



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C. L. "Butch" Otter, Governor
John H. Tippetts, Director

September 16, 2016

Mr. Ken Marcy
U.S. Environmental Protection Agency Region 10
12928 SW 276th Street
Vashon, WA 98070

Subject: Abbreviated Preliminary Assessment for Hayfork Mine, Boise County, Idaho

Dear Mr. Marcy:

The Idaho Department of Environmental Quality (DEQ) completed the enclosed Abbreviated Preliminary Assessment (APA) for the Hayfork Mine under a cooperative agreement with Region 10 of the United States Environmental Protection Agency (EPA). Under this cooperative agreement, DEQ provides technical support for completion of preliminary assessments.

The Hayfork Mine is located on private property and this assessment was conducted with landowner permission. The property owner accompanied DEQ during the site visit on June 2, 2016. Collection of samples was determined unnecessary at the sites visited.

Based on current conditions and uses, historic information, observations made during the site visit, potential pathways of contaminants to receptors, and potential exposures to ecological and human receptors, DEQ recommends **No Remedial Action Planned (NRAP)** at this time.

This PA/SI report can also be found on DEQ's preliminary assessment web page:
<http://www.deq.idaho.gov/preliminary-assessments>.

If you have any questions, please feel free to give me a call at (208) 373-0296 or email dana.swift@deq.idaho.gov.

Sincerely,

A handwritten signature in cursive script that reads "Dana Swift".

Dana Swift
Mine Waste Project Coordinator

Enclosures

cc: Stephan Prow

**Abbreviated
Preliminary Assessment for
Hayfork Mine
(aka Humming Bird, Gold Bug Group, Switzerland,
Hercules, Black Eagle Group)**

Boise County



**State of Idaho
Department of Environmental Quality**

September 2016

Acknowledgments

DEQ would like to thank Mr. Stephan Prow for permitting access to his property and accompanying DEQ staff.

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Introduction

This abbreviated preliminary assessment (APA) for the Hayfork Mine in the Boise Basin Mining District, Boise County, Idaho provides the rationale for the No Remedial Action Planned (NRAP) determination that no additional assessments or site inspections are necessary at this time. Section 1 provides the APA checklist (modified from EPA, 1999) filled out by the assessor to determine that an APA was warranted. The following sections contain additional relevant information and evidence to support the APA, including health and safety information (Section 2), historical and geologic information (Section 3); maps (Section 4); current site conditions and photographs (Section 5); references (Section 6); and historical mine plats (Appendix A). During this assessment, the Idaho Department of Environmental Quality (DEQ) used references from historic reports which often have different spellings for claim names, town sites, and/or geographic features. DEQ has retained the spelling from the original source document.

Preparer: Dana Swift
 Mine Waste Project Coordinator
 Idaho Department of Environmental Quality
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 Boise, ID 83706
 208-373-0296
 dana.swift@deq.idaho.gov

Date of Site Inspection: 6/2/2016

Site Inspectors: Dana Swift, Rob Hanson, and Don Carpenter, DEQ State Office

Site Name: Hayfork Mine

Previous Names (aka): Black Eagle Group, Gold Bug Group, Switzerland, Humming Bird, Hercules

Site Owner: Stephan E. Prow

Site Location: The Hayfork Mine is accessible by vehicle. From Idaho City take Highway 21 northeast for approximately 10 miles, turn east on Hayfork Road, go past Hayfork Campground approximately 0.5 mile to a locked gate. Property owner allows access to mining sites.
 Township 7 North, Range 6 East, Section 36

Latitude: 43.9037778437°N **Longitude:** -115.68486974°W

Description of release (or potential release) and its probable nature:

The Hayfork Mine was investigated by DEQ on June 2, 2016 for potential releases of heavy metals or other deleterious materials (such as petroleum products and ore processing chemicals) by surface water, soil exposure, ground water or air pathways. Section 3 of this report contains historical and geological information available for this site. The Idaho Geological Survey (IGS) lists the following commodities and approximate ranges of production: antimony, copper (1,001-5,000 lbs), gold (1,001-5,000 oz), lead (501-1,000 lbs), silver (1,001-5,000 oz), and zinc.

