;	398475	mE	4361021	mN		

B. Zone	13;	398540	mE	4360868	mN
C. Zone	13;	398438	mE	4360719	mN
D. Zone	__;	_____	mE	_____	mN

16. **UTM Source**: ☐ Corrected GPS/rectified survey (<5m error) ☐ Uncorrected GPS ☐ Map template

Other (explain): A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.

17. **Site elevation** (feet): 11,560 - 11,300 feet

18. **Address**:		Lot:		Block:		Addition:	

19. **Location/Access**: Access to the site must be obtained from the Climax Molybdenum Company. From the town of Leadville, Colorado, travel north on State Highway 91 (SH 91) for 12.4 miles to the main gate of the Climax Molybdenum Mine. After obtaining permission to access the mine area, travel from the main gate north for an additional 1.5 miles to a locked gate on the east side of the road. Park and walk 800 m east to reach the site.

III. NATURAL ENVIRONMENT/SITE CONDITION

20. **General Description** (should include both on site as well as geographical setting with aspect, landforms, vegetation, soils, depositional environment, water, ground visibility):

Site 5ST1486.1 is a segment of the Clinton Creek Ditch, a historic water division ditch; it enters the project area on the west side, just north of McNulty Gulch proper, and extends down a south facing slope where it meets up with McNulty Gulch. The elevation of the ditch at its northeastern project boundary is 11,560 ft, and its elevation at its southern boundary in McNulty Gulch is 11,300 ft. The aspect is to the south, and the slope averages 10-20˚. The soil consists of a reddish-brown, silty sand; the depth is unknown. The vegetation is sparse and consists of native grasses, forbs, scrub brush, and mature spruce trees. Ground visibility within the ditch proper ranges from 60-70%. The northern portion of the ditch has experienced heavy disturbance from alluvial and colluvial erosion.

21. **Soil depth (cm) and description**: The soil is a reddish-brown, silty sand; the depth is unknown.

22. **Condition**

a. Architectural/Structural	b. Archaeological/Paleontological
☐ Excellent	☐ Undisturbed
☐ Good	☐ Light disturbance
☒ Fair	☒ Moderate disturbance
☒ Deteriorated	☒ Heavy disturbance
☐ Ruin	☐ Total disturbance

23. **Describe condition**: Site 5ST1486.1 is in fair to deteriorated condition having experienced heavy disturbance on its northern end from alluvial and colluvial deposition and moderate disturbance overall from erosion, neglect, and grazing. The flume (F2) has experienced extensive surface disturbance, and the water diversion pipeline (F3) appears to have been salvaged and moved.

24. **Vandalism**: ☐ Yes ☒ No

Describe:

IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

25. **Context or Theme**: Colorado Mountains Historic Context – Lead, Zinc, and other Mining (1860-1945)

26. **Applicable National Register Criteria**:

- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history
- ☐ B. Associated with the lives of persons significant in our past
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- ☐ D. Has yielded, or may be likely to yield, information important in history or prehistory
- ☒ Does not meet any of the National Register criteria
- ☐ Qualifies under exceptions A through G. List exception(s):

27. **Applicable State Register Criteria**:

Management Data Form

Resource Number: 5ST1486.1 **Temporary Resource Number**: CCC79

☐ A. Property is associated with events that have made a significant contribution to history			
☐ B. Property is connected with persons significant in history			
☐ C. Property has distinctive characteristics of a type, period, method of construction or artisan			
☐ D. Property is of geographic importance			
☐ E. Property contains the possibility of important discoveries related to prehistory or history			
☒ Does not meet any of the State Register criteria			
28. **Area(s) of significance**: N/A			
29. **Period(s) of significance**: N/A			
30. **Level of significance**:	☐ National	☐ State	☐ Local

31. **Statement of significance**: Site 5ST1486.1 is a segment of the Clinton Creek Ditch system, a 20th century water diversion ditch and reservoir built in 1931 and 1932 as part of the Climax Mine's water diversion plan. The overall ditch is approximately three miles in length and has never been officially recorded or evaluated with regard to the NRHP. The ditch segment recorded by WCRM has been disturbed; the northern portion of the ditch channel (F1) has been disturbed by alluvial and colluvial erosion, the flume (F2) has experienced extensive surface disturbance, and the diversion pipeline (F3) has been salvaged and moved. The lack of integrity precludes the segment from being recommended as individually eligible under NRHP Criteria *a*, *b*, or *c*. No artifacts or evidence of significant intact subsurface deposits are present; although a portion of F2 has been partially placed into the ground, there is no indication that subsurface remains are present. As a result, the site is recommended not eligible for inclusion in the NRHP under Criterion *d*.

32. **Statement of historic integrity related to significance**: N/A

33. **National Register Eligibility Field Assessment**:	☐ Eligible	☒ Not eligible	☐ Need data
Linear Segment Evaluation (if applicable):	☐ Supporting	☐ Non Supporting	
34. **Status in an Existing National Register Distric**t:	☐ Contributing	☐ Non-contributing	
35. **State Register Eligibility Field Assessmen**t:	☐ Eligible	☒ Not eligible	☐ Need data
36. **Status in an Existing State Register District**:	☐ Contributing	☐Non-contributing	

37. **National/State Register District Potential**: ☐ Yes ☒ No Describe:

38. **Cultural Landscape Potential**: ☐ Yes ☒ No Describe:

39. **If Yes to either 37 or 38, is this site**: ☐ Contributing ☐ Non-contributing Explain:

V. MANAGEMENT AND ADMINISTRATIVE DATA

40.**Threats to Resource**:	☒ Water erosion	☒ Wind erosion	☒ Grazing	☒ Neglect	☐ Vandalism
☐Recreation	☒ Construction	☐ Other (explain):			
41. **Existing protection**	☐ None	☐ Marked	☒ Fenced	☐ Patrolled	☒ Access controlled

Other (specify):

Comments:

42. **Local landmark designation**:	N/A	43. **Easement**:	N/A

44. **Recorder's Management Recommendations**: No further work necessary.

VI. DOCUMENTATION

45. **Previous actions accomplished at the site**:	☐ Tested	☐ Partial excavation	☐ Complete excavation

Date(s):		
a. Excavations:		
b. Stabilization:		Date(s):
c. HABS/HAER documentation [date(s) and numbers]:		

d. Other:

46. **Known collections/reports/interviews and other references (list)**:
McNamara, Anne P. and Calvin H. Jennings
1979 *Archaeological Reconnaissance of the Selected USFS Lands, Climax Land Exchange and Appendix*. Prepared by Colorado State University. Copy on file at the Colorado Office of Archaeology and Historic Preservation, Denver, CO.

Voynick, Stephen M.
1996 *Climax, The History of Colorado's Climax Molybdenum Mine*. Mountain Press Publishing Co., Missoula, MT.

47. **Primary location of additional data**: McNamara and Jennings (1979) on file with the Colorado OAHP; Voynick (1996) on file with the Denver Public Library and Climax Mine.

48. **State or Federal Permit number**:	Colorado State Permit #2014-46						
49. **Collection**:	Artifact collection authorized:	☐ Yes	☒ No	Were artifacts collected:	☐ Yes	☒ No	
Artifact repository:							
Collection method:	☐ Diagnostics	☐ Grab Sample	☐ Random Sample				
Other (specify):							
50. **Photograph Numbers**:	Roll # RBF001, Exp: 357-358, 372-382, 388-391						
Files or negatives stored at:	WCRM, Inc., Boulder, CO office						
51. **Report title**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089							
52. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula			Date: 7/20/14			
53. **Recorder affiliation**:	Western Cultural Resource Management, Inc. (WCRM)						
Phone number/Email:	303-449-1151, tom.lennon@wcrminc.com						

NOTE: Please attach a site map, a photocopy of the USGS 1:24000 map indicating resource location, and photographs.

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

Linear Component Form

This form should be completed for each linear resource or linear segment. Use this form in conjunction with the *Management Data Form.* Call OAHP staff (303-866-5216) prior to assigning a resource number.

I. Resource Identification			
1. **Resource Number**:	5ST1486.1	2. T**emporary Resource Number**:	CCC79
3. **Site Name**:	Clinton Creek Ditch Segment		
4. **Record of**:	☐ Entire resource	☒ Segment	

II. Resource Description				
5. **Resource Type**:	☐ Road	☐ Railroad	☐ Trail	☒ Ditch/Canal
Other (specify):				

6. **Component Description**: Site 5ST1486.1 is a segment of the Clinton Ditch system whose boundary is defined by the extent of the ditch and its features within the project area. It consists of a simple earthen ditch that feeds into an unnamed drainage in McNulty Gulch and ultimately connects to a segment of the Fremont Ditch (5ST1485.1). The segment is 441 m long by 21 m wide, enters the project area on the northwest side just north of McNulty Gulch proper, and extends down a south facing slope where it descends into McNulty Gulch. Three features are included in the segment: the ditch channel (F1), an iron flume (F2), and a diversion pipe (F3). Outside of the project area, the ditch is more substantial and includes a ditch rider's path. The ditch channel (F1) measures 12-16' wide at its northern upslope boundary and gradually narrows to 3-5' at its southern boundary in McNulty Gulch. The northern portion of the ditch has experienced heavy disturbance from alluvial and colluvial erosion. No artifacts or significant intact subsurface deposits were observed in association with the ditch segment.

