STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

# Inspection Report / Schwartzwalder Mine / M-1977-300

**Elizabeth Busby** <ebusby@ensero.com> Thu, Nov 12, 2020 at 8:16 AM
To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>, CLL- Jim Harrington <jim@coloradolegacy.land>
Cc: Billy Ray <bray@ensero.com>, Paul Newman <paul@coloradolegacy.land>, Eric Williams <eric@coloradolegacy.land>, "Cazier - DNR, Tim" <tim.cazier@state.co.us>, "Cunningham - DNR, Michael" <michaela.cunningham@state.co.us>

Hello Amy,

Here is a copy of the USACE permit that discusses the borrow area created by the 2013 flood.

Liz

**Elizabeth Busby, PE**

**Project Manager**

ENSERO solutions

131 E. Lincoln Ave., Suite 200

Fort Collins, CO 80524

P. 970-632-2240 | C. 970-222-0404

https://www.ensero.com/ | ebusby@ensero.com

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**From:** Eschberger - DNR, Amy <amy.eschberger@state.co.us>
**Sent:** Friday, November 6, 2020 11:24 AM
**To:** CLL- Jim Harrington <jim@coloradolegacy.land>
**Cc:** Elizabeth Busby <ebusby@ensero.com>; Billy Ray <bray@ensero.com>; Paul Newman <paul@coloradolegacy.land>; Eric Williams <eric@coloradolegacy.land>; Cazier - DNR, Tim <tim.cazier@state.co.us>; Cunningham - DNR, Michael <michaela.cunningham@state.co.us>
**Subject:** Inspection Report / Schwartzwalder Mine / M-1977-300

Mr. Harrington,

[Quoted text hidden]

**2016-10-21 IRIS SWM Phase 2 Alluvial Fill Characterization & Long-Term Reclamation USACE File No. NOW-2011-1353DEN - B. Leisure.pdf**
18495K

IRIS
MITIGATION AND DESIGN INC.

Environmental Consulting
2022 Arapahoe Street
Golden, Colorado 80401
Phone: 720-272-1985
bleisure@irismitigation.com

# Letter of Transmittal

Date:
October 21, 2016

To: Alex Kostra
U.S. Army Corps of Engineers
9307 South Wadsworth Boulevard
Littleton, CO 80128-6901

From: Blair Leisure
IRIS Mitigation and Design, Inc.
2022 Arapahoe Street,
Golden, Colorado 80401

Dear Alex,

On behalf of Cotter Corporation (N.S.L.), ("Cotter") please find the enclosed 2 packets of material regarding replacements and additions to the Schwartzwalder Mine: Phase 2: Alluvial Fill Area Characterization and Long-Term Reclamation Project. This material is to replace and add to material regarding the Pre-Construction Notification and Biological Assessment as was submitted to you in late February, 2016 (USACE File # NOW-2011-1353-DEN).

1) Please replace the Pre-Construction Notification - Appendix C (Cultural Resources Survey) with the enclosed Cultural Resources forms and figures. It replaces material following the 7 page Limited-Results Cultural Resource Survey Form and photographs as found in Appendix C. This packet includes background material for the newly proposed work of adding Phase 2 related building materials and waste rock debris into the Glory Hole vertical mine shaft.

2) Please add the enclosed "Supplement to the Schwartzwalder Mine Phase 2 Alluvial Fill Characterization and Long-Term Reclamation Project" to the Biological Assessment (BA). This packet includes newly proposed work which is fully detailed in the supplement and includes total BA impact and mitigation calculations.

Thank you for your assistance with this project. Please call or e-mail me with any questions or to discuss these packets further.

Sincerely,

IRIS MITIGATION AND DESIGN, INC.
Blair Leisure
Principal and Senior Scientist

Cc: Leslie Ellwood, U.S. Fish and Wildlife Service
Ken Mushinski, Cotter
Bob Noren, Cotter
Steve Cohen, Cotter

Encl.

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# SUPPLEMENT TO THE SCHWARTZWALDER MINE PHASE 2 ALLUVIAL FILL AREA CHARACTERIZATION AND LONG-TERM RECLAMATION PROJECT

## USACE FILE NUMBER NOW-2011-1353DEN

A Section 404 Permit Application and associated Biological Assessment ("BA") for the proposed Schwartzwalder Mine ("Site") Alluvial Fill Area Characterization and Long-Term Reclamation Project ("Project") was submitted to both the U.S. Army Corps of Engineers ("USACE") and the U.S. Fish and Wildlife Service ("USFWS") in February 2016 (see Figures 1 and 2). On behalf of Cotter Corporation (N.S.L.) ("Cotter"), we request that this additional enclosed Project supplement be included in the overall proposed Project impact and mitigation at the Site. These two new proposed upland areas located within the Preble's meadow jumping mouse (*"Zapus hudsonius preblei"*) ("PMJM") PMJM 394 foot set-back along Ralston Creek ("the Creek") will now be impacted as part of this Phase 2 Project work. The newly proposed impact and additional mitigation to offset the impact to these two upland areas are detailed in this supplement to the Section 404 Permit Application and associated BA.

**Proposed Road Widening**

A dirt road is located west of the Steve Portal that winds south up the hillside into Jefferson County Open Space (see Figures 2 and 3). There are several mine portals located along this dirt road above the Site. During the proposed Project excavation, several structures such as the existing water treatment plant will be demolished and parts of that structure along other mine waste and potentially some

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excavated waste rock will be placed into a vertical mine hole ("Glory Hole"). The Glory Hole is accessible through the Minnesota adit located along this dirt road. Heavy construction equipment will need to utilize this dirt road, which is now approximately 7-8 feet wide except at several bends where the road is widened (see Figures 3 and 4). The dirt road will need to be widened by approximately 3 feet to enable its safe use by heavy equipment.

On behalf of Cotter, IRIS Mitigation and Design Inc. ("IRIS") Senior Scientist Blair Leisure and Christopher Rice, a GPS survey technician, visited the site in September 2016 to survey the existing dirt road. This survey information later helped to identify where within the 394 foot PMJM set-back the road is located, as shown on Figures 3 and 4. Approximately 643 linear feet of the existing dirt road is within the PMJM set-back and has been mapped as previously disturbed upland non-habitat as it is heavily disturbed due to past and on-going mining activities (see Figure 3).

The proposed road widening includes excavation from approximately 3 feet on the inside edge of the road and placement of this material on the berm which exists on the west side of the road. We therefore assume an approximately 7-foot wide area of impact up this existing road corridor on either side (see Figure 4). Existing vegetation along the road is sparse with upland grasses and other herbaceous species including a majority of weedy species. The berm on which the excavated material will be placed is also sparsely vegetated with upland grasses and a majority of weedy species. We expect a total of 0.05 acre of impact to previously disturbed upland and 0.04 acre of impact to undisturbed upland habitat which is within the 394-foot set-back for PMJM habitat (see Figure 4). This

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total of 0.09 acre of upland impact will be mitigated for through the restoration of impacted non-habitat upland and will be added to the overall impact and mitigation at the site as shown on Tables 1 and 2.

**2013 Flood Landslide**

The September 2013 Flood event brought enormous amounts of material including silt, cobble and rock down into the Schwartzwalder mine valley from adjacent steep side slopes. Some material came down in such concentrated amounts and at such velocities as to create a landslide into the valley below. One such location is shown on Figures 5 and 6 both before and after the Flood. This large amount of debris covered existing upland habitat up to 20 feet deep and ripped out many of the existing trees and shrubs. Some of the trees were partially to totally buried under this rock and debris causing trees to die over the next one to two year time period (see Figures 5 and 6). IRIS has determined that this 1.1 acre area was so heavily impacted in September 2013 as to be considered previously impacted upland non-habitat for PMJM (see Figures 5 and 6). A portion of this rock, cobble and silt were used in 2014 and 2015 to help re-build the access road to the site which was also destroyed during the Flood. Another portion of this area is currently re-establishing with upland grasses, trees and shrubs (0.22 acre) so that it now could be considered previously disturbed upland habitat for PMJM (see Figure 7).

On behalf of Cotter, we request that the remaining 0.22 acre of rock, silt and cobble be utilized to partially cap the waste rock piles once the Phase 2 excavated material is placed on the existing waste rock piles. Therefore, we expect a total of 0.22 acre of impact to previously disturbed upland habitat. The entire 1.1 acres of previously disturbed non-habitat landslide area would be restored to its pre-flood

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upland habitat conditions through earthwork, soil improvement, native grass, tree and shrub seeding and planting following Phase 2 construction work (see Table 1). This impact and mitigation has been added to the overall BA proposed impact and mitigation as shown on Table 2.

## Table 1

**2016 Project Supplement - Additional Two New Areas**
**Proposed Impact and Mitigation**

| | Existing Dirt Road | Proposed Road Widening | Existing Landslide Area | Proposed Material Excavation Impact | Total Impact and Mitigation |
|---|---|---|---|---|---|
| Previously Disturbed (Non-Habitat) Upland | 0.14 acres | | 0.88 acres | | |
| Previously Disturbed Upland Habitat | | 0.05 acres | | 0.22 acres | 0.27 acres |
| Undisturbed Upland Habitat | | 0.04 acres | | | 0.04 acres |
| **Proposed Total Impact** | | **0.09 acres** | | **0.22 acres** | **0.31 acres Total Impact** |
| **Proposed Total Mitigation** | | **0.14 acres Upland Restoration within 1.1 acres Landslide Non-Habitat Location** | | **0.33 acres Upland Restoration within 1.1 acres Landslide Non-Habitat Location** | **0.47 acres Total Mitigation** |

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**Supplement Summary**

This Project supplement to the Schwartzwalder Mine Phase 2 Alluvial Fill Area Characterization and Long-term Reclamation project includes an additional 0.27 acres of impact to previously disturbed upland habitat and 0.04 acres of impact to undisturbed upland habitat. This total of 0.31 acres of PMJM upland habitat impact will be mitigated for within the 1.1 acres of heavily disturbed non-habitat landslide area (Table 1). This non-habitat landslide area will be largely restored to pre-Flood conditions with removal of all rocks, cobble, and silt. Also, this area will be largely restored back to pre-Flood grade through earthwork and landscaping such as soil amendments, seeding, planting and mulching of upland native species as detailed in the 2016 BA. A more detailed final planting plan will be prepared for USACE and USFWS review and approval before restoration activities commence following Phase 2 Project excavation activities. These numbers are further detailed in Table 2 and include the Phase 2 Project proposed impacts and mitigation in its entirety.

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# BIOLOGICAL ASSESSMENT SUMMARY

The following section summarizes and updates Section 5 of the 2016 BA as previously submitted.

## Site Characterization and Reclamation

Site characterization and reclamation along the Creek will have permanent and temporary impacts to both previously disturbed and undisturbed PMJM riparian and upland habitat along the Creek (see 2016 BA: Figure 3 – Existing Conditions and Figure 6 – Phase 2 Project Impact and this Project Supplement Figures 4 and 7).

## Permanent Impacts

Permanent direct and indirect habitat impacts will total approximately 16.2 acres (see 2016 BA: Tables 2 - 5 and 17 and Figure 6 – Phase 2 Project Impacts and this Project Supplement Tables 4 and7). A total of 6 acres of permanent impact will occur to previously disturbed upland area not considered to be PMJM habitat (see Table 2).