Section 1. APA Checklist

Task 1—Superfund Eligibility Evaluation

Assessor, if all answers are “no,” continue to task 2; otherwise, explain any “yes” answers below and then skip to task 3.	YES	NO
1. Is the site currently in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) or an “alias” of another site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is the site being addressed by some other remediation program (i.e., federal, state, or tribal)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Are the hazardous substances that may be released from the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the Nuclear Regulatory Commission, Uranium Mill Tailings Radiation Control Act, or Occupational Safety and Health Administration)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Are the hazardous substances that may be released from the site excluded by policy considerations (i.e., deferred to Resource Conservation and Recovery Act corrective action)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Is there sufficient documentation to demonstrate that there is no potential for a release that constitutes risk to human or ecological receptors (e.g., comprehensive remedial investigation equivalent data showing no release above applicable or relevant and appropriate requirements (ARARs), completed removal action, documentation showing that no hazardous substance releases have occurred, or an EPA-approved risk assessment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Assessor, please explain all “yes” answer(s):

Regarding question 5: A reconnaissance level preliminary assessment was conducted to determine if any potential sources or associated releases could be identified due to historical mining practices. No concerns were identified during desktop research. No concerns with past mining activities or evidence of other hazardous or deleterious materials were observed during the June 2, 2016 site inspection.

Task 2—Initial Site Evaluation

If information is not available to make a “yes” or “no” response below, further investigation may be needed. In these cases, the assessor should determine whether an APA is appropriate.

If the answer is “no” to any of questions 1, 2, or 3, proceed directly to task 3.	YES	NO
1. Does the site have a release or a potential to release?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Does the site have uncontained sources containing CERCLA-eligible substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Does the site have documented on-site, adjacent, or nearby targets?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If the answers to questions 1, 2, and 3 above were all “yes,” then answer questions 4–7 before proceeding to task 3.	YES	NO
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?	<input type="checkbox"/>	<input type="checkbox"/>
5. Is there an apparent release at the site with no documentation of exposed targets, but targets are on site or immediately adjacent to the site?	<input type="checkbox"/>	<input type="checkbox"/>
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but targets are nearby (e.g., within 1 mile)?	<input type="checkbox"/>	<input type="checkbox"/>
7. Are there uncontained sources containing CERCLA hazardous substances, a potential to release with targets present on site or in proximity to the site, but no indication of a hazardous substance release?	<input type="checkbox"/>	<input type="checkbox"/>

Notes:

At the time of the site inspection, no releases or potentials for release were identified and no current disturbances of past mining areas or waste rock piles were observed. Current land uses include summer time occupancy by the property owner and recreational activities. This site is located on private property and access is restricted by a locked gate. The site is well maintained by the property owner. Potential risks to human or ecological receptors associated with this mine site are minimal.

Table 1 parallels the questions above and should be used by the assessor to make decisions during task 3. Table 1 identifies different types of site information and provides some possible recommendations for further site assessment activities based on that information. The assessor should use Table 1 in determining the need for further action at the site, based on the answers to the questions in task 2. Assessors should use professional judgment when evaluating a site. An assessor’s individual judgment may be different from the general recommendations for a site given below.

Table 1. Site assessment decision guidelines for a site.

Suspected/Documented Site Conditions	EPA-Recommended Site Assessment Activities
1. There are no releases or potential to release.	APA
2. No uncontained sources with CERCLA-eligible substances are present on site.	APA
3. There are no on-site, adjacent, or nearby targets.	APA
4. There is documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site.	APA → SI or PA/SI
5. There is an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site.	APA → SI or PA/SI
6. There is an apparent release and no documented on-site targets and no documented targets immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within 1 mile of the site and have a relatively high likelihood of exposure to a hazardous substance migration from the site.	Full PA
7. There is no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site.	Full PA

Task 3—DEQ Site Assessment Decision

When completing task 3, the assessor should use task 2 and Table 1 to select the appropriate decision. For example, if the answer to question 1 in task 2 was “no,” then an APA is appropriate and the “NRAP” box below should be checked. Additionally, if the answer to question 4 in task 2 is “yes,” then two options are available (as indicated in Table 1): (1) proceed with an APA and check the “Lower Priority SI” or “Higher Priority SI” box below or (2) proceed with a combined PA/SI.