7. **Original use**:	Mine water supply
8. **Current use**:	Abandoned

9. **Modifications (describe and include dates)**: During the 1970s, the ditch was extensively rehabilitated, and the Climax Mine built the Clinton Creek Reservoir.

10. **Extent of Entire Resource**: The Clinton Ditch system extends from Clinton Creek, northeast of the project area, to an unnamed drainage that empties into a segment of the Fremont Ditch (5ST1485.1) in McNulty Gulch; the entire ditch is approximately three miles in length.

11. **Associated Artifacts**: None. Approximately 10 m downslope from the F2 trestle is a mangled pile of galvinized tin sheet metal, and wood whose original function is unknown.

12. **Associated Features or Resources**:

Three features are included in the ditch segment and are documented as follows:

- Feature 1 (F1) is a simple earthen ditch channel. It measures 12-16' wide at its northern upslope boundary and gradually narrows to 3-5' at its southern boundary in McNulty Gulch. The northern portion of the ditch has experienced heavy disturbance from alluvial and colluvial erosion.
- Feature 2 (F2) is a water diversion flume constructed of 36" diameter iron pipe with acetalyne cut rectangular holes set on the top at intermittent intervals from the trestle south to the southern segment boundary. It is located on a west facing slope and is partially set into the ground except on the northeastern end where a portion of the pipe sits on a 20 ft long and 10 ft tall wooden trestle across a small drainage. The trestle is constructed of large milled lumber beams set with wire nails. The flume intake at the Clinton Creek Ditch is a 10-foot wide concrete wall; no head gate is present. The southwest end of the flume is truncated by extensive surface disturbance. Approximately 10m downslope from the trestle is a mangled pile of galvinized tin sheet metal, and wood whose original function is unknown.
- Feature 3 (F3) is a diversion pipeline made of a 24" diameter 16' long pipe constructed with 2" by 4" redwood staves and wrapped with ¼" ferrous iron wire. The pipe has been set into the ground to divert snow and rain runoff into a modern black plastic pipe around the ditch. While the wooden pipe is historic, it appears to have been salvaged and moved.

III. Research Information	
13. **Architect/Engineer**:	Climax Mine Engineering Department

Linear Component Form

Resource Number: 5ST1486.1 **Temporary Resource Number**: CCC79

Source(s) of Information:	Voynick (1996); a study of Climax Mine
14. **Builder**:	Climax Mine
Source(s) of Information:	Voynick (1996); a study of Climax Mine
15. **Date of Construction / Date Range**:	1931-1932
Source(s) of Information:	Voynick (1996); a study of Climax Mine; State Engineering Record

16. **Historical / Archival Data**: The entire Clinton Ditch, a substantial ditch system that was developed as part of the Climax water diversion plan, is approximately three miles long and runs from Clinton Creek, northeast of the project area, and terminates at an unnamed drainage that empties into a segment of the Fremont Ditch (5ST1485.1) in McNulty Gulch. The historic record indicates that Climax built the Clinton Creek Ditch during 1931 and 1932 to support their mining activities. During the 1970s expansion of the mine, the ditch was extensively rehabilitated and the Clinton Creek Reservoir was built. In 1992, Climax sold the Clinton Creek Reservoir and is water rights to the Clinton Ditch and Reservoir Company, a consortium of recreational interests including Copper Mountain, Keystone Resorts, and the Winter Park Recreation District as well as Summit County and the cities of Breckenridge, Dillon, and Silverthorne (McNamara and Jennings 1979:48; Voynick 1996:339).

17. **Cultural Affiliation and Justification**: Euro-American based on the history of the development of the Climax Mine.

IV. Management Recommendations

18. **Eligibility of Entire Resource**

☐ Eligible	☐ Not Eligible	☒ Need Data	Is this an official determination?	☐ Yes	☒ No

Remarks / Justification: Examination of the OAHP COMPASS records indicates that the entire resource has not been previously evaluated with regard to its NRHP status.

19. **Evaluation of integrity of the segment of the entire linear resource being recorded** (Complete only if "Segment" under item 4 is checked and the entire resource is marked as Eligible under item 18)

☐ Supporting	☐ Non-supporting	☐ Not applicable

Remarks / Justification:

20. **Recorder(s)**:	R. Fiske, J. Mueller, A. Sapula	21. **Date**:	7/20/2014

Colorado Historical Society - Office of Archaeology & Historic Preservation
1560 Broadway, Suite 400 Denver, CO 80202
303-866-3395

5ST1486.1, Clinton Creek Ditch channel (F1), view to northwest.

5ST1486.1, Clinton Creek Ditch channel (F1), view downslope to the southeast.

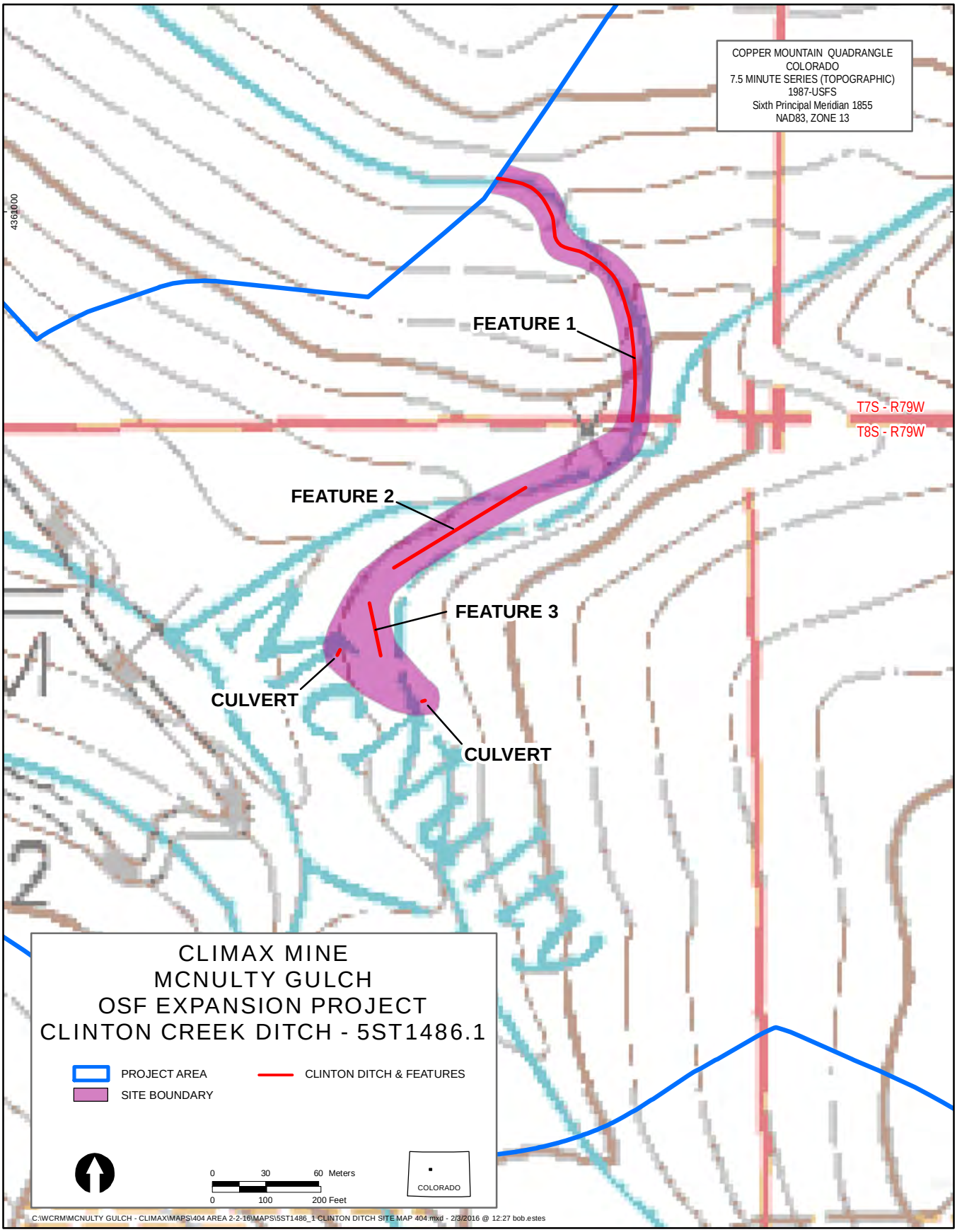
5ST1486.1, Clinton Creek Ditch channel (F1), view of ditch as it leaves project area, view to northwest.