There will be approximately 7.79 acres of permanent direct impact to previously disturbed PMJM upland habitat and 0.57 acres of permanent direct impact to undisturbed upland habitat (see 2016 BA: Tables 2 – 5 and 17 and Figure 6 – Phase 2 Project Impacts and this Project Supplement Figures 4 and 7 and Table 2). This impact will be mainly due to excavation, material characterization, and permanent storage. If the material is found to have radium concentrations greater than 7 pCi/g, the material will be

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removed and stored as described earlier in this report. It is anticipated that there will be grade changes in this habitat type.

Lastly, there will be permanent direct and indirect impact to 1.24 acres of riparian habitat and 0.6 acres of creek bed (see 2016 BA: Tables 4 and 5).

**Temporary Impacts**

There will be approximately 0.39 acres of temporary and indirect impacts to previously disturbed PMJM riparian habitat due to the low flow bypassing the Creek through the 18-inch bypass pipeline. This pipeline was installed to keep the creek bed dry during Phase 2 excavation activities.

The riparian habitat impact includes 0.39 acres of temporary impact to previously disturbed riparian areas (see 2016 BA: Tables 6 and 17 and Figure 6 – Phase 2 Project Impacts). The previously disturbed riparian area is located between Zones 1 to 4 on both sides of the Creek.

**Staging and Access Area Impacts**

Additional items that may cause temporary impacts to previously disturbed PMJM upland non-habitat and PMJM upland habitat include use of staging and stockpile areas, and equipment access to and around the work area (see 2016 BA: Table 17 and Figure 6 – Phase 2 Project Impacts). These activities will have only temporary impacts to what is considered PMJM upland non-habitat or previously disturbed habitat. All areas will be restored following Phase 2 construction activities.

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**Summary of Impacts**

Phase 2 proposed work will have both permanent and temporary impacts to previously disturbed upland non-habitat, previously disturbed and undisturbed upland habitat, previously disturbed riparian habitat, and creek bed. Impacts are considered permanent for this project where placement of concrete, boulders, or riprap, or a significant change in existing grade is planned.

There will be 6.0 acres of permanent direct impact to previously disturbed upland non-habitat, 7.79 acres of permanent direct impact to previously disturbed upland habitat, 0.57 acres of direct and permanent impact to undisturbed upland, 0.56 acres of direct and permanent impact to previously disturbed riparian habitat, 0.68 acres of indirect and permanent impact to riparian habitat, and 0.6 acres of direct and permanent impact to creek bed (see 2016 Biological Assessment: Tables 2 – 6, 8, and 17, and Figure 6 – Phase 2 Project Impacts and this Project Supplement Table 2).

In addition, all impacted trees and shrubs were counted by Zone and habitat type in the impacted areas (see 2016 BA: Appendix B – Tree and Shrub Count). A total of 669 riparian trees, 3,222 willows, and 524 riparian shrubs will be impacted either side of the Creek between Zones 4 and 12. A total of 175 upland trees and 769 upland shrubs will be impacted in upland areas around the Site. All trees and shrubs will be mitigated for with the same ratios as Phase 1 and as further detailed in the Mitigation Section of the 2016 BA.

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## Table 2

**Phase 2 Total Impacts and Proposed Mitigation**

| Habitat Type | Impact Type | Impact Amount | Proposed Mitigation |
|---|---|---|---|
| Riparian Habitat | Temporary Impact (Indirect) | 0.39 acres | Monitor the 0.39 acres of riparian habitat monthly during growing season and water by truck as necessary. |
| | Permanent Impact (Direct and Indirect) | 1.24 acres | Create/restore 1.5 acres of riparian habitat along the rerouted Creek between Zones 5 and 12. Enhance 0.85 acres of riparian habitat along the Creek west of Zone 5 (includes 0.35 acres of Phase 1 remaining mitigation). |
| Upland Habitat | Permanent Impact (Direct and Indirect) | 8.36 acres | Create/restore 12.87 acres of upland at WRPs, Excavation Area, Landslide Area, and within staging/storage areas (includes 0.3 acres of Phase 1 remaining mitigation). |
| Creek | Permanent Impact (Direct) | 0.6 acres | Create/restore 0.6 acres of new creek bed between Zones 5 and 12. |
| Total Acreage Requiring Mitigation | | 10.2 acres | Create/restore 15 acres of upland and riparian habitat and Creek and enhance 0.85 acres of riparian habitat (includes 0.3 acres of Phase 1 remaining mitigation). |

Upland areas not considered PMJM habitat include the existing unpaved access road up to and crossing the Creek and the landslide area located up the Creek in the north western section of the Site. Any remaining temporary impact to previously disturbed upland and PMJM riparian habitat is due to the need for possible dewatering activities, BMP placement, and both construction and equipment staging

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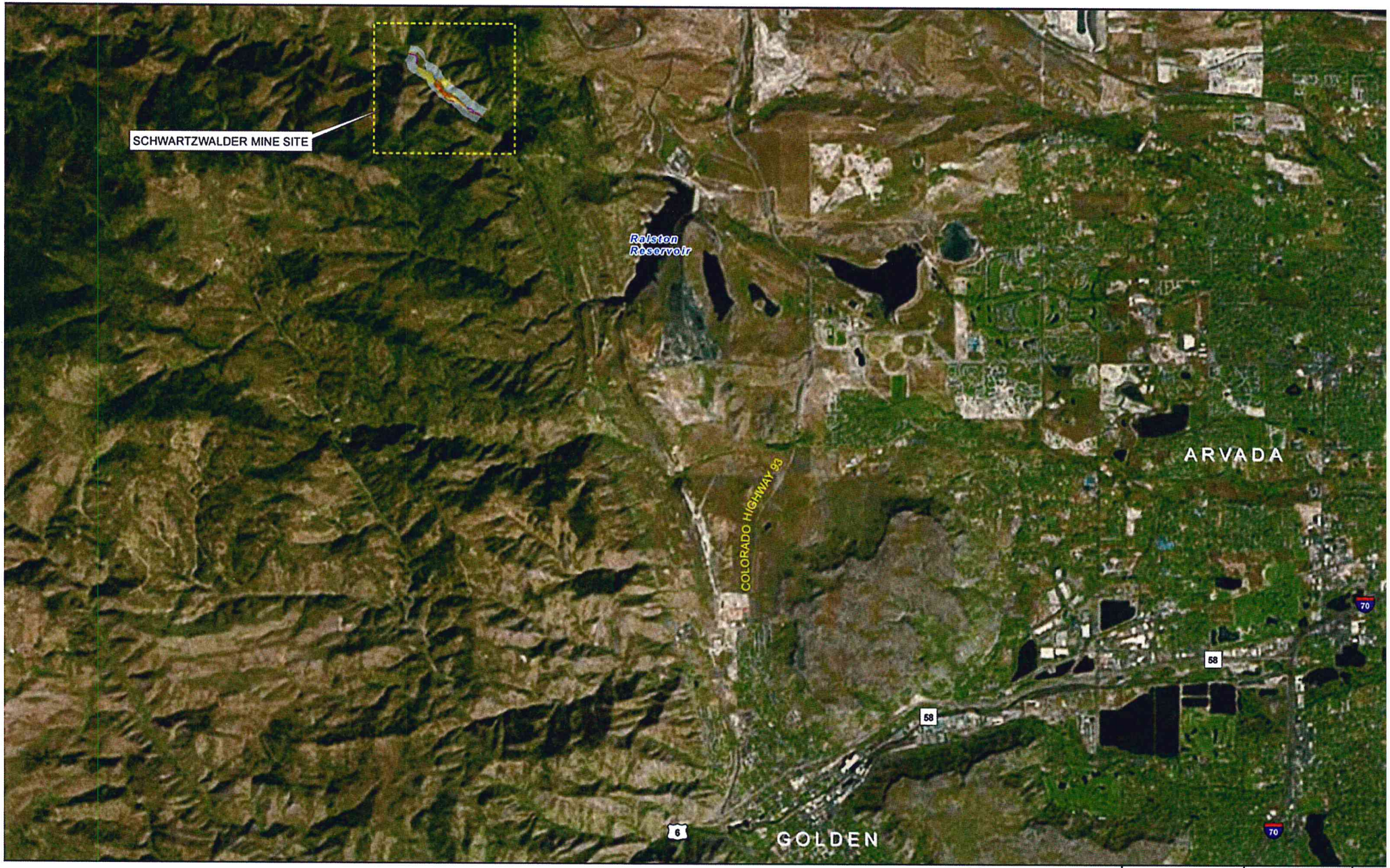
and access. These areas will be restored to pre-construction conditions after Phase 2 construction is complete.

The majority of areas used for construction access, staging, and storage have been located in areas that have already been too heavily impacted to be considered PMJM habitat. These areas will be restored to improved upland habitat conditions after Phase 2 construction is complete.

Please feel free to call Blair Leisure at (720) 272-1985 for further discussion or details regarding this supplemental material.




**VICINITY MAP**

SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

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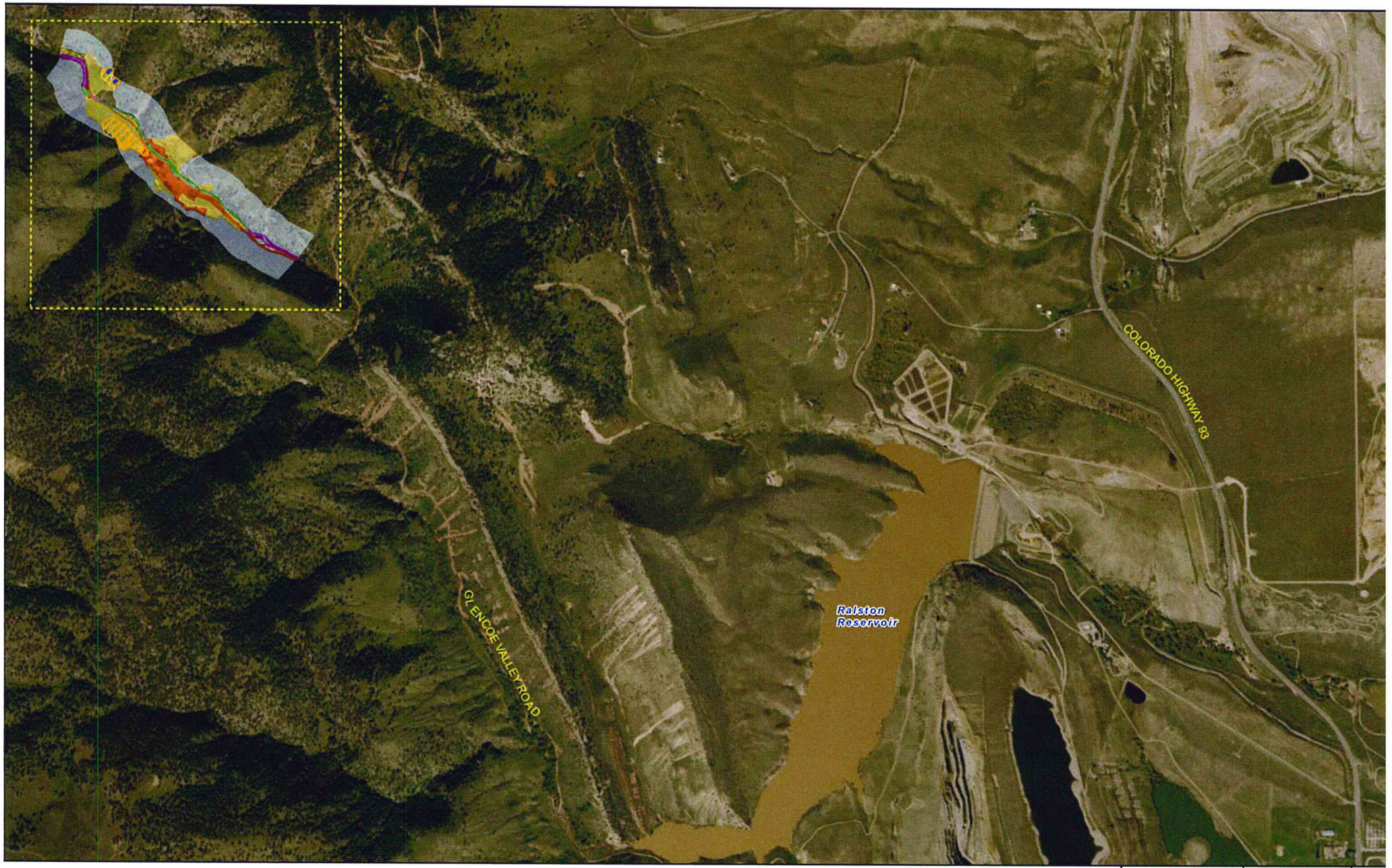
FIGURE 1