Check the box that applies based on the conclusions of the APA checklist:

- No Remedial Action Planned (NRAP) Defer to NRC
 Higher Priority SI Refer to Removal Program
 Lower Priority SI Site is being addressed as part of another CERCLIS site
 Defer to RCRA Subtitle C Other: _____

DEQ Preparer:

Dana Swift

9/16/2016

Dana Swift

Date

Please explain the rationale for your decision:

As a result of DEQ’s research and site observations, a NRAP designation is recommended for the Hayfork Mine. Supporting information is included in the following sections.

Section 2. Health and Safety Information

The current land uses include summer time occupancy by the property owner and recreational activities. Summer time residential living is located in an area that is not immediately impacted by past mining activities. If future land uses include residential development, further characterization of development areas in relation to the waste rock piles, former working areas, and other historic mining features should be performed.

Persons recreating in this area should be aware of the hazards of historic mining areas, especially health risks associated with prolonged exposures to metals. A summary of health and safety information includes:

- Do not camp or recreate near old mining structures or mining waste piles or dumps.
- Keep dirt away from your mouth to prevent ingestion of metals. Wash your hands with soap and water before eating, drinking, or smoking. Frequently clean toys used by babies, toddlers, and children. Eat on a clean surface, not on the ground.
- Stay out of old mine adits and structures. Rotting wood, unstable rock, oxygen-depleted air, falling debris, dust, and mining wastes are potential dangers. Stay out and stay alive.

Section 3. Historical and Geologic Information

Historical mine plats are included in Appendix A. The following historical information is quoted directly from the IGS U.S. Forest Service Region 4 Abandoned Mine Land report (Mitchell and Bennett 1995). The photographs referenced in this quote have not been duplicated in this report.

There are five sites on this property that show signs of mining activity.

Site A: Adit

There is a blocked adit at this site. It is securely boarded and marked with “No Trespassing” signs. There are no real hazards here.

Site B: Cabin and two adits

There are two adits and a rundown cabin on this site. One adit had rails coming out of the portal (photograph 8839-24). This adit also had some drainage, which looked like it was snow run-off and is probably seasonal. Each adit was properly sealed with “No trespassing” signs. There were no hazards or wastes at this site.

Site C: Open adit

At this site, there is an open adit. The adit and portal structure appear secure. Rails extend from the portal area (photograph 9362-0). There are small tailings piles and a dump over the bank at the site. No hazards are present at this location.

Site D: Open adit

This adit is in the hillside near the top of the ridge. There are no supports near the entrance (photograph 9362-1). The adit looks open, but appears to be fairly safe. Trash timbers and lumber are scattered around

the area. A cabin on the site contains junk, old timbers, lumber, and rusted scrap metal. The hazards on this property include trash, rusty nails, and a rickety building.

Site E: Cabin and adit

A cabin and an adit are located at this site. The portal area and the adit are secure. The dump associated with this adit is small. An extreme amount of trash is scattered around the site. This includes lots of lumber and assorted junk.

The following historical and geological information is quoted directly from the U.S. Geological Survey Bulletin 944-C *Geology and Ore Deposits of the Boise Basin, Idaho* (Anderson 1947). DEQ cannot improve or expand upon geologic information included in historic reports; therefore, information from these reports is included as direct quotations.

Hayfork Mine

The Hayfork mine is on Hayfork Creek, a tributary of Moore Creek, in sec. 36, T. 7 N., R. 6 E., about 10 miles northeast of Idaho City. It lies about a mile above the mouth of Hayfork Creek and the same distance from the Boise-Lowman highway on Moore Creek. The mine covers two groups of claims, the Gold Bug, on the creek, and the Black Eagle, on the top of the high ridge west of the Gold Bug. The mine has been known for a number of years and as early as 1906 had been prospected by a number of shallow cuts. Most of the development, however, has been carried on since 1923, when the property was acquired by the Jarvis brothers.