5ST1486.1, water diversion flume (F2), trestle supporting metal flume, view to northeast.

5ST1486.1, water diversion flume (F2), view to southwest.

5ST1486.1, water diversion flume (F2), view to south.

5ST1486.1, water diversion pipeline (F3), view to south.


COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
4361000
FEATURE 1
FEATURE 2
FEATURE 3
CULVERT
CULVERT
T7S - R79W
T8S - R79W
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CLINTON CREEK DITCH - 5ST1486.1
PROJECT AREA
SITE BOUNDARY
CLINTON DITCH & FEATURES
0 30 60 Meters
0 100 200 Feet
COLORADO
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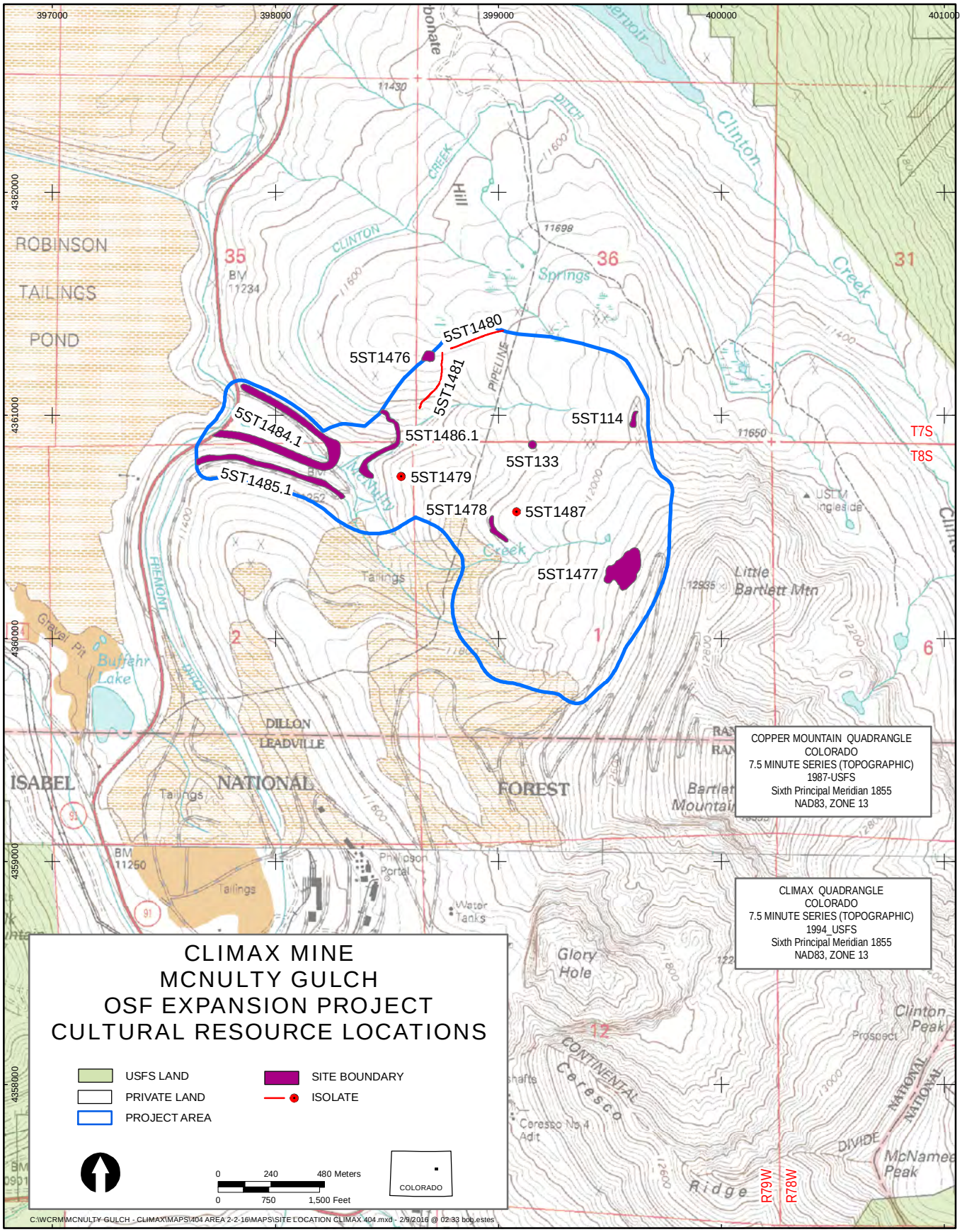
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ROBINSON
TAILINGS
POND
Clinton
Creek
Hill
Springs
PIPELINE
DITCH
CLINTON
FREMONT
Tailings
Little
Bartlett Mtn
Buffehr
Lake
DILLON
LEADVILLE
ISABEL
NATIONAL
FOREST
Glory
Hole
Clinton
Peak
Prospect
CONTINENTAL
Ceresco
Ceresco No. 4
Adit
DIVIDE
McNamee
Peak
Ridge
R79W
R78W
T7S
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COLORADO CULTURAL RESOURCE SURVEY

Archaeological Isolated Find/Feature Form

OAHP 1408
Rev. 11/10

This form is not to be used for phenomena that are eligible for the National Register or are part of the built environment. To be ***only*** used for phenomena that meet the requirements of the recorder's definition as provided below. A map at 1:24,000 scale with IF clearly plotted must be attached.

1. **Site Number**:	5ST1479	2. **Temporary Resource Number**:	CCC06	3. **County**:	Summit

4. **Recorder's Definition of Isolated Find**: Isolated artifacts/features are the occurrence of four or fewer pieces of debitage, tools, tool fragments, or historic debris not from the same item or the occurrence of an isolated feature.

5. **PM**	6	**Township**	8S	**Range**	79W	**Section**	2	NE	¼	NE	¼	

If section is irregular, explain alignment method: Template anchored at NE corner of Section 2

6. **USGS Quad**: Copper Mountain Quad, 7.5' 1987	7. **Elevation**: 11,512 ft

8. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:

Zone:	13;	398564	mE	4360726	mN

9. **UTM Source**:	☐ Corrected GPS/rectified survey (<5m error)	☐ Uncorrected GPS	☐ Map template
Other (explain):	A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.		

10. **Landowner**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

11. **Describe Artifact(s) and their distribution**: Consists of an oil can and a jar. The oil can is a sanitary-style cylindrical can which measures 4" diameter by 5" tall. Portions of green lithography remain on the body. One end is stamped, "CONTINENTAL OIL/COMPANY," while the other end is stamped, "CONTINENTAL OIL/S.A.E./20-20W/COMPANY." It has a hole punch opening. The jar is a colorless ABM jar measuring 7½" tall and 3¼" diameter. It has a wide-mouth external threaded finish and a round base. A ferrous metal cap remains. The heel is stippled, and the base reads, "6 23 / ."

☐ No artifacts

12. **Describe Feature (include dimensions)**: N/A

☒ No features

13. **Cultural Affiliation and Justification**: Unknown

14. **Time Period and Justification**: 1920s-present; The can is of the sanitary variety (1904+) and the colorless glass dates from ca. 1920s-present.

15. **Relevant environmental information (e.g., elevation, topography, soils, vegetation, nearby water source)**: Situated on a steep west-facing slope amidst extensive lumber disturbance. Soil is light brown, silty loam. Vegetation is alpine grasses and forbs and a recovering spruce forest.

16. **Is this isolate located in a cultural landscape?**	☐ Yes	☒ No

If yes, describe:

17. **Why is this isolated find not eligible for the National Register?** The isolate consists of two common artifacts that will not yield additional information and are not within an intact historic landscape.