**SITE LOCATION**
SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

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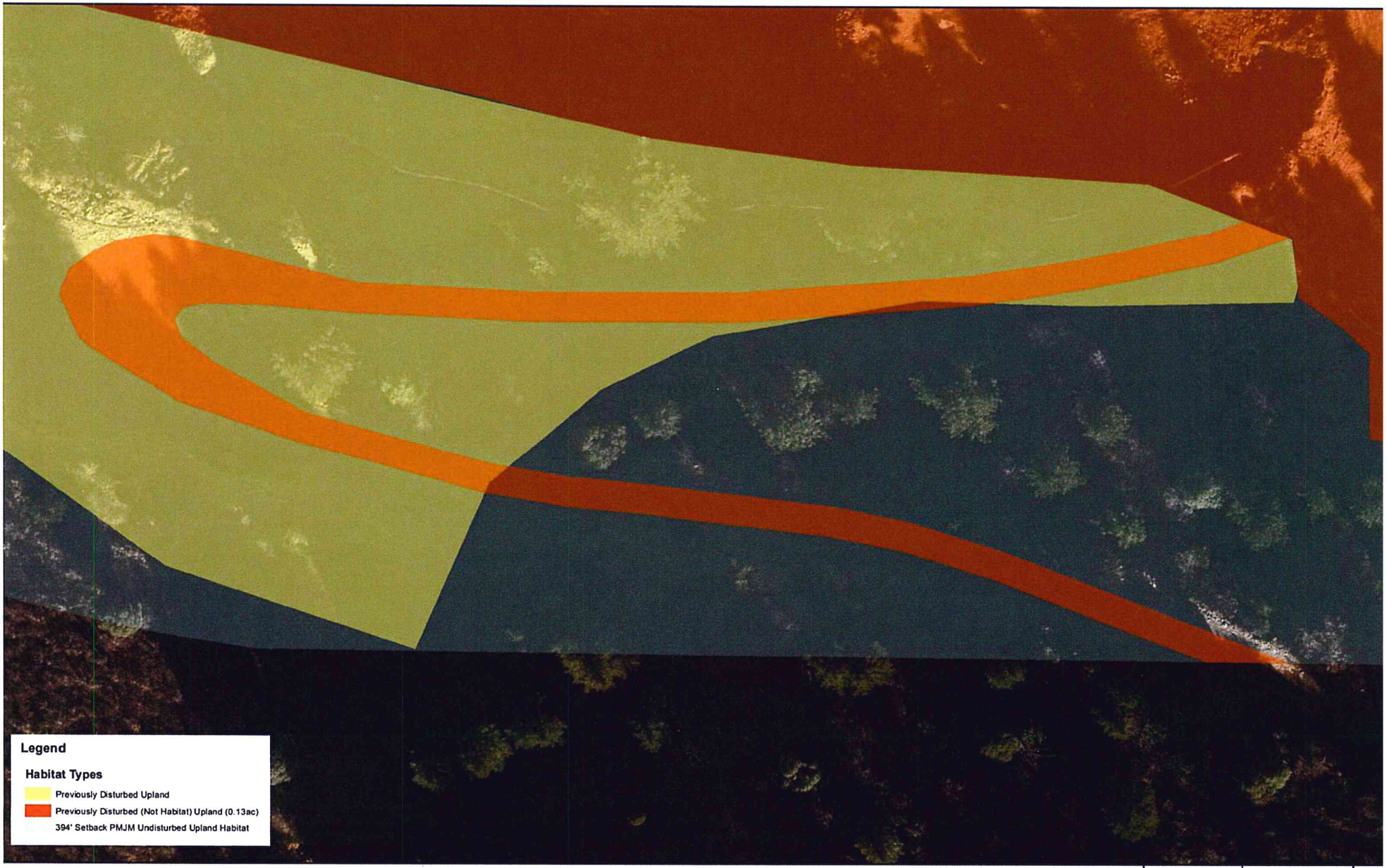
Environmental Consulting

FIGURE
2




**PHASE 2 - EXISTING CONDITIONS - ROAD WIDENING**

SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

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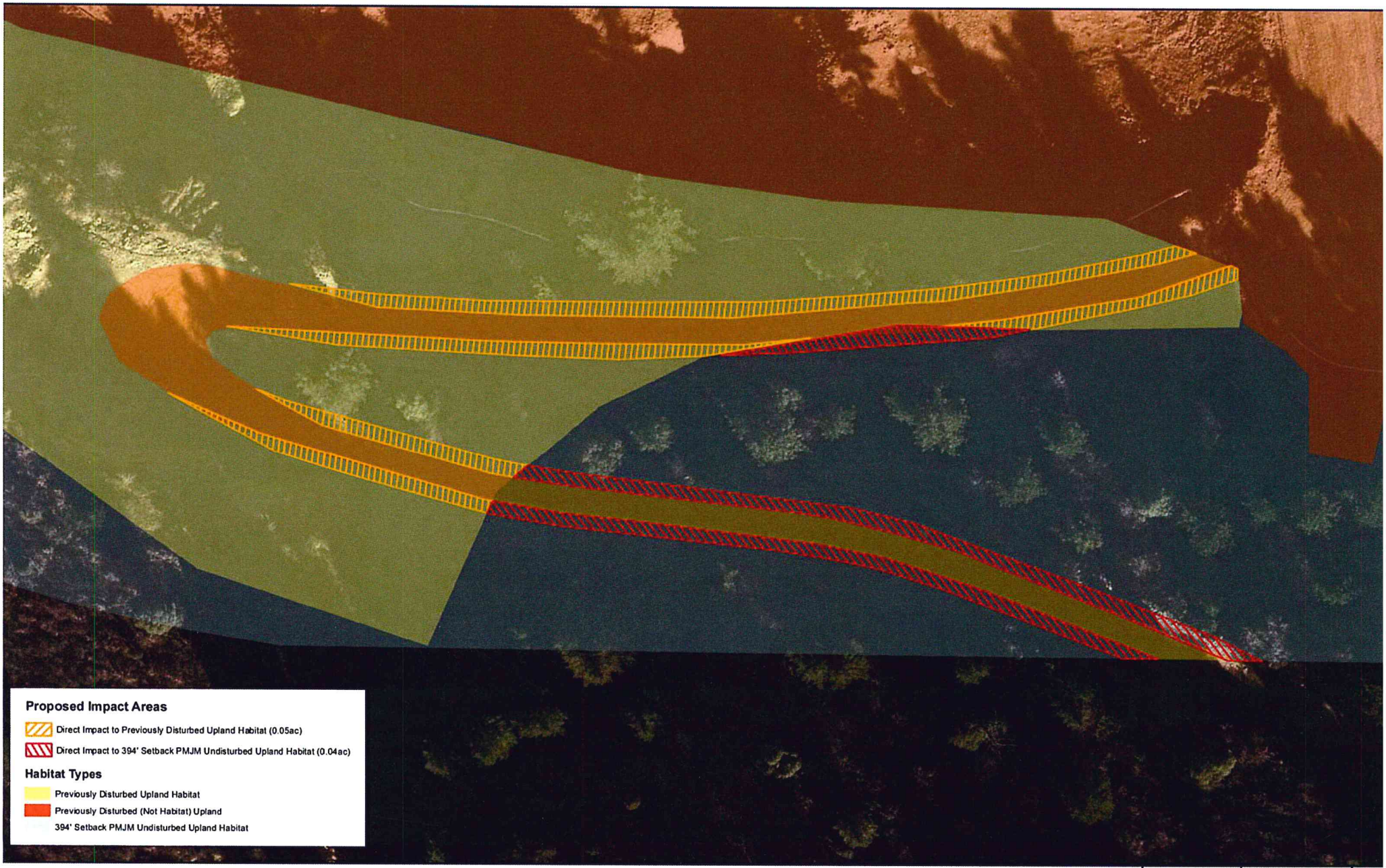
Environmental Consultants