All recent work has been confined to the Black Eagle group. The Black Eagle lode has been opened by three tunnel drifts and explored by other workings. The highest tunnel is just beneath the crest of the ridge, and its 200-foot length takes it through the ridge from the Hayfork side to the Moore Creek slope. The No. 2 tunnel is about 70 feet below the No. 1. Its length is about 280 feet, which also carries it through to the opposite side of the ridge. The No. 3 tunnel, completed in 1937, is 120 feet below the No. 2, and it also has been driven through the ridge, its length being 700 feet. The No. 3 tunnel is connected to the No. 2 by a raise, but no stopping up to August 1, 1938, had been done between. Prospecting was also under way on the Moore Creek slope at two places below the No. 3 level. The workings on the Gold Bug include the original cuts and short tunnels driven about 1906 and some other crosscuts and drifts driven between 1923 and 1933. These workings trace the Switzerland lode on the Gold Bug group for about 2,000 feet. A 200-foot drift on the west end of the lode was open in 1932, but of the two more recent openings on the east end of the lode only the upper crosscut and drifts with some 300 feet of workings were accessible in 1933. The production up to 1932 from the Switzerland was reported to total \$5,000 and from the Black Eagle about \$10,000, but since then much more ore has been mined and treated in the mill on the creek below the Gold Bug. The structural and mineralogical features of the mine are much like those in other parts of the Gambrinus district. Several prominent fissure zones that trend west-northwest and dip southwest cross the property and are in places displaced by northeast faults, some of which are occupied by dark-colored dikes. The Black Eagle fissure zone strikes N. 70° W. and dips about 45° SW., the dip steepening somewhat with depth. The fissure zone is as much as 9 feet across and is made up of intricately fractured rock and considerable gouge. The lode, however, occupies less than one-third of the disturbed zone and is but 2 to 3 feet wide. The ore shoot in the upper working is about 50 feet long and is made up of small lenses and bunches of quartz and has accompanying thin seams in iron-stained fractures in the weathered cut little hydrothermally altered granitic rock. Much of the richer ore was reported to occur along the footwall beneath a prominent postmineral gouge seam, but streaks of high-grade ore also appeared on the hanging wall. All the ore has been stoped above the No. 2 level.

Several fracture zones cross the Gold Bug group, but most of them contain little ore. They strike N. 60°-80° W. and dip steeply southwest, the Switzerland striking N. 70° W. and dipping 70° SW. The zone of fractured granitic rock containing the Switzerland is 4 to 9 feet across, but the lode is only half as wide and is defined by prominent bands of gouge on both the hanging and footwalls. The lode is exposed for only 55 feet in the upper tunnel. It appears to be made up of recurrent quartz seams and lenses a few inches thick in fractured rock bounded by bands of gouge 8 to 12 inches thick. The lode is cut off by a fault trending N. 20

E. at the east end of the drift, and the fault is occupied by a dark-colored dike. The drifting was reflected northeast along the dike for a short distance and then east-southeast along a poorly defined fissure zone, which may be the continuation of the Switzerland. Continued drifting and crosscutting has disclosed other fracture zones.

The ore is not much different from the ore in other parts of the Gambrinus district. It is composed of coarse-textured quartz in places accompanied by minor amounts of sulfides. In the Black Eagle lode most of the quartz is the rather coarsely crystalline young-stage variety, much of which tends to form interlocking combs, in part deposited around fragments of older less coarsely crystalline quartz in which are sporadically scattered fairly large crystals of arsenopyrite and pyrite and fewer grains of sphalerite and galena. These sulfides comprise less than one-tenth of the filling. Free gold is visible in places, in part replacing the sulfides, but more generally it occurs in the younger comb quartz in part associated with scattered pyrite cubes younger than those that accompany the older arsenopyrite. Scant amounts of stibnite are reported in some of the comb quartz. The young comb quartz is not nearly as abundant in the Switzerland lode as in the Black Eagle, and most of the quartz there is the older less coarsely crystalline variety accompanied by small crystals of pyrite and small but variable amounts of sphalerite, galena, and arsenopyrite.

Section 4. Maps

The Hayfork Mine is located northeast of Idaho City, Idaho (Figure 1). The general area has numerous mining-impacted sites including adits and mining debris that include an old mill site and claims known as Gold Bug, Humming Bird, Switzerland, and Black Eagle. Specific site location details visited during this site inspection are shown in Figure 2. The generalized geology of this area is shown in Figure 3 with a description included in Section 3 of this report.

Surface water and eight domestic wells within a four mile radius of the mine site area are shown on Figure 4. No public water systems (PWS) were identified. Hayfork Creek flows through the mine site area and Mores Creek flows along Hwy 21 just west of the mine site area. No wetlands were identified within the four mile radius of the mine site area.