18. **Additional Information (e.g., narrative, drawings, photographs, sketch map; attach extra pages if desired)**: Photos, Roll # RBF001, Exp: 341-342

19. **Artifacts Collected?**	☐ Yes	☒ No

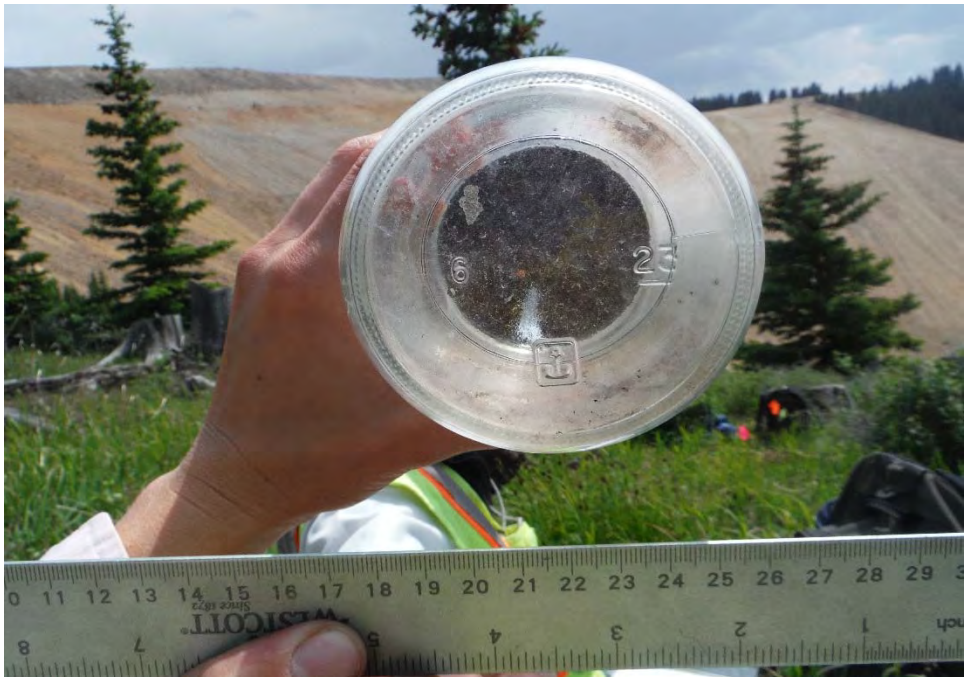
If yes, provide repository information:

20. **Report Title and Project Number**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089

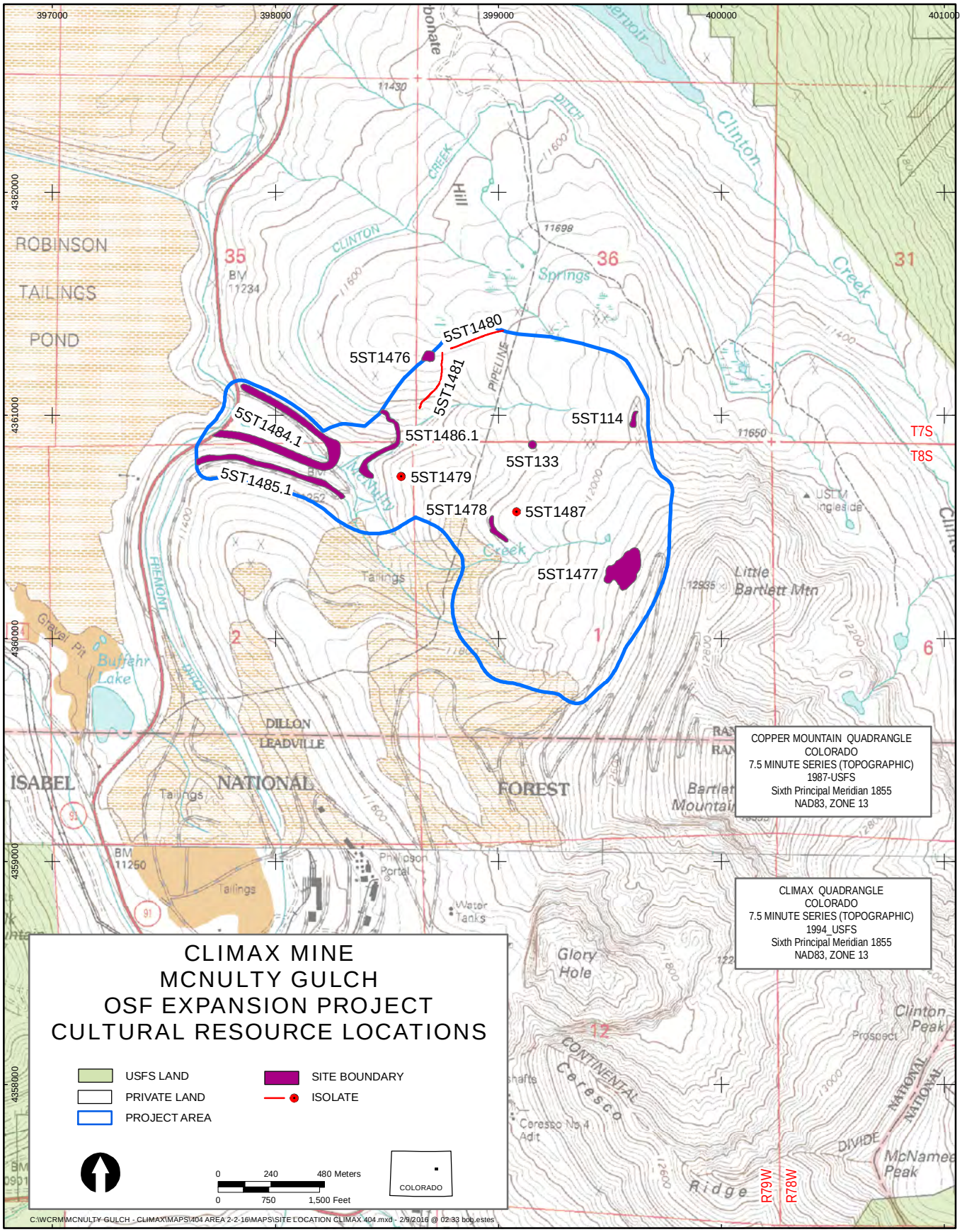
21. **Recorder and Affiliation**: R. Fiske, J. Mueller, A. Sapula, Western Cultural Resource Management, Inc. (WCRM)

Date: 7/19/14

5ST1479, oil can, bottom detail.



5ST1479, colorless glass jar, bottom detail.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COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
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Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
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PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
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COLORADO CULTURAL RESOURCE SURVEY

Archaeological Isolated Find/Feature Form

OAHP 1408
Rev. 11/10

This form is not to be used for phenomena that are eligible for the National Register or are part of the built environment. To be ***only*** used for phenomena that meet the requirements of the recorder's definition as provided below. A map at 1:24,000 scale with IF clearly plotted must be attached.

1. **Site Number**:	5ST1480	2. **Temporary Resource Number**:	CCC08	3. **County**:	Summit

4. **Recorder's Definition of Isolated Find**: Isolated artifacts/features are the occurrence of four or fewer pieces of debitage, tools, tool fragments, or historic debris not from the same item or the occurrence of an isolated feature.

5. **PM**	6	**Township**	7S	**Range**	79W	**Section**	36	NW	¼	SW	¼	

If section is irregular, explain alignment method:

6. **USGS Quad**: Copper Mountain Quad, 7.5' 1987	7. **Elevation**: 11,780 ft

8. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:
Zone: 13;	398899 mE	4361343 mN			
9. **UTM Source**:	☐ Corrected GPS/rectified survey (<5m error)	☐ Uncorrected GPS	☐ Map template		
Other (explain):	A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.				

10. **Landowner**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004

11. **Describe Artifact(s) and their distribution**:

☒ No artifacts

12. **Describe Feature (include dimensions)**: 5ST1480 is a linear ditch or pipeline with axe-hewn tree trunks occasionally along its length; there are a total of three. The trunks have a channel carved along one side. The ditch itself is approximately 1' wide and only a few inches deep.

☐ No features

13. **Cultural Affiliation and Justification**: Unknown

14. **Time Period and Justification**: Unknown

15. **Relevant environmental information (e.g., elevation, topography, soils, vegetation, nearby water source)**: 5ST1480 runs along a ridge on either side of a saddle. Soil is mostly reddish-brown, sandy silt.

16. **Is this isolate located in a cultural landscape?** ☐ Yes ☒ No

If yes, describe:

17. **Why is this isolated find not eligible for the National Register?** The isolate will not yield additional information and is not within an intact historic landscape. There were no artifacts associated with the possible ditch or pipeline and no evidence of intact subsurface cultural deposits.