FIGUR
3

Draft Date: Sept. 23, 2016




# PHASE 2 - PROPOSED UPLAND IMPACT DUE TO ROAD WIDENING

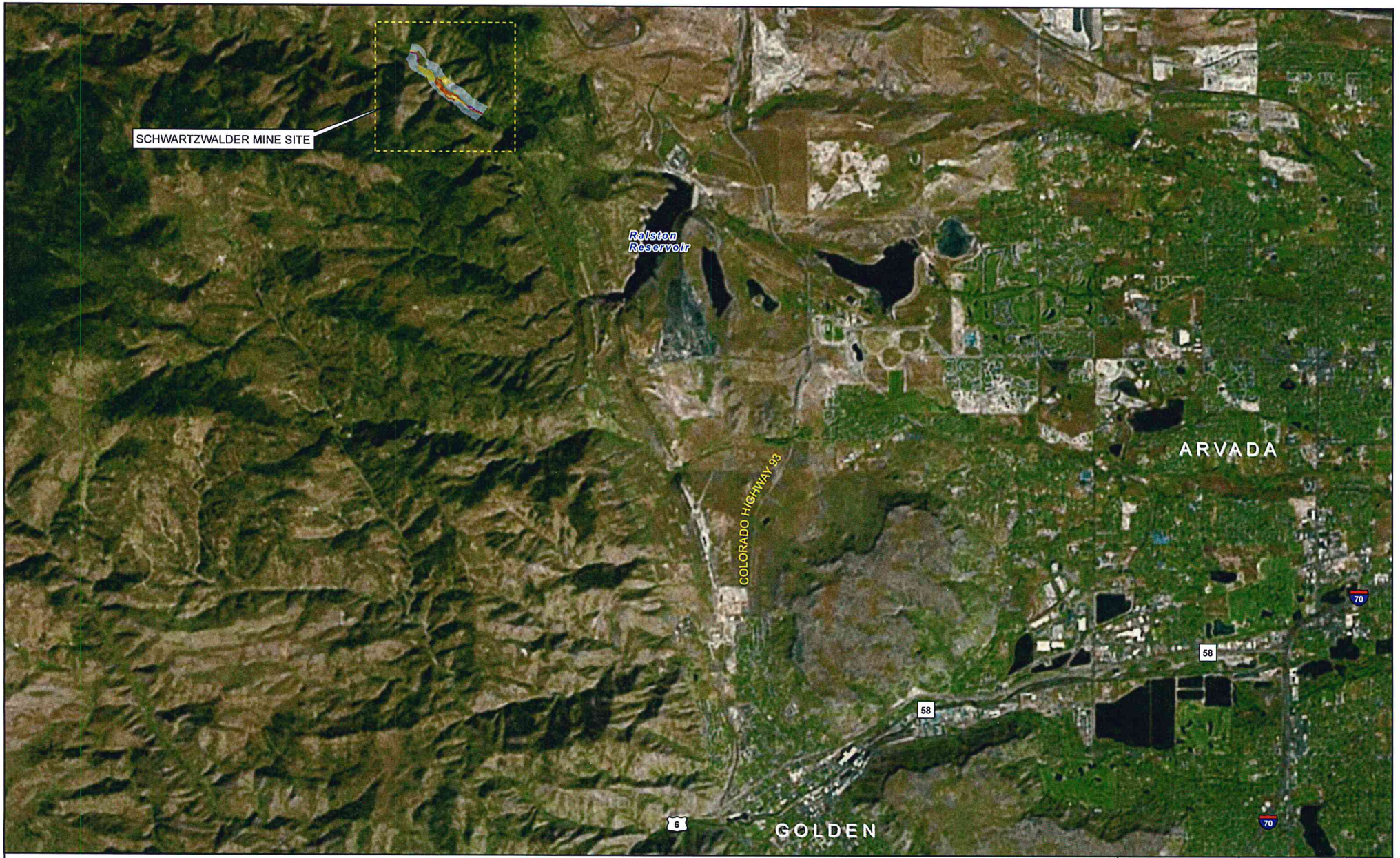
SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

Draft Date: Oct 11, 2016

IRIS Mitigation and Design, Inc.
Environmental Consultants

FIGUR
4

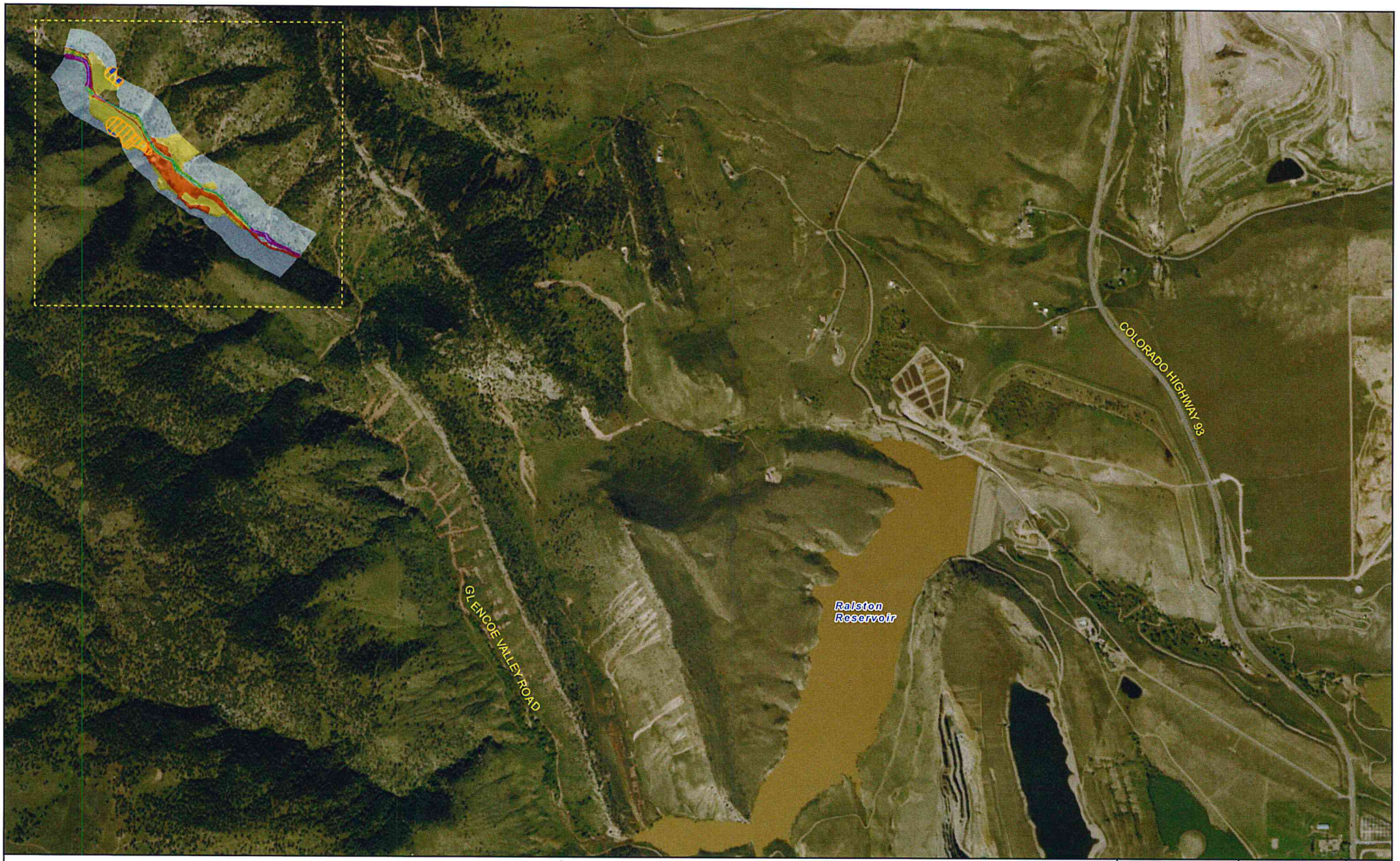



**VICINITY MAP**
SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

IRIS Mitigation and Design, Inc.

FIGURE
1




**SITE LOCATION**
SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

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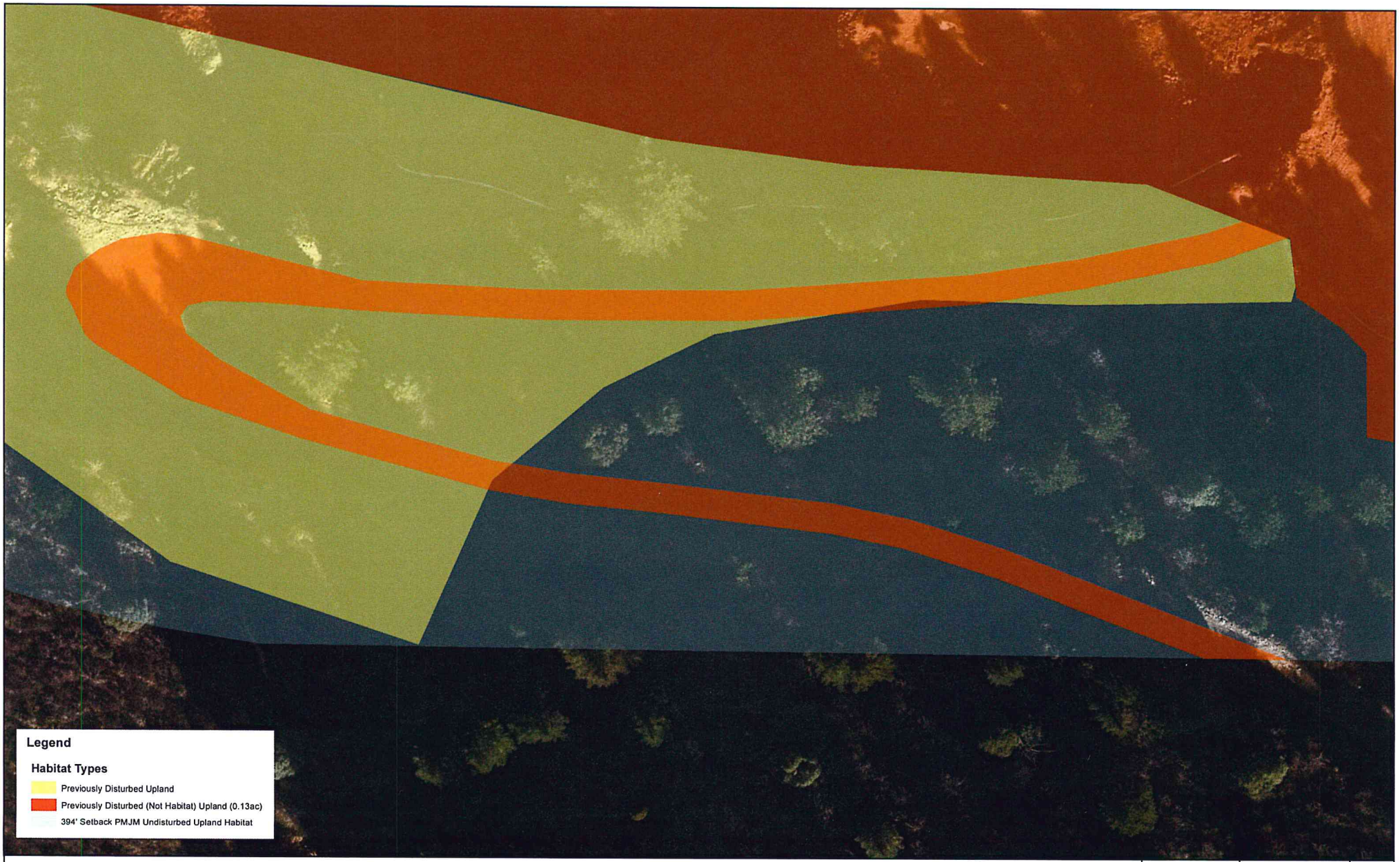
Environmental Consulting