At the time of the site visit, there was a small amount of water observed draining from one adit located on the Gold Bug claim and no evidence of erosion from the waste rock piles visited in several locations. Based on these observations, the potential for exposure from surface water pathways is minimal. Given the lack of domestic wells and PWS in the immediate vicinity of the mine site, the potential for exposure from ground water pathways is minimal.

All of the mine waste remaining appears to be waste rock from underground workings. The waste rock piles are surrounded by vegetation and erosion was not observed; therefore, fugitive dust from the piles is likely limited. Some trash was observed around the old structures. Current land uses include summer time occupancy by the property owner and recreational uses. No schools or day care facilities are known to be located within four miles of the mine site. Overall, the potential for exposure from the soil and air pathways are minimal.

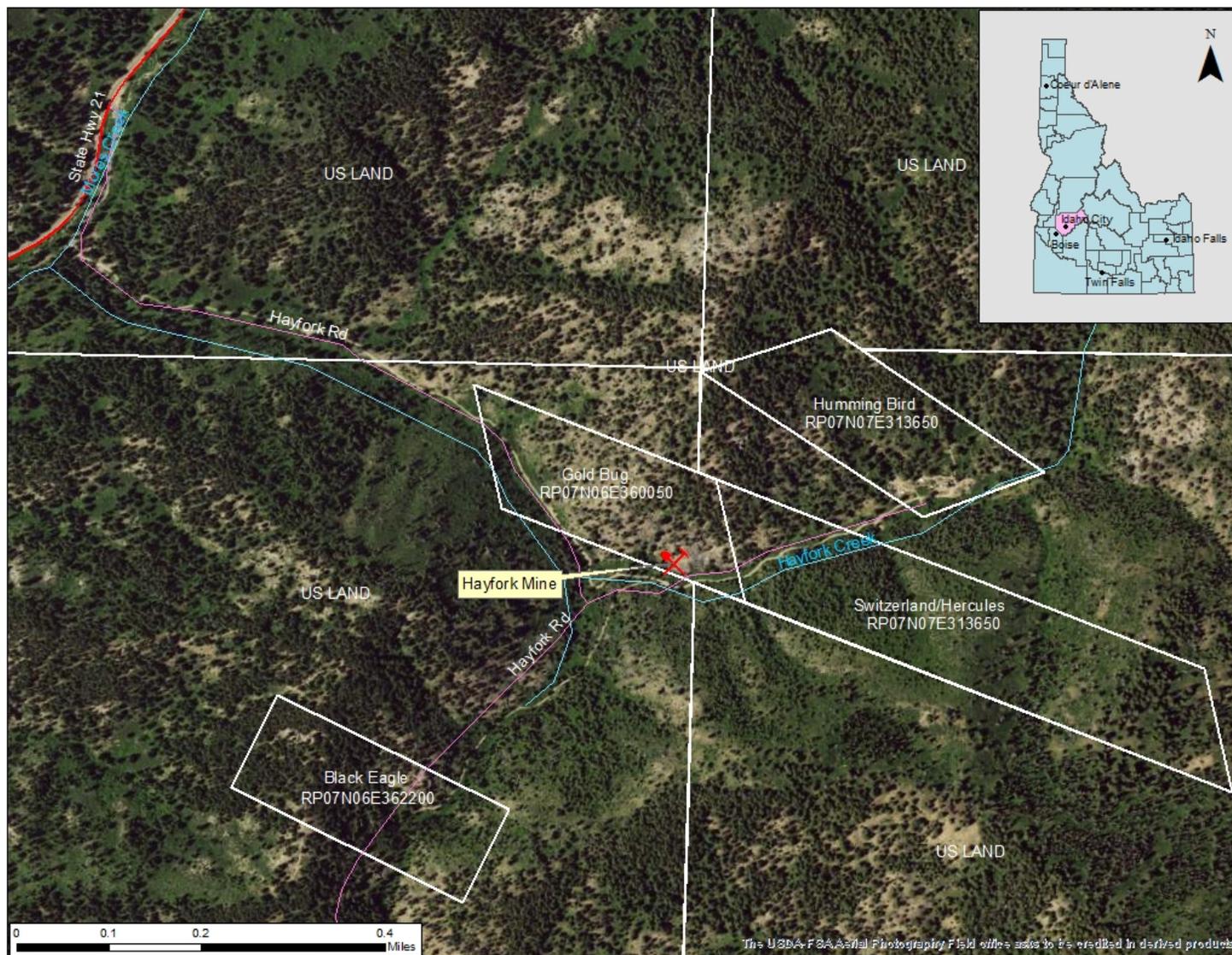


Figure 1. Aerial overview map of the Hayfork Mine site with parcel boundaries outlined.