18. **Additional Information (e.g., narrative, drawings, photographs, sketch map; attach extra pages if desired)**: Photos, Roll# RBF001, Exp: 237-238

19. **Artifacts Collected?** ☐ Yes ☒ No

If yes, provide repository information:

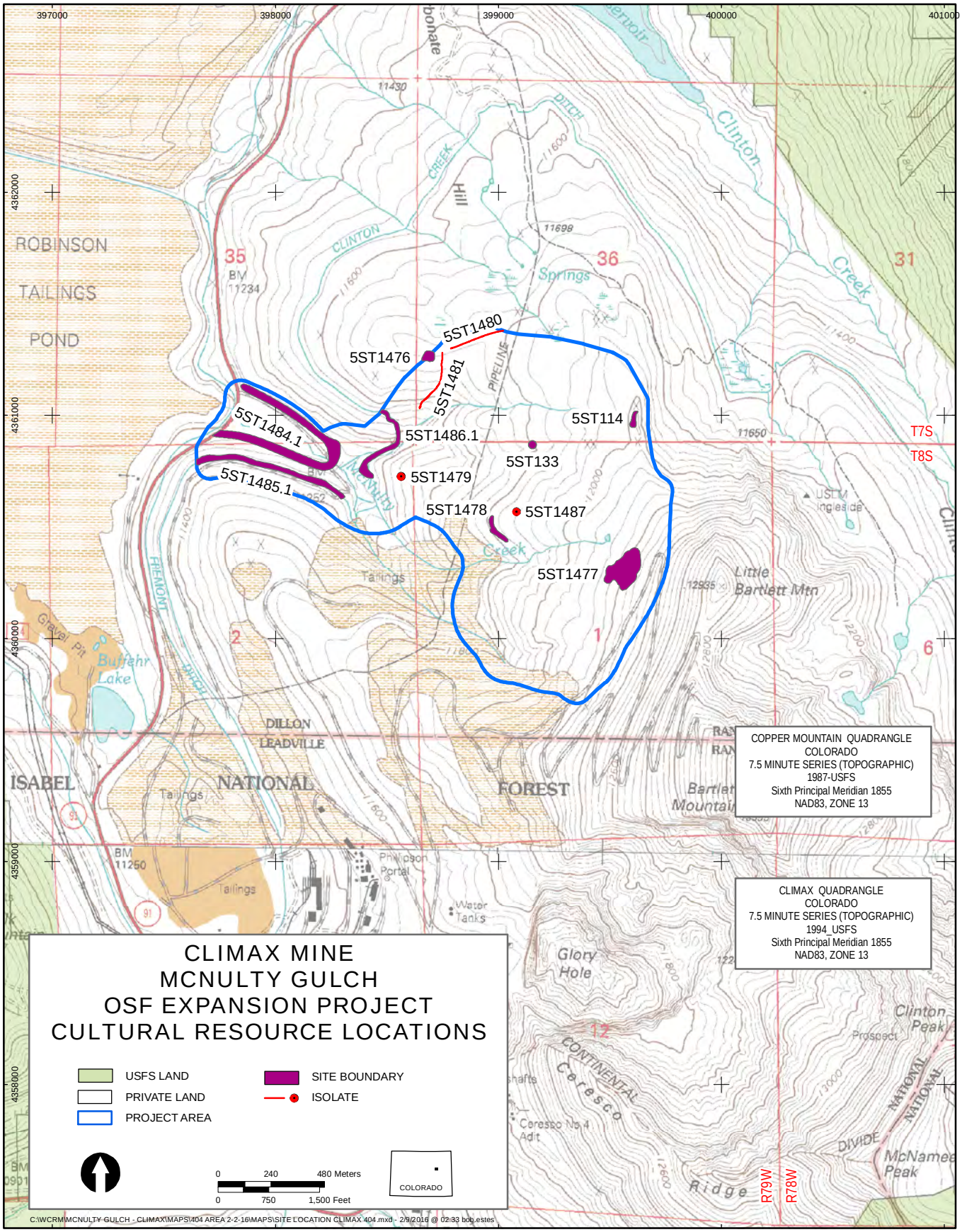
20. **Report Title and Project Number**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089

21. **Recorder and Affiliation**: R. Fiske, J. Mueller, A. Sapula, Western Cultural Resource Management, Inc.

Date: 7/18/14

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

5ST1480, linear ditch with axe-hewn tree trunks along its length, view to southwest.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COLORADO CULTURAL RESOURCE SURVEY

Archaeological Isolated Find/Feature Form

OAHP 1408
Rev. 11/10

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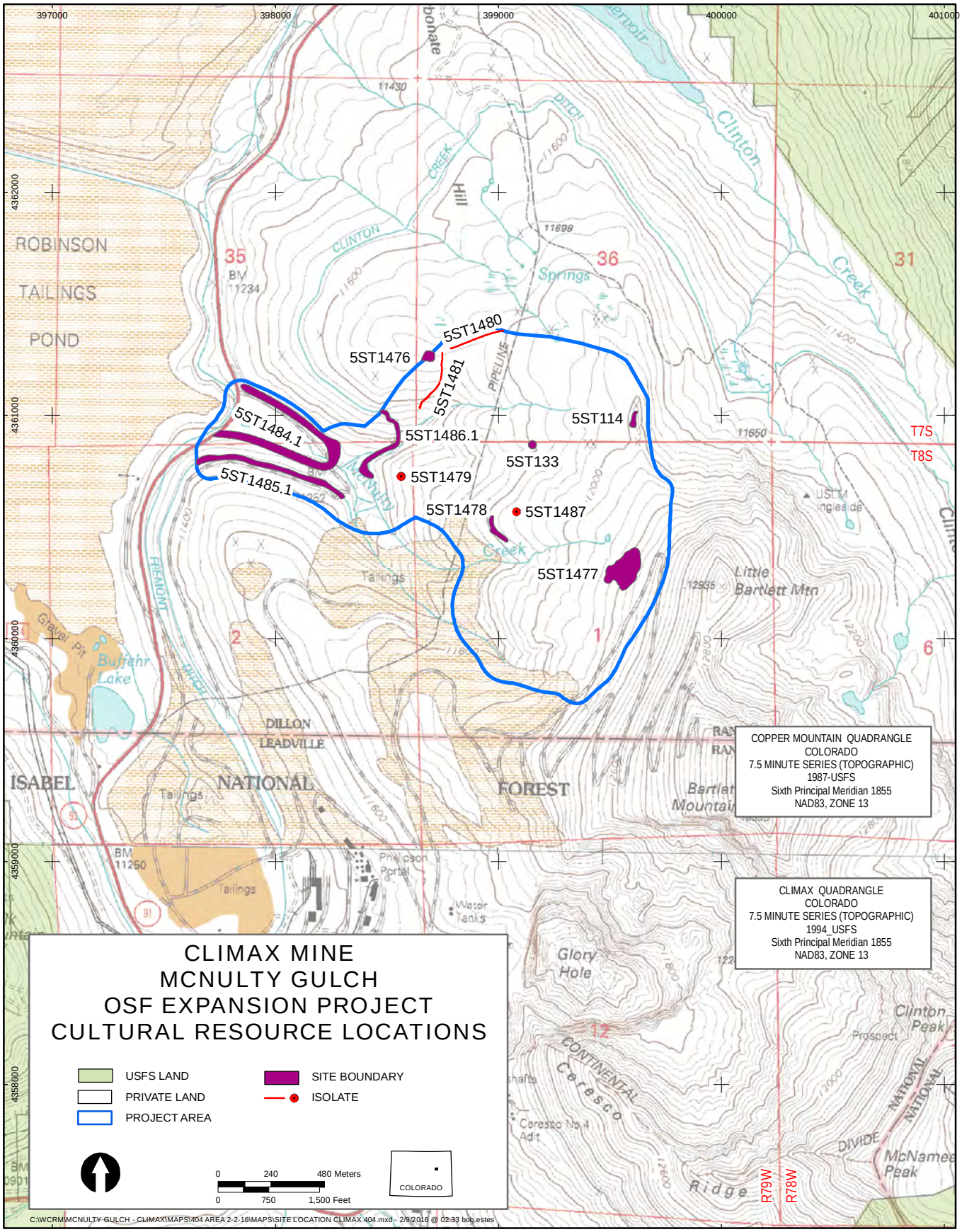
1. **Site Number**:	5ST1481	2. **Temporary Resource Number**:	CCC12	3. **County**:	Summit						
4. **Recorder's Definition of Isolated Find**: Isolated artifacts/features are the occurrence of four or fewer pieces of debitage, tools, tool fragments, or historic debris not from the same item or the occurrence of an isolated feature.											
5. **PM**	6	**Township**	7S	**Range**	79W	**Section**	36	SW	¼	SW	¼
If section is irregular, explain alignment method:											
6. **USGS Quad**: Copper Mountain Quad, 7.5' 1987							7. **Elevation**:	11,520 - 11,780 ft			
8. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:						
Zone:	13;	398738	mE	4361147	mN						
9. **UTM Source**:	☐ Corrected GPS/rectified survey (<5m error)	☐ Uncorrected GPS	☐ Map template								
Other (explain):	A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.										
10. **Landowner**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004											
11. **Describe Artifact(s) and their distribution**:											
☒ No artifacts											
12. **Describe Feature (include dimensions)**: 5ST1481 is a water diversion ditch, generally 4-8" wide, 1-2' deep. It descends down a southeast-facing ridge slope above a seasonal creek.											
☐ No features											
13. **Cultural Affiliation and Justification**: Unknown											
14. **Time Period and Justification**: Unknown											
15. **Relevant environmental information (e.g., elevation, topography, soils, vegetation, nearby water source)**: 5ST1481 runs along a southeast-facing ridge slope, along the interface between alpine grasses and forbs, and a spruce forest. Soil is reddish-brown, silty sand.											
16. **Is this isolate located in a cultural landscape?**	☐ Yes	☒ No									
If yes, describe:											
17. **Why is this isolated find not eligible for the National Register?** The isolate will not yield additional information and is not within an intact historic landscape. There were no artifacts associated with the possible ditch and no evidence of intact subsurface cultural deposits.											
18. **Additional Information (e.g., narrative, drawings, photographs, sketch map; attach extra pages if desired)**: Photos, Roll# RBF001, Exp: 252-256											
19. **Artifacts Collected?**	☐ Yes	☒ No									
If yes, provide repository information:											
20. **Report Title and Project Number**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089											
21. **Recorder and Affiliation**: R. Fiske, J. Mueller, A. Sapula, Western Cultural Resource Management, Inc.											
Date: 7/18/14											