FIGURE
2




Draft Date: Sept. 23, 2016

**PHASE 2 - EXISTING CONDITIONS - ROAD WIDENING**

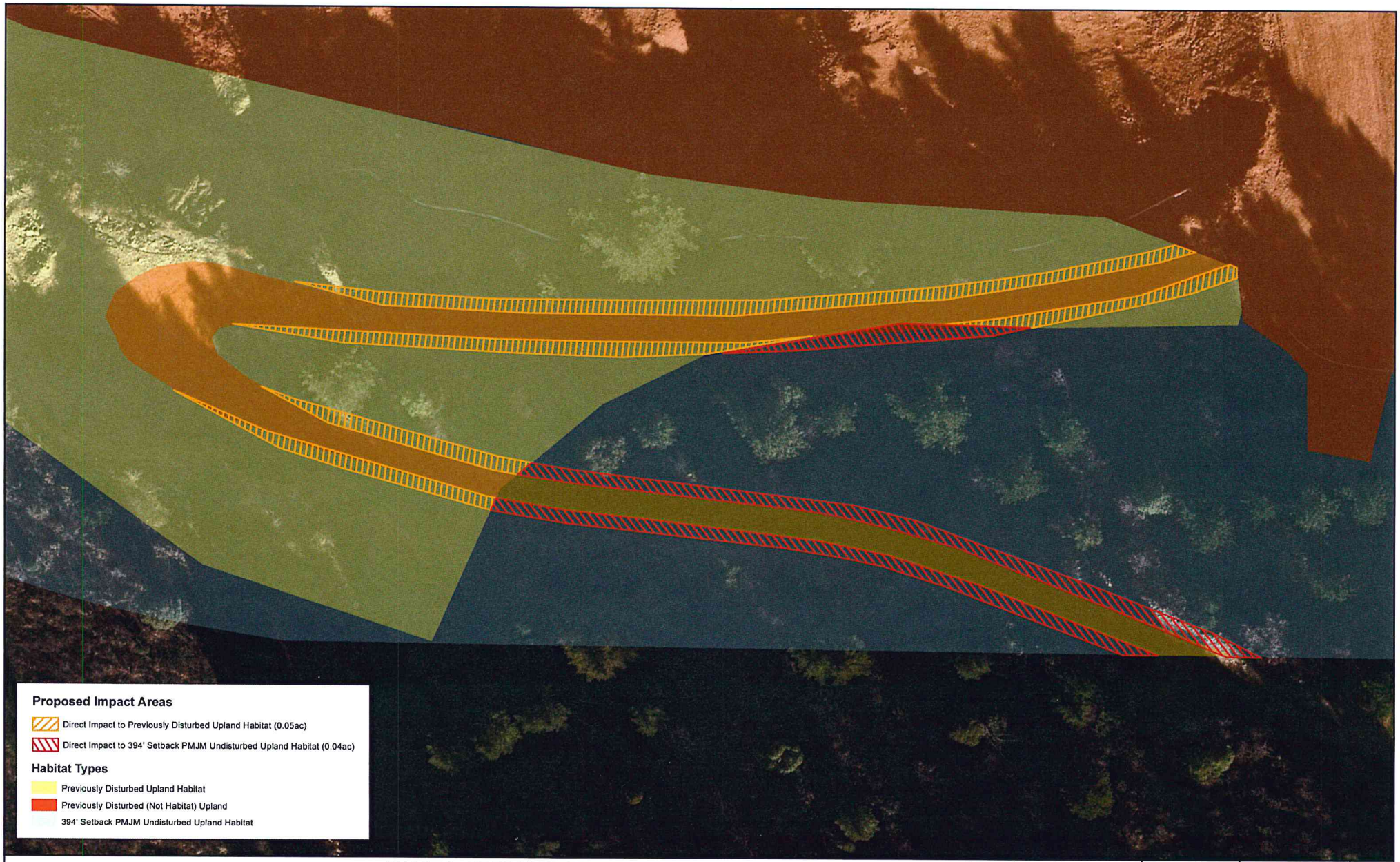
SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

IRIS Migration and Design, Inc.

0 5 10 20 Feet

FIGURE
3




Draft Date Oct 11, 2016

# PHASE 2 - PROPOSED UPLAND IMPACT DUE TO ROAD WIDENING

SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

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0 5 10 20 Feet

FIGURE
4


**PHASE 2 - EXISTING CONDITIONS - NORTHWEST SECTION PRE-FLOOD STATUS - OCT 2012**

SCHWARTZWALDER MINE SITE

Draft Date: Oct. 6, 2016

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

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FIGURE 5


**PHASE 2 - EXISTING CONDITIONS - LANDSLIDE AREA - POSTFLOOD STATUS - OCT 2013**

SCHWARTZWALDER MINE SITE

Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

IRIS Mitigation and Design, Inc.

0 5 10 20 30 Feet

FIGURE 6

Draft Date: Oct. 6, 2016


**PHASE 2 - PROPOSED IMPACT TO LANDSLIDE AREA - OCT 2016**

SCHWARTZWALDER MINE SITE

Draft Date: Oct. 11, 2016

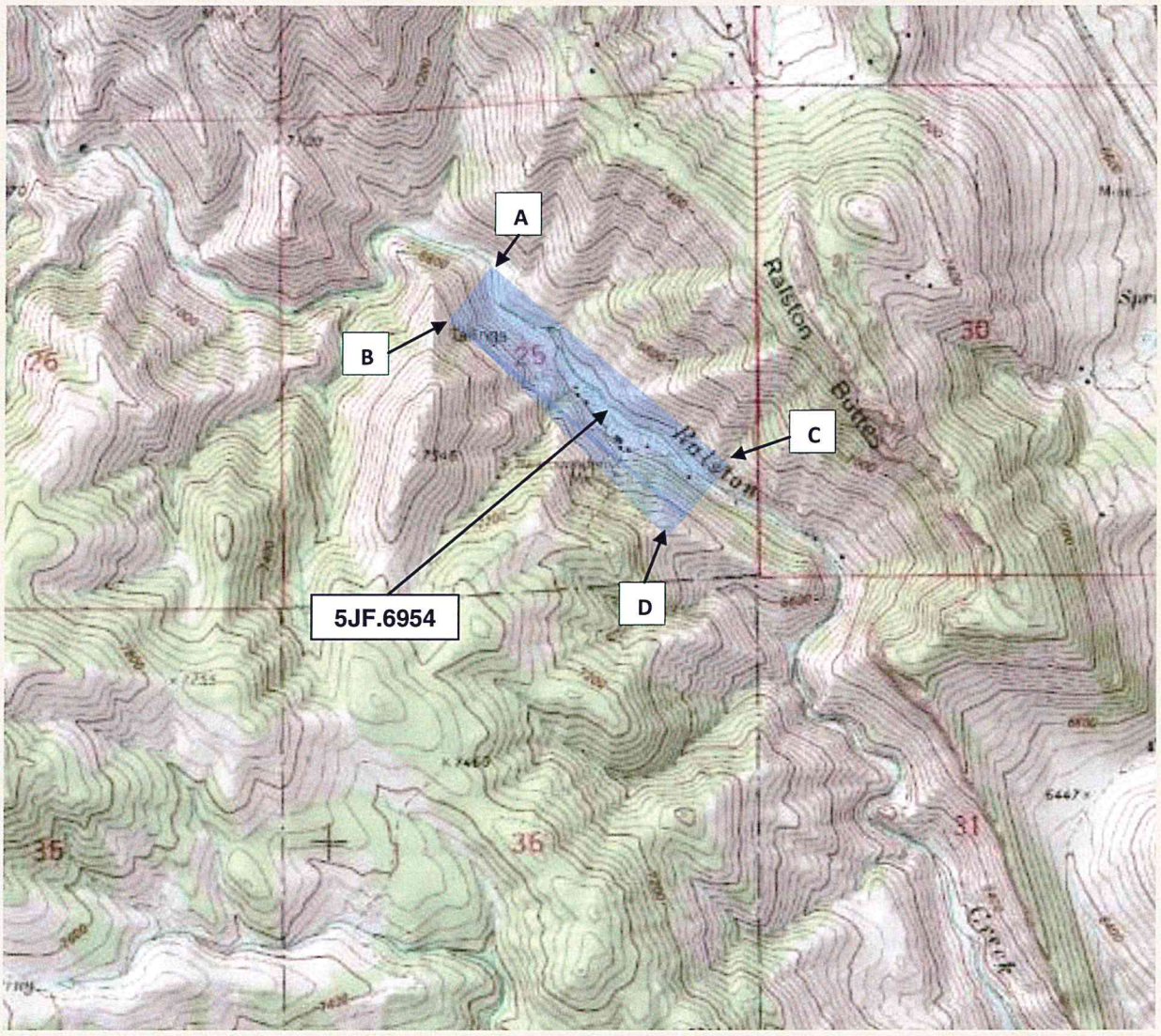
Jefferson County, Colorado
SECTION 25, T2S, R71W, 6TH PM
& SECTION 30 T2S, R70W, 6TH PM

IRIS Mitigation and Design, Inc.

FIGURE 7

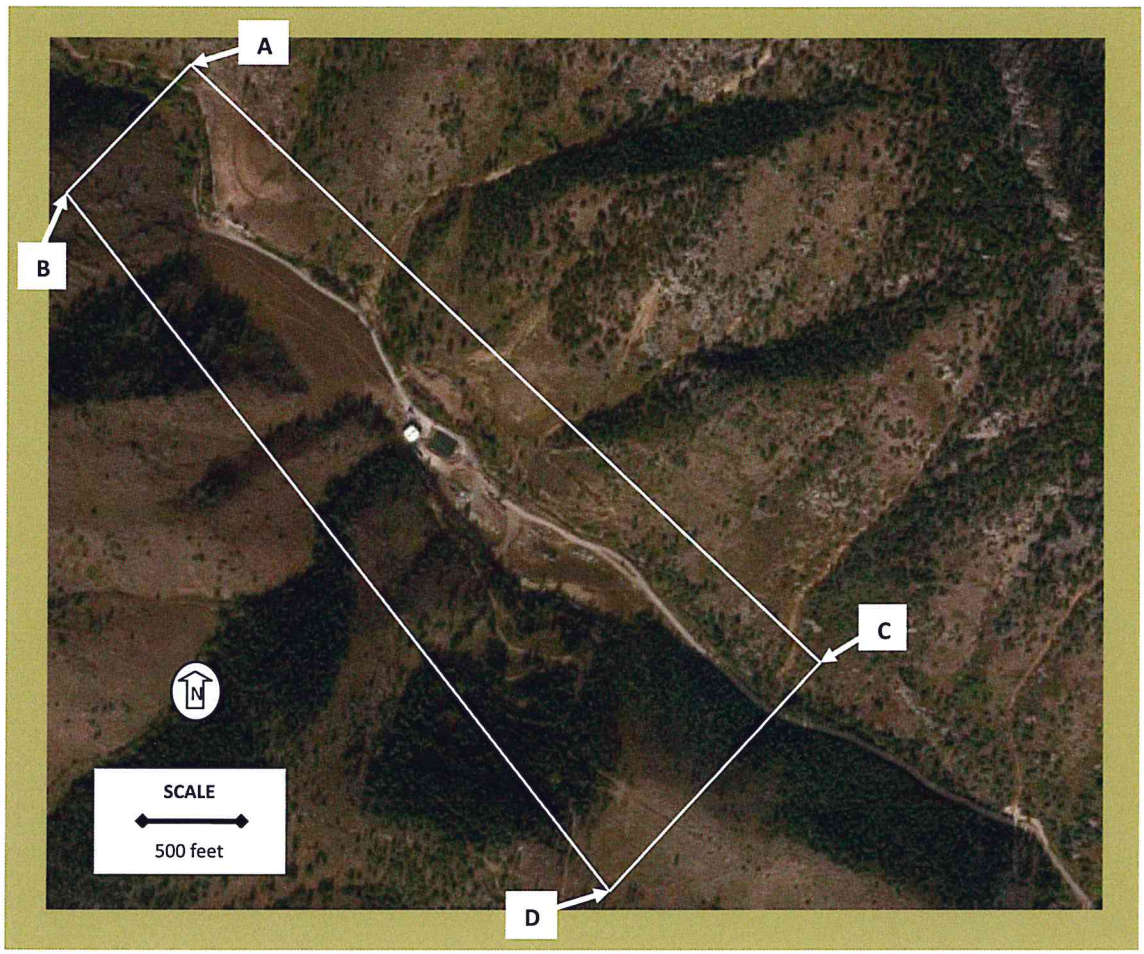
Resource Number: 5JF.6954
Temporary Resource Number: [None]

6th P.M., Township 2 South, Range 71 West, Section 25, SE ¼



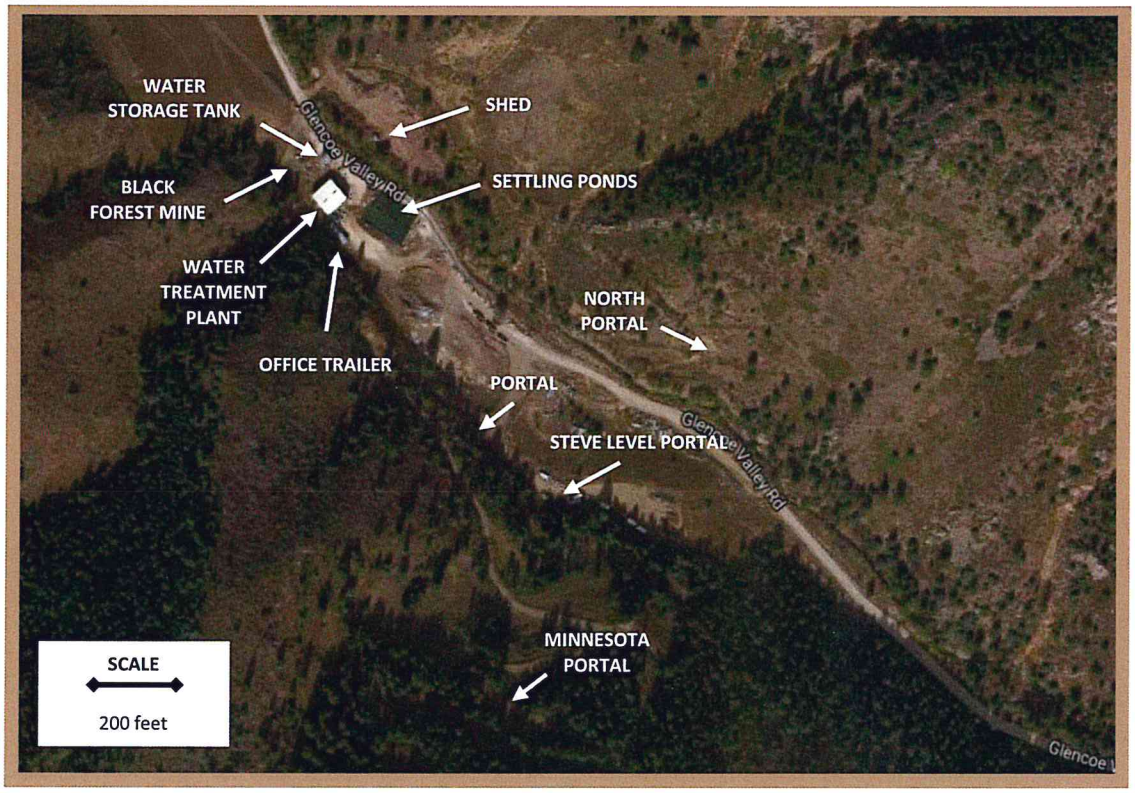

USGS 7.5-minute series (topographic): *Ralston Buttes* Quadrangle (1965/1994)

Resource Number: 5JF.6954
Temporary Resource Number: [None]



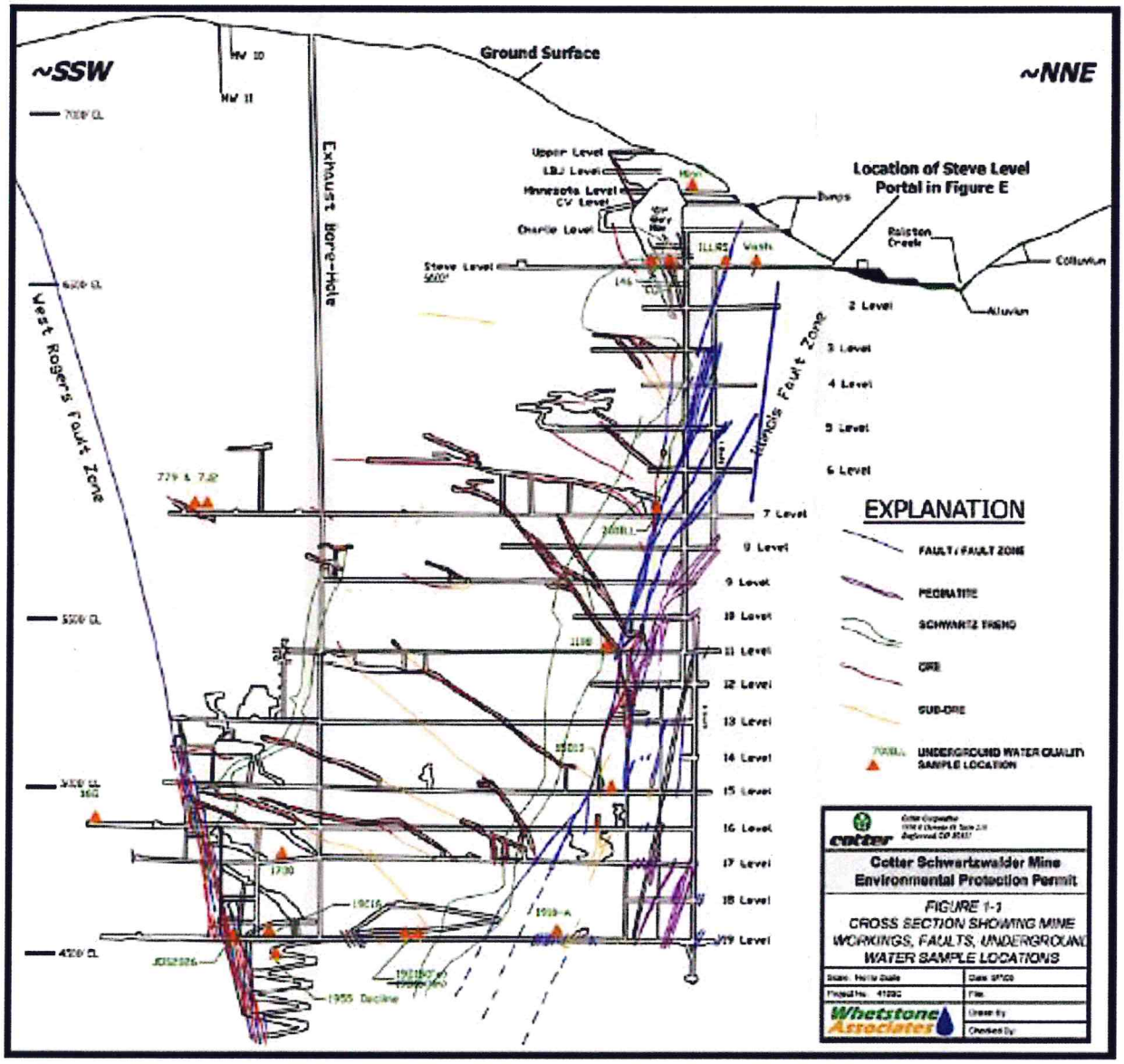

5JF.6954 (Schwartzwalder Mine): satellite image/sketch map showing the property boundary (source: *Google Maps* 2016).

Resource Number: 5JF.6954
Temporary Resource Number: [None]




5JF.6954 (Schwartzwalder Mine): Satellite image/sketch map showing location of principal structures and features at the mine (source: *Google Maps* 2016).

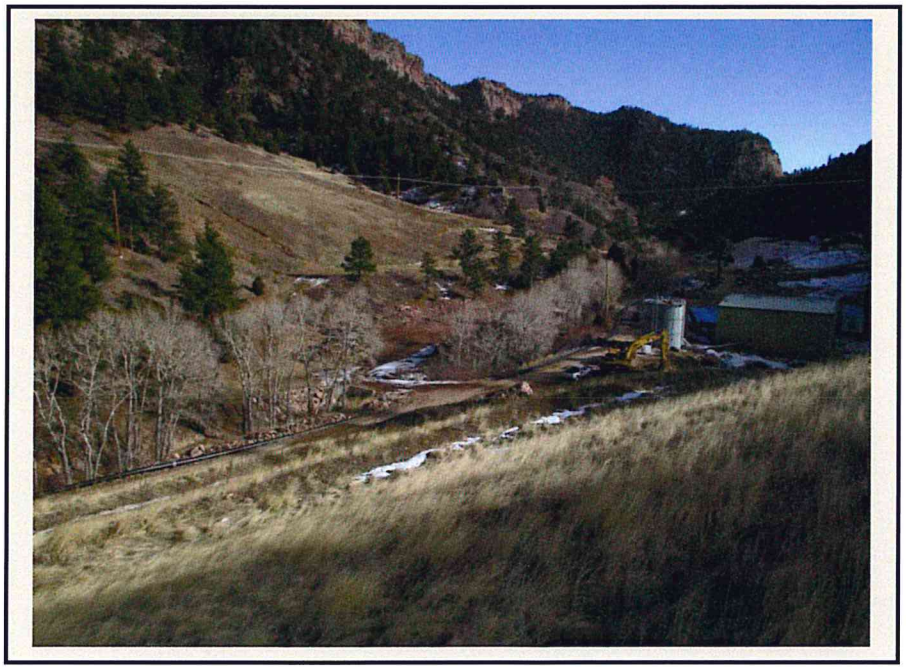
Resource Number: 5JF.6954
Temporary Resource Number: [None]




Schwartzwalder Mine: Cross section of mine workings, faults, and underground water sample locations (source: Cain et al. 2011: 12, Figure F).

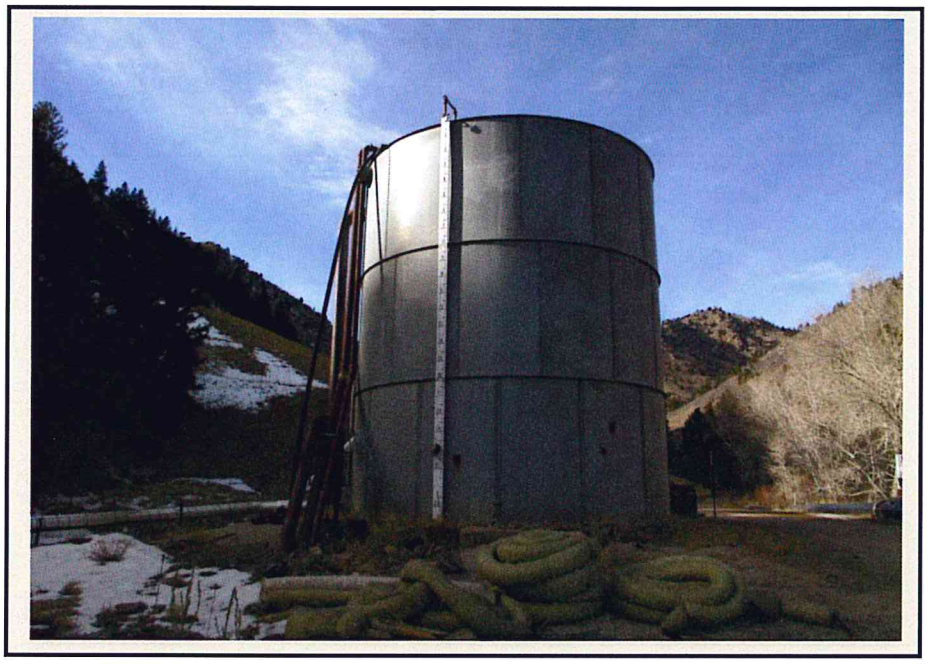
Resource Number: **5JF.6954**
Temporary Resource Number: [None]

5JF.6954 (Schwartzwalder Mine): Steve Level Portal, looking south. Photographed by J. F. Hoffecker on 29 January 2016.