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Denver, CO 80203
303-866-3395

5ST1481, water diversion ditch, view to south.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COPPER MOUNTAIN QUADRANGLE
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Sixth Principal Meridian 1855
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MCNULTY GULCH
OSF EXPANSION PROJECT
CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
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COLORADO CULTURAL RESOURCE SURVEY

Archaeological Isolated Find/Feature Form

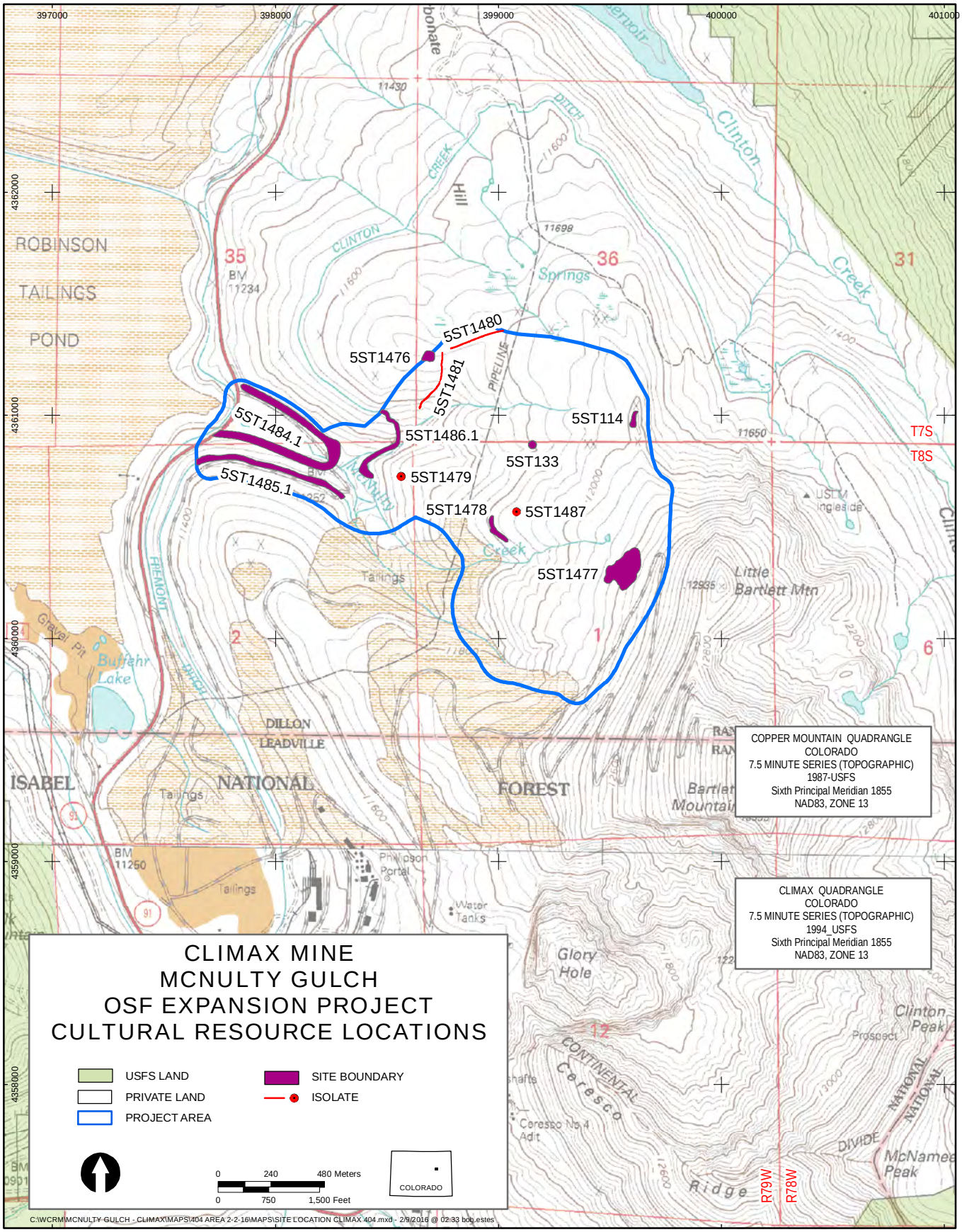
OAHP 1408
Rev. 11/10

This form is not to be used for phenomena that are eligible for the National Register or are part of the built environment. To be ***only*** used for phenomena that meet the requirements of the recorder's definition as provided below. A map at 1:24,000 scale with IF clearly plotted must be attached.

1. **Site Number**:	5ST1487	2. **Temporary Resource Number**:		3. **County**:	Summit							
4. **Recorder's Definition of Isolated Find**: Isolated artifacts/features are the occurrence of four or fewer pieces of debitage, tools, tool fragments, or historic debris not from the same item or the occurrence of an isolated feature.												
5. **PM**	6	**Township**	79W	**Range**	8S	**Section**	1	NE	¼	NW	¼	
If section is irregular, explain alignment method: Template anchored at northeast corner of Section 1												
6. **USGS Quad**: Copper Mountain Quad, 7.5' 1987							7. **Elevation**:	11,880 ft				
8. **UTM Coordinates**:	Datum used	☐ NAD 27	☒ NAD 83	☐ WGS 84	Other:							
Zone:	13;	399082	mE	4360567	mN							
9. **UTM Source**:	☐ Corrected GPS/rectified survey (<5m error)	☐ Uncorrected GPS	☐ Map template									
Other (explain):	A Trimble GPS unit that is accurate to <5m error was used but is not a corrected GPS.											
10. **Landowner**: Climax Molybdenum Company, Subsidiary of Freeport-McMoRan, Inc., 333 N. Central Ave., Phoenix, AZ 85004												
11. **Describe Artifact(s) and their distribution**: 5ST1487 is a biface possibly made from Trout Creek jasper. It measures approximately 6.8 cm long by 3.7 cm wide. It appears to have been made from a flake with one edge not "sharpened." Large recent flake removals appear to be focused on thinning the biface. One edge appears to have been straightened using edge trimming.												
☐ No artifacts												
12. **Describe Feature (include dimensions)**:												
☒ No features												
13. **Cultural Affiliation and Justification**: Prehistoric/Unknown												
14. **Time Period and Justification**: Unknown												
15. **Relevant environmental information (e.g., elevation, topography, soils, vegetation, nearby water source)**: The isolate was found on a west facing slope at an elevation of 11,880 ft. The soil is reddish-brown silty sand. Vegetation is an alpine grassland community with native grasses and forbs. Ground visibility is less than 15% with thick grasses dominating.												
16. **Is this isolate located in a cultural landscape?**	☐ Yes	☒ No										
If yes, describe:												
17. **Why is this isolated find not eligible for the National Register?** The isolated biface is not within a prehistoric landscape and there is no evidence of intact subsurface cultural deposits.												
18. **Additional Information (e.g., narrative, drawings, photographs, sketch map; attach extra pages if desired)**: Photos: Roll# RBF001, Exp: DSCF0864 and DSCF0865												
19. **Artifacts Collected?**	☒ Yes	☐ No										
If yes, provide repository information: The artifact was returned to Climax, the private landowner, on August 10, 2015.												
20. **Report Title and Project Number**: *An Intensive Level Cultural Resource Inventory of the Climax Mine's McNulty Gulch Overburden Storage Facility Expansion Project, Summit County, Colorado*; WCRM Project # CLIM-MCN/13-B-089												
21. **Recorder and Affiliation**: Collected by Climax contractor that was conducting seepage/flow studies and returned to Climax; artifact examined by WCRM.												
Date: 7/17/14												

5ST1487, dorsal view, biface, ~6.8 cm long x 3.7 cm wide. It is probably made from Trout Creek jasper.