5JF.6954 (Schwartzwalder Mine): waste rock piles, looking east. Photographed by J. F. Hoffecker on 29 January 2016.

Resource Number: **5JF.6954**
Temporary Resource Number: [None]

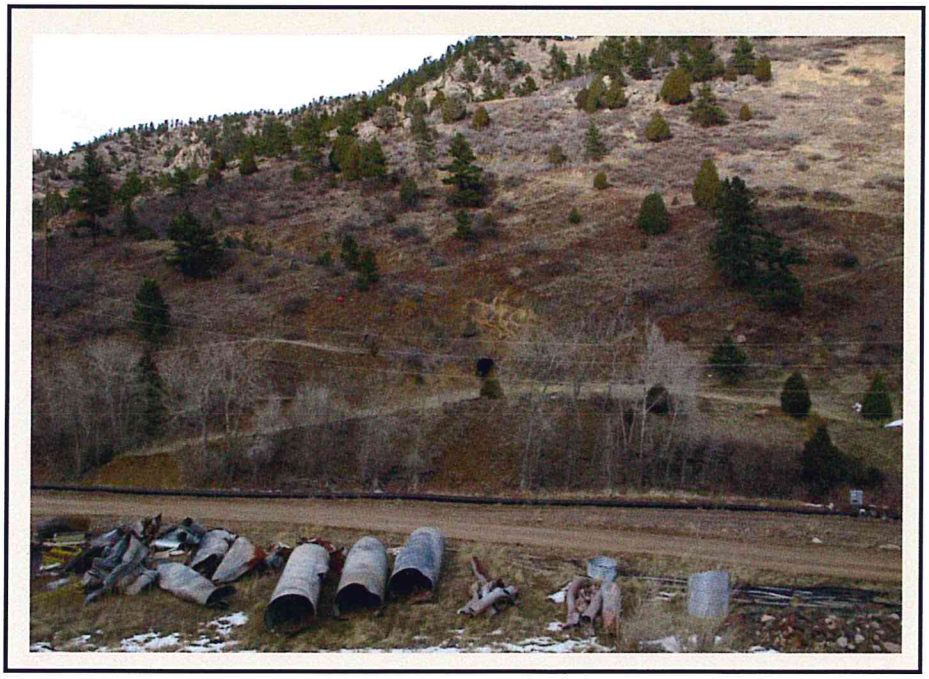


5JF.6954 (Schwartzwalder Mine): water storage tank looking west. Photographed by J. F. Hoffecker on 29 January 2016.

5JF.6954 (Schwartzwalder Mine): water treatment plant building, looking southwest. Photographed by J. F. Hoffecker on 29 January 2016.

Resource Number: 5JF.6954
Temporary Resource Number: [None]

5JF.6954 (Schwartzwalder Mine): office trailer, looking southwest. Photographed by J. F. Hoffecker on 29 January 2016.



5JF.6954 (Schwartzwalder Mine): North Portal, looking north across Ralston Creek and roadway. Photographed by J. F. Hoffecker on 29 January 2016.

Resource Number: 5JF.6954
Temporary Resource Number: [None]

5JF.6954 (Schwartzwalder Mine): Minnesota Portal and access road, looking west. Photographed by J. F. Hoffecker on 12 October 2016.

5JF.6954 (Schwartzwalder Mine): Minnesota Portal interior, looking south towards "glory hole." Photographed by J. F. Hoffecker on 12 October 2016.

COLORADO CULTURAL RESOURCE SURVEY

# Historic Archaeology Component Form

OAHP 1402
Rev. 11/10

1. **Resource Number:** 5JF.6954 2. **Temporary Resource Number:** N/A
3. **Site Name:** Schwartzwalder Mine
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:** mine

6. **Narrative History (based on archival research, expand as necessary):** The uranium ore deposits at the mine were discovered by Fred Schwartzwalder (an amateur prospector employed as a janitor at Golden High School) in 1949. Schwartzwalder cut and blasted a 50-foot tunnel at the location during 1949-1953 and extracted the first high-grade ore in 1953. The uranium ore occurs in Proterozoic metamorphic rock and was formed by hydrothermal fluid flows, mineralization, and deformation during the Laramide Orogeny (80-55 million years ago). In 1954, Schwartzwalder signed an agreement with the owner of the mineral rights (Paul White) and they sold the property to Steve Brodie and Charles Parker (who formed the Denver-Golden Oil and Uranium Corp), who operated the mine until 1965, when it was purchased by the Cotter Corp. It was the most productive uranium mine in the USA, yielding ~800 tons of ore per day in 1980. The Schwartzwalder Mine ceased operation in 2000.

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 mine is located along Ralston Creek (all tunnel portals and mining related structures and features are within a few hundred feet of the creek) and comprises an underground network of drifts, shafts, winzes, and raises that extend to a depth of 2200 feet below the elevation of Ralston Creek (~6500 feet asl). It occupies a surface area of roughly 50 acres (including waste rock piles). In addition to the mine portals, structures at the mine include a 4135-square-foot metal frame building used as a water treatment plant and a 2050-square-foot trailer used as an office. Two open-air settling ponds are located adjacent to the creek (southwest side) and near the buildings. All of these structures and features were added by the Cotter Corp during the 1970s. A second mine (Black Forest), also inactive, for the extraction of ornamnetal rock, is located west of the treatment plant building. Glencoe Valley Road (unpaved) extends through the center of the mine and provides vehicle access to the portals on the south side of the creek and mining-related structures and features.

9. **Historic Component Date(s):** 1949 - 2000

Justification and Sources Consulted: Cain, J. S., Johnson, R. H., and Wild, E. C. (2011) Review and Interpretation of Previous Work and New Data on the Hydrogeology of the Schwartzwalder Uranium Mine and Vicinity, Jefferson County, Colorado. Open File Report 2011-1092. US Dept of the Interior, US Geological Survey.

10. **Component Function(s):** uranium mine

Original Use: mine
Present Use: inactive

11. **Ethnic affiliation of occupants:** Euro-American

Justification and Sources Consulted: Brodie, G. (1996) The Schwartzwalder Uranium Mine: A Brief and Informal History of the Discovery and Early Operation of the Mine, Jefferson County, Colorado. Colorado School of Mines, Mining History Archive. Golden, CO.

12. **Historic Boundary Description:** The historic boundary includes the tunnel portals, rock waste piles, and mining structures and equipment areas.

Justification and Sources Consulted: (same as above)

13. **NRHP Area of Significance:** industry/mining

Justification and Sources Consulted: (same as above)

14. **NRHP Period of Significance:** 1949 - 2000

Justification and Sources Consulted: (same as above)

## Historic Archaeology Component Form

**Resource Number:** 5JF.6954 **Temporary Resource Number:** N/A

15. **Site, Component, or Feature Theme (use the Historic Archaeology Lexicon):** mine

16. **Does this component or feature support the NRHP eligibility of the entire resource?**
☐ Yes ☐ No ☐ Undetermined ☒ N/A

Justification:

17. **Recorder(s):** John F Hoffecker 18. **Date:** 1/31/2016

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 +) | |
| | | 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) | present |
| 55-gallon drum | | Corrugated sheet iron (post-1890) | |
| Animal shoe | | Dimensional lumber | present |
| 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:

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 | | portals ~8 feet in diameter | the portals are circular steel structures; Minnesota Portal (1980s) has wood frame entrance |
| Aspen art | | | |
| Cabin | | | |
| Cairn | | | |
| Corral | | | |
| Ditch/canal | | | |
| Depression | | | |
| Dugout | | | |
| Foundation | | | |
| House | | | |
| Log cabin | | | |
| Mine shaft | | | (see diagram in attachments) |
| Outbuilding | | | (see OAHP Form 1403) |
| Platform | | | |
| Privy | | | |
| Railroad grade/bed | | | |
| Road/Trail | | ~30 feet wide | Glencoe Valley Road extends into mine area |
| Shaft | | 2,200 feet below creek elevation | (see diagram in attachments) |
| Trash scatter | | | |
| Waste Rock pile | multiple rock waste piles | several thousand square feet | (see map of mine area |
| Settling ponds | | ~10,000 square feet | (see map in attachments) |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

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 | |

History Colorado - Office of Archaeology & Historic Preservation
1200 Broadway, Suite 400, Denver, CO 80203
303-866-3395

Resource Number: 5JF.6954
Temporary Resource Number: None

OAHP1403
Rev. 9/98

COLORADO CULTURAL RESOURCE SURVEY

# Architectural Inventory Form

Official eligibility determination
(OAHP use only)
Date _____Initials _____
____ Determined Eligible- NR
____ Determined Not Eligible- NR
____ Determined Eligible- SR
____ Determined Not Eligible- SR
____ Need Data
____ Contributes to eligible NR District
____ Noncontributing to eligible NR District

## I. IDENTIFICATION

1. Resource number: 5JF.6954
2. Temporary resource number: N/A
3. County: Jefferson
4. City: Golden
5. Historic building name: Schwartzwalder Mine
6. Current building name: same as above
7. Building address: 8330 Glencoe Valley Road, Golden CO 80403
8. Owner name and address: Cotter Corporation (N.S.L.) 7800 E. Dorado Place, Suite 210, Greenwood Village, CO 80111

## II. GEOGRAPHIC INFORMATION

9. P.M. 6th Township 2 S Range 71 W
   ¼ of SE ¼ of Section 25
10. UTM reference (Water Treatment Plant Building)
    Zone 13; 475820 mE 4410790 mN
11. USGS quad name: *Ralston Buttes*
    Year: 1965/1994 Map scale: 7.5' X 15'___ Attach photo copy of appropriate map section.
12. Lot(s): _____ Block:_____
    Addition: _____Year of Addition: _____
13. Boundary Description and Justification:

    A property boundary was created to enclose all mine structures and associated features (waste rock piles, roads, other features) within a sub-rectangular area measuring approximately 3200 x 600-750 feet.

## III. Architectural Description

14. Building plan (footprint, shape): rectangular
15. Dimensions in feet: 4,135 square feet
16. Number of stories: one
17. Primary external wall material(s): metal
18. Roof configuration: low-pitched
19. Primary external roof material: metal

20. Special features: roller-type garage door on north elevation

21. General architectural description:

Water Treatment Plant Building: A rectangular metal frame one-story building on a concrete slab foundation occupying a total area of 4,135 square feet. The exterior walls are composed of metal siding and the low-pitched roof is composed of metal sheeting. There are single metal personnel doors at the north end of the east elevation, and near the center of the north elevation. There is a metal roller-type garage door on the east end of the north elevation. There are no windows on the building (other than on the doors).

Office Trailer: A wood frame trailer that occupies a total area of 2,050 square feet is located southeast of the water treatment plant building. It is used as an office by the Cotter Corp.

22. Architectural style/building type: no style

23. Landscaping or special setting features: none

24. Associated buildings, features, or objects:

Open-air settling ponds are located southeast of the water treatment plant building on the west side of Ralston Creek. There are two rectangular ponds occupying a total area of roughly 10,000 square feet. They are surrounded by a steel fence. A small rectangular shed is located on the opposite side of the creek.

## IV. Architectural History

25. Date of Construction: Estimate: 1975 Actual: _____

Source of information: Jefferson County Assessor

26. Architect: N/A

Source of information:

27. Builder/Contractor: Cotter Corporation

Source of information: Cain et al. (2011)

28. Original owner: Cotter Corporation

Source of information: Cain et al. (2011)

29. Construction history (include description and dates of major additions, alterations, or demolitions):

30. Original location x Moved ____ Date of move(s):

## V. Historical Associations

31. Original use(s): buildings associated with uranium mine

32. Intermediate use(s):

33. Current use(s): same as above

34. Site type(s): mine facilities (office, water treatment plant, water storage tank)

35. Historical background:

The uranium ore deposits at the mine were discovered by Fred Schwartzwalder (an amateur prospector employed as a janitor at Golden High School) in 1949. Schwartzwalder cut and blasted a 50-foot tunnel at the location during 1949-1953 and extracted the first high-grade ore in 1953.

Resource Number: 5JF.6954
Temporary Resource Number: None

The uranium ore occurs in Proterozoic metamorphic rock and was formed by hydrothermal fluid flows, mineralization, and deformation during the Laramide Orogeny (80-55 million years ago). The highest grade ore (3% uranium) was extracted from deposits accessed on the south side of the creek ("glory hole").

In 1954, Schwartzwalder signed an agreement with the owner of the mineral rights (Paul White) and they sold the property to Steve Brodie and Charles Parker, who formed the Denver-Golden Oil and Uranium Corp. and operated the mine until 1965, when it was purchased by the Cotter Corp. It was the most productive uranium mine in the USA, yielding ~800 tons of ore per day in 1980. During the 1980s, an additional portal was created on the Minnesota Level (one of the uppermost levels of the mine), providing additional access to glory hole, and the Cotter Corp. used the Minnesota Portal to dispose of mine waste in glory hole. The Schwartzwalder Mine ceased operation in 2000.

36. Sources of information: Brodie, G. (1996) The Schwartzwalder Uranium Mine: A Brief and Informal History of the Discovery and Early Operation of the Mine, Jefferson County, Colorado. Colorado School of Mines, Mining History Archive. Golden, CO; Cain, J. S., Johnson, R. H., and Wild, E. C. (2011) Review and Interpretation of Previous Work and New Data on the Hydrogeology of the Schwartzwalder Uranium Mine and Vicinity, Jefferson County, Colorado. Open File Report 2011-1092. US Dept of the Interior, US Geological Survey; Noren, Bob (phone interview 10/11/2016).

## VI. Significance

37. Local landmark designation: Yes ___ No _x_ Date of designation: _____

Designating authority:

38. Applicable National Register Criteria:

_x_ 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 represents the work of a master, or that possess high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or

___ D. Has yielded, or may be likely to yield, information important in history or prehistory.

___ Qualifies under Criteria Considerations A through G (see Manual)

___ Does not meet any of the above National Register criteria

39. Area(s) of significance: Other

40. Period of significance: 1949 - 2000

41. Level of significance: National _x_ State ___ Local _____

42. Statement of significance:

The Schwartzwalder Mine is eligible for inclusion in the NRHP under Criterion A (association with events that have made a significant contribution to the broad pattern of history) because it was the richest and most important uranium mine in the nation throughout its period of active operation (1953-2000). During the years of peak production, the mine is estimated to have yielded roughly 600 tons of high-grade uranium ore per day.

Resource Number: 5JF.6954
Temporary Resource Number: None

43. Assessment of historic physical integrity related to significance: Schwartzwalder Mine retains fundamental integrity of setting, design, materials, and association.

## VII. National Register Eligibility Assessment

44. National Register eligibility field assessment:
    Eligible _x_ Not Eligible ___ Need Data ___
45. Is there National Register district potential? Yes ___ No _x_
    Discuss:
    If there is National Register district potential, is this building: Contributing ___ Noncontributing ____
46. If the building is in existing National Register district, is it: Contributing ___ Noncontributing ____

## VIII. Recording Information

47. Photograph numbers: IMG_3079 - IMG_3086; IMG_3099 - IMG_3139; IMG_3675 - IMG_3687
    Digital images filed at: *Historic Preservation Consultants*
48. Report title: Class III Archaeology Survey of Schwartzwalder Mine, Jefferson County, Colorado
49. Date(s): January 2016; October 2016
50. Recorder(s): John F Hoffecker
51. Organization: *Historic Preservation Consultants*
52. Address: 7876 South Niagara Way, Centennial CO 80112
53. Phone number(s): 303-220-7646

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

COLORADO CULTURAL RESOURCE SURVEY

# Management Data Form

OAHP1400
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:** 5JF.6954

2. **Temporary Resource Number:** N/A

3. **Attachments (check as many as apply)**
- ☐ Prehistoric Archaeological Component
- ☒ Historic Archaeological Component
- ☐ Linear Component
- ☒ Sketch/Instrument Map (required)
- ☒ U.S.G.S. Map Photocopy (required)
- ☒ Photograph(s) (required)
- ☒ Other, specify: OAHP 1403

4. **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 _____

## I. IDENTIFICATION

5. **Resource Name**: Schwartzwalder Mine

6. **Project Name/Number**: Schwartzwalder Mine Phase 2: Alluvial Fill Area Characterization and Long-term Reclamation Project / NOW-2011-1353-DEN

7. **Government Involvement**: ☐ Local ☒ State ☒ Federal
Agency: U.S. Army Corps 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**: Cotter Corporation (N.S.L.) 7800 E. Dorado Place, Ste 210 Greenwood Village, CO 80111

10. **Boundary Description and Justification**: A property boundary was created to enclose all mine structures and associated features (mine portals, waste rock piles, roads, other features) within an subrectangular area approximately 3200 feet in length and 600 - 750 feet in width, occupying ~3,360,000 square feet.

11. **Site/Property Dimensions** Length: m Width: m Area: 312144 $m^2$ Acres ($m^2$/4047): 77

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

## II. LOCATION

12. **Legal Location**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | 6th | Township | 2 S | Range | 71 W | Section | 25 | SE | ¼ | __ | 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**: Ralston Buttes

14. **County**: Jefferson

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

| | | | | | |
|---|---|---|---|---|---|
| A. Zone | 13; | 475530 | mE | 4411275 | mN |
| B. Zone | 13; | 475395 | mE | 4411095 | mN |
| C. Zone | 13; | 476360 | mE | 4410500 | mN |
| D. Zone | 13; | 476075 | mE | 4410190 | mN |

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

Other (explain): http://www.mappingsupport.com/p/recreation/utm_coordinates_topo_map.html

17. **Site elevation** (feet): ~ 6600 feet asl

18. **Address:** 8330 Glencoe Valley Road Lot: Block: Addition:
Golden CO 80403

19. **Location/Access:** The site may be accessed from Glencoe Valley Road (the mine is located at the end of this road).

## 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):

The uranium mine is located in the Southern Rocky Mountains physiographic province, and, more specifically in the Colorado Front Range (south of Ralston Buttes), along Ralston Creek. The area is characterized by steep slopes above the creek banks, and an expanded bottomland zone created to accommodate the mine buildings and mine-related activities. The northeast-facing slopes are dominated by Douglas fir while the southwest and west-facing slopes are dominated by ponderosa pine. The south, east, and southeast-facing slopes tend to be dominated by the shrub species mountain mahogany, while grassland plant communities are found on all slopes to varying degrees as an understory habitat. Grasslands comprise the primary habitat on less steep gradients. A narrow riparian corridor of dense vegetation surrounds much of the creek. An additional habitat type is best characterized as "previously disturbed habitat" dominated by introduced and native weedy species. Previously disturbed habitats are common along roadways and other areas where the surface has been disturbed. The local soils are rocky and associated with slope or alluvial deposits (see item 21). The bedrock at the location of the mine (i.e., where the adits are located) is Proterozoic hornblende gneiss, which is exposed in some places along the creek channel (otherwise mantled with Holocene alluvium). Ground visibility in the mine area is relatively high (~40%) due to the heavy disturbance to surficial sediments caused by the history of mining activities at the site.

21. **Soil depth (cm) and description:** Cryofluvents, 0 to 5 percent slopes (topsoil = 0-6 inches); Curecanti very stony sandy loam, 15 to 50 percent slopes (topsoil = 0-11 inches very cobbly sandy loam)

22. **Condition**

a. Architectural/Structural
- ☐ Excellent
- ☒ Good
- ☐ Fair
- ☐ Deteriorated
- ☐ Ruin

b. Archaeological/Paleontological
- ☐ Undisturbed
- ☐ Light disturbance
- ☐ Moderate disturbance
- ☐ Heavy disturbance
- ☐ Total disturbance

23. **Describe condition:** The mine is no longer active (mining operations ceased in 2000), but the facilities are maintained by Cotter Corp personnel as the water treatment program continues.

24. **Vandalism:** ☐Yes ☒ No
Describe: There is no evidence of vandalism.

**IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT**

25. **Context or Theme:** mining

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:** Other

29. **Period(s) of significance:** 1949 - 2000

30. **Level of significance:** ☒ National ☐ State ☐ Local

31. **Statement of significance:** The Schwartzwalder Mine is eligible for inclusion in the NRHP under Criterion A (association with events that have made a significant contribution to the broad pattern of history) because it was the richest and most important uranium mine in the nation throughout its period of active operation (1953-2000). During the years of peak production, the mine is estimated to have yielded roughly 600 tons of high-grade uranium ore per day.

32. **Statement of historic integrity related to significance:**

Schwartzwalder Mine retains fundamental integrity of setting, design, materials, and association.

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 District:** ☐ Contributing ☐ Non-contributing
35. **State Register Eligibility Field Assessment:** ☒ 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: Entrance to the mine is controlled by a gate on Glencoe Valley Rd that is locked when no one is present at the mine.

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

44. **Recorder's Management Recommendations:** avoidance

## 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):** Cain, J. S., Johnson, R. H., and Wild, E. C. (2011) Review and Interpretation of Previous Work and New Data on the Hydrogeology of the Schwartzwalder Uranium Mine and Vicinity, Jefferson County, Colorado. Open File Report 2011-1092. US Dept of the Interior, US Geological Survey; Bob Noren, Cotter Corporation, San Diego CA (phone interview 10/11/2016).

47. **Primary location of additional data:** Historic Preservation Consultants/7876 South Niagara Way, Centennial CO

48. **State or Federal Permit number:** 2016-37

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:** IMG_3079 - IMG_3086; IMG_3099 - IMG_3139;IMG_3675 - IMG_3687

Files or negatives stored at: Historic Preservation Consultants

51. **Report title:** Class III Archaeology Survey of Scwartzwalder Mine, Jefferson County, Colorado

52. **Recorder(s):** John F Hoffecker Date: 10/14/2016

53. **Recorder affiliation:** Historic Preservation Consultants/7876 South Niagara Way, Centennial CO 80112

Phone number/Email: 303/220-7646/John.Hoffecker@colorado.edu

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

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