5ST1487, ventral view, biface, ~6.8 cm long x 3.7 cm wide. It is probably made from Trout Creek jasper.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CULTURAL RESOURCE LOCATIONS
USFS LAND
PRIVATE LAND
PROJECT AREA
SITE BOUNDARY
ISOLATE
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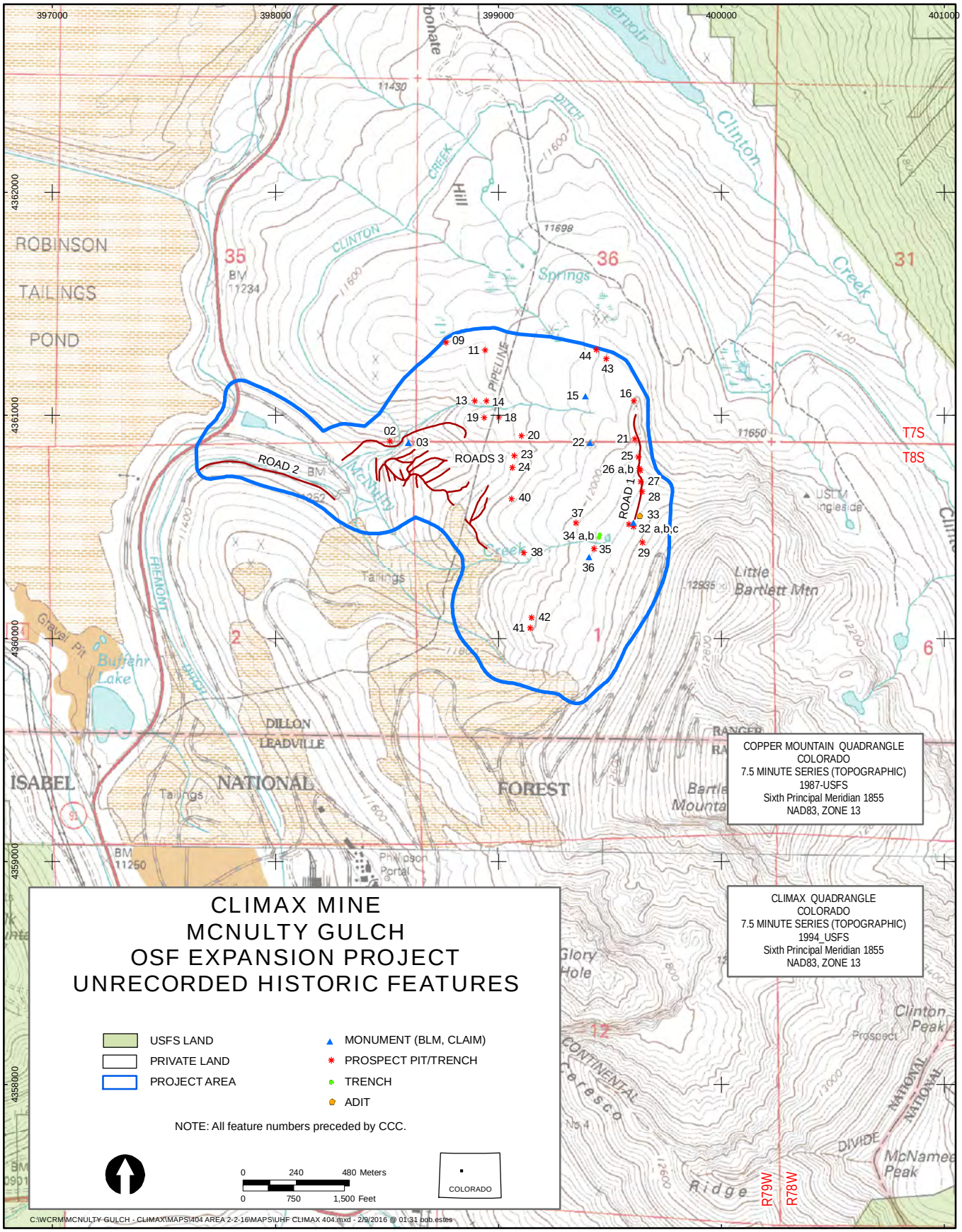
APPENDIX II:
CLIMAX MOLYBDENUM
MCNULTY GULCH OSF EXPANSION PROJECT
UNRECORDED HISTORIC FEATURES (UHF) MAP


CLIMAX MINE
MCNULTY GULCH
OSF EXPANSION PROJECT
UNRECORDED HISTORIC FEATURES
USFS LAND
PRIVATE LAND
PROJECT AREA
MONUMENT (BLM, CLAIM)
PROSPECT PIT/TRENCH
TRENCH
ADIT
NOTE: All feature numbers preceded by CCC.
0 240 480 Meters
0 750 1,500 Feet
COLORADO
COPPER MOUNTAIN QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1987-USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
CLIMAX QUADRANGLE
COLORADO
7.5 MINUTE SERIES (TOPOGRAPHIC)
1994_USFS
Sixth Principal Meridian 1855
NAD83, ZONE 13
ROADS 3
ROAD 1
ROAD 2
PIPELINE
ROBINSON
TAILINGS
POND
Buffehr Lake
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APPENDIX E – 401 WATER QUALITY CERTIFICATION

From: Garncarz - CDPHE, Scott
To: Kelts, Diana
Subject: [External] Re: Climax Mine 401 Certification
Date: Tuesday, February 8, 2022 3:26:14 PM

Caution: External Email

Hello Ms. Kelts, after reviewing the original 401 regular certification and associated materials for the project, and as you stated in your email that the project has not changed, the original 401 regular certification is still valid and will cover the five year extension for the project.

Please let me know if you have any other questions.

Thank you,
Scott

On Tue, Feb 8, 2022 at 7:28 AM Kelts, Diana <dkelts@fmi.com> wrote:

> Mr. Garncarz,
>
> The Climax Mine is requesting clarification on the 401 Certification (copy attached) that was issued Sept. 22, 2016 in relation to the US Corps of Engineers 404 permit # SPK-2013-000045. The 404 permit expires in July of 2022 and the Climax Mine intends to request a 5 year extension of the permit since not all disturbance associated with the permit has occurred. There are no changes in the scope of the activities or associated potential impacts authorized under the 404 permit and the 401 Certification. In speaking to our Corps of Engineers Project Manager Ben Wilson, he asked that Climax confirm that the 401 Certification would cover this extension. In reading the CDPHE 401 certification regulations 5 CCR1002-82, it is our understanding that the 401 Certification is in place not only for the duration of the construction of the Project, but also the duration of the operation of the Project (see 5 CCR1002-82.3(C)). Can you confirm that the 401 Certification will cover the Climax Mine for a 5 year extension of the 404 Permit?
>
> Thank you
>
> **Diana Kelts**
>
> **Climax Molybdenum Company – Climax Mine**
>
> **Environmental Manager**
>
> **719-486-7525**
>
> **www.ClimaxMoinCo.com**

--
Scott Garncarz
Water Quality Assessor/401 Certifications
Environmental Data Unit
(720) 263-1896

Office:
P 303.692.2374 | F 303.782.0390
4300 Cherry Creek Drive South, Denver, CO 80246-1530
scott.garncarz@state.co.us | www.colorado.gov/cdphe/wqcd | www.colorado.gov/cdphe/401 Certifications

COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

September 22, 2016

Climax Molybedenum
Attn: Raymond Lazuk
11236 Highway 91-Fremont Pass
Climax, CO 80429

Re: **Section 401 Water Quality Certification**
Colorado 401 Certification No.: 4383
US Corps of Engineers 404 Permit No.: SPK-2013-000045
Description: Expansion of the existing overburden storage facility
Location: Lat: N39 23 4.475; Long: W-106 10 35.788
Watercourse: McNulty Gulch, Upper Colorado River Basin, Segment 13 Upper Colorado River Sub-basin (COUCBL13)
Designation: Reviewable

Dear Mr. Lazuk:

The Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (Division) has completed its review of the subject Clean Water Act (CWA) Section 404 Permit Application, and our preliminary determination with the issuance of the State of Colorado 401 Certification Public Notice (5 CCR 1002-82.5(B)). An antidegradation review has also been completed pursuant to Regulation No. 31, Basic Standards and Methodologies for Surface Water (5 CCR 1002-31). The Division's review concluded that only temporary impacts to water quality should occur as a result of this project.

This letter shall serve as official notification that the Division is issuing "Regular Certification" in accordance with 5 CCR 1002-82.5(A)(2). This certification is only applicable to Alternative 2 described as "200 MT OSF Expansion in McNulty Gulch With Wetlands (Fen) Avoidance" as identified in the Section 404 Alternatives Analysis, McNulty Gulch Overburden Storage Facility (OSF) Expansion (February 2016). This certification is not applicable if another alternative is selected by USACOE.

The 401 Certification issued by the Division pursuant to 5 CCR 1002-82.3(C) shall apply to both the construction and operation of the project for which a federal license or permit is required, and shall apply to the water quality impacts associated with the project. This certification does not constitute a relinquishment of the Division's authority as defined in the Colorado Water Quality Control Act, nor does it fulfill or waive any other local, state, or federal regulations.

If you have any questions or need additional information, please contact me at (303) 692-3586.

Sincerely,

John Hranac
Water Quality Assessor
Environmental Data Unit
Water Quality Control Division

Attachment

cc: US Army Corps of Engineers, Western Colorado Regulatory Office
Applicant's Agent, Mr David Mehan, Bikis Water Consultants-SGM
File

Certification Requirements:

(A) The following requirements shall apply to all certifications:

(1) Authorized representatives from the Division shall be permitted to enter upon the site where the construction activity or operation of the project is taking place for purposes of inspection of compliance with BMPs and certification conditions.

(2) In the event of any changes in control or ownership of facilities where the construction activity or operation of the project is taking place, the successor shall be notified in writing by his predecessor of the existence of the BMPs and certification conditions. A copy of such notification shall be provided to the Division.

(3) If the permittee discovers that certification conditions are not being implemented as designed, or if there is an exceedance of water quality standards despite compliance with the certification conditions and there is reason to believe that the exceedance is caused, in whole or in part, by the project, the permittee shall verbally notify the Division of such failure or exceedance within two (2) working days of becoming aware of the same. Within ten (10) working days of such notification, the permittee shall provide to the Division, in writing, the following:

(a) In the case of the failure to comply with the certification conditions, a description of (i) the nature of such failure, (ii) any reasons for such failure, (iii) the period of non-compliance, and (iv) the measures to be taken to correct such failure to comply; and

(b) In the case of the exceedance of a water quality standard, (i) an explanation, to the extent known after reasonable investigation, of the relationship between the project and the exceedance, (ii) the identity of any other known contributions to the exceedance, and (iii) a proposal to modify the certification conditions so as to remedy the contribution of the project to the exceedance.

(4) Any anticipated change in discharge location and/or quantities associated with the project which may result in water quality impacts not considered in the original certification must be reported to the Division by submission of a written notice by the permittee prior to the change. If the change is determined to be significant, the permittee will be notified within ten days, and the change will be acknowledged and approved or disapproved.

(5) Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions herein is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with limitations and prohibitions herein. The Division shall be notified immediately in writing of each such diversion or bypass.

(6) At least fifteen days prior to commencement of a project in a watercourse, which the Division has certified, or conditionally certified, the permittee shall notify the following:

(a) Applicable local health departments;

(b) Owners or operators of municipal and domestic water treatment intakes which are located within twenty miles downstream from the site of the project; and

(c) Owners or operators of other intakes or diversions which are located within five miles downstream from the site of the project.

The permittee shall maintain a list of the persons and entities notified, including the date and form of notification.

(7) Immediately upon discovery of any spill or other discharge to waters of the state not authorized by the applicable license or permit, the permittee shall notify the following;

(a) Applicable local health departments;

(b) Owners or operators of municipal and domestic water treatment intakes which are located within twenty miles downstream from the site of the project; and

(c) Owners or operators of other intakes or diversions which are located within five miles downstream from the site of the project.

The permittee shall maintain a list of the persons and entities notified, including the date and form of notification.

(8) Construction operations within watercourses and water bodies shall be restricted to only those project areas specified in the federal license or permit.

(9) No construction equipment shall be operated below the existing water surface unless specifically authorized by the 401 certification issued by the Division.

(10) Work should be carried out diligently and completed as soon as practicable. To the maximum extent practicable, discharges of dredged or fill material shall be restricted to those periods when impacts to designated uses are minimal.

(11) The project shall incorporate provisions for operation, maintenance, and replacement of BMPs to assure compliance with the conditions identified in this section, and any other conditions placed in the permit or certification. All such provisions shall be identified and compiled in an operation and maintenance plan which will be retained by the project owner and available for inspection within a reasonable timeframe upon request by any authorized representative of the Division.

(12) The use of chemicals during construction and operation shall be in accordance with the manufacturers' specifications. There shall be no excess application and introduction of chemicals into state waters.

(13) All solids, sludges, dredged or stockpiled materials and all fuels, lubricants, or other toxic materials shall be controlled in a manner so as to prevent such materials from entering state waters.

(14) All seed, mulching material and straw used in the project shall be state-certified weed-free.

(15) Discharges of dredged or fill material in excess of that necessary to complete the project are not permitted.

(16) Discharges to state waters not identified in the license or permit and not certified in accordance therewith are not allowed, subject to the terms of any 401 certification.

(17) Except as otherwise provided pursuant to subsection 82.7(C), no discharge shall be allowed which causes non-attainment of a narrative water quality standard identified in the Basic Standards and Methodologies for Surface Waters, Regulation #31 (5 CCR 1002-31), including, but not limited to discharges of substances in amounts, concentrations or combinations which:

(a) Can settle to form bottom deposits detrimental to beneficial uses; or

(b) Form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses; or

(c) Produce color, odor, or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species, or to the water; or

(d) Are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life; or

(e) Produce a predominance of undesirable aquatic life; or

(f) Cause a film on the surface or produce a deposit on shorelines.

(B) Best Management Practices:

(1) Best management practices are required for all projects for which Division certification is issued except for section 402 permits. Project applicants must select BMPs to be employed in their project. A listing and description of best management practices is located in Appendix I of Regulation No. 82: 401 Certification Regulation 5 CCR 1002-82.

(2) All requests for certifications which require BMPs shall include a map of project location, a site plan, and a listing of the selected BMPs chosen for the project. At a minimum, each project must provide for the following:

(a) Permanent erosion and sediment control measures that shall be installed at the earliest practicable time consistent with good construction practices and that shall be maintained and replaced as necessary throughout the life of the project.

(b) Temporary erosion and sediment control measures that shall be coordinated with permanent measures to assure economical, effective, and continuous control throughout the construction phase and during the operation of the project.

APPENDIX F – ILF PROGRAM STATEMENT OF CREDIT AVAILABILITY

National Forest Foundation

Building 27, Suite 3 , Fort Missoula Road
Missoula, Montana 59804
TEL: 406.542.2805

NATIONALFORESTS.ORG

March 1, 2022

Diana Kelts, Environmental Manager
Climax Molybdenum Company – Climax Mine
11230 CO-91
Leadville, CO 80461

Re: Statement of Credit Availability (33 C.F.R. § 332.8(r)) – Climax Mine

Dear Ms. Kelts:

The National Forest Foundation's (NFF's) Colorado Western Slope In-Lieu Fee Program (ILF Program) and associated Program Instrument (SPK-2014-01100) were formally approved by the U.S. Army Corps of Engineers (USACE) in October 2020. Upon approval of the ILF Program, the NFF became authorized to sell or transfer Advanced Credits as allocated to each Service Area identified in Exhibit E of the approved Program Instrument. Specifically, for the ILF Program's Blue-Eagle Service Area, the NFF became authorized to transfer up to 50 Wetland Advance Credits and 5,000 Stream Advance Credits.

At this time, the NFF is willing and able to commit to a transfer of Wetland Advance Credits in the Blue-Eagle Service Area based on its plans to develop and construct a large-scale ILF Project Site within the Blue-Eagle Service Area within the next three years. Specifically, the NFF intends to develop an ILF Project Site in Summit County, in the upper Blue River watershed, on lands within the White River National Forest, adjacent to Soda Creek. At the proposed 93-acre ILF Project Site, the NFF estimates that there is potential to create 74 acres of re-establishment and 5 acres of enhancement wetland credits and a total of approximately 3,670 linear feet of intermittent stream restoration.

Proposed activities at the ILF Project Site include: connecting extant stream features to historic, currently disconnected intermittent/ephemeral stream and riparian wetland features; engineered channel aggradation or other methods to elevate groundwater surface in areas with severely incised channels; reestablishing connectivity of wetlands and enhancement of existing, degraded wetland features; re-establishing connectivity to historic intermittent stream features; and protection of existing, high-functioning stream and wetland features. The NFF intends to complete baseline studies at the Soda Creek ILF Project Site in CY 2022 and submit the associated Project Development Plan to USACE by early CY 2023.

With this letter, the NFF is declaring its ability and intent to transfer up to 35 of the ILF Program's available 50 Wetland Advance Credits in Blue-Eagle Service Area to Climax Mine before the end of Calendar Year (CY) 2022. The actual number of Advance Credits needed by Climax Mine will be determined by USACE. The Advance Credit transfer would occur via execution of a Credit Transfer Agreement between the NFF and Climax Mine and be reported and recorded in accordance with the terms of the ILF Program Instrument. The NFF is prepared and ready to enter into and execute a Credit Transfer Agreement with Climax Mine for up to 35 Wetland Advance Credits.

Mary Mitsos
President and CEO