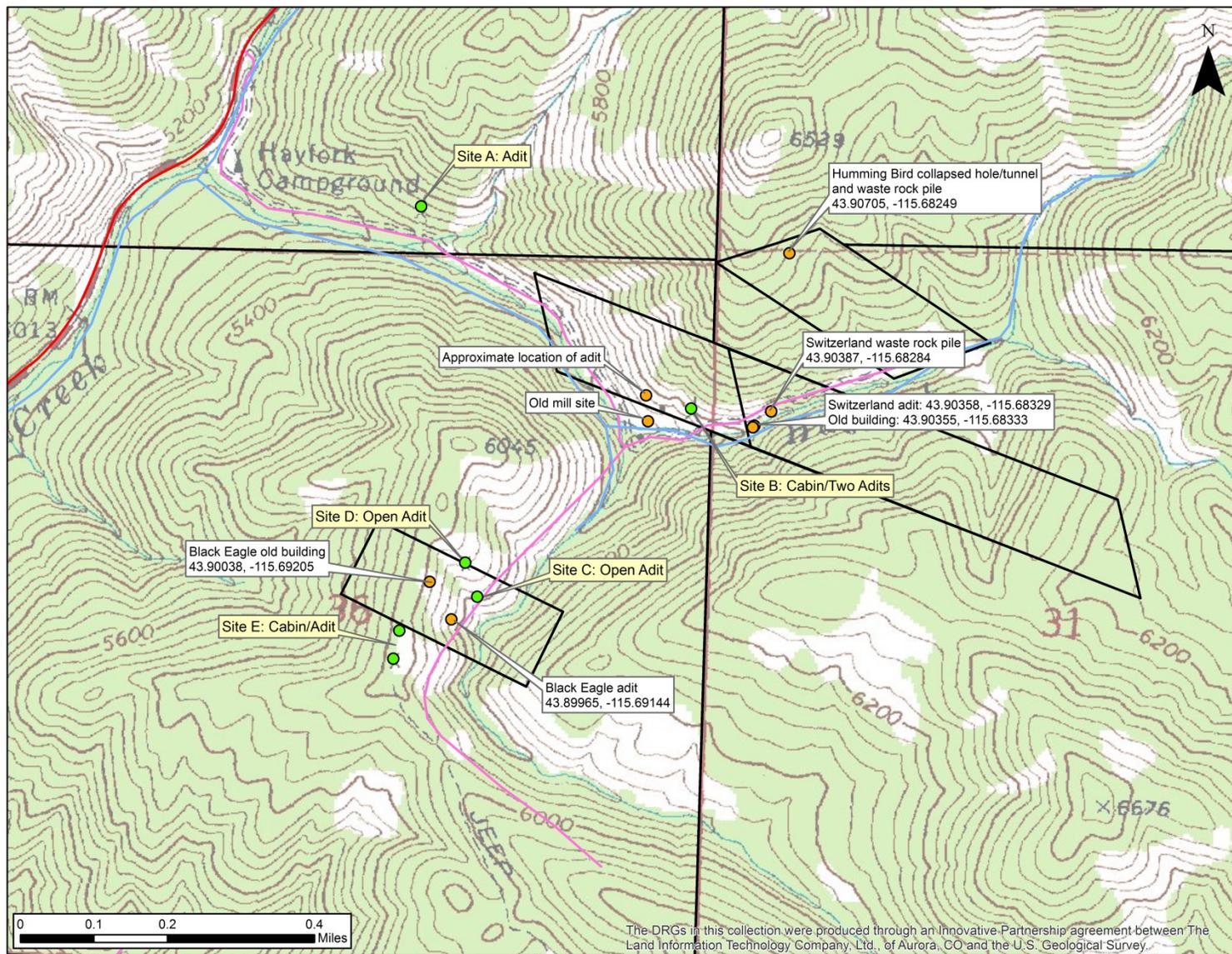


Figure 2. Approximate locations of site features; green points from 1995 IGS Report, orange points from June 2, 2016 DEQ site visit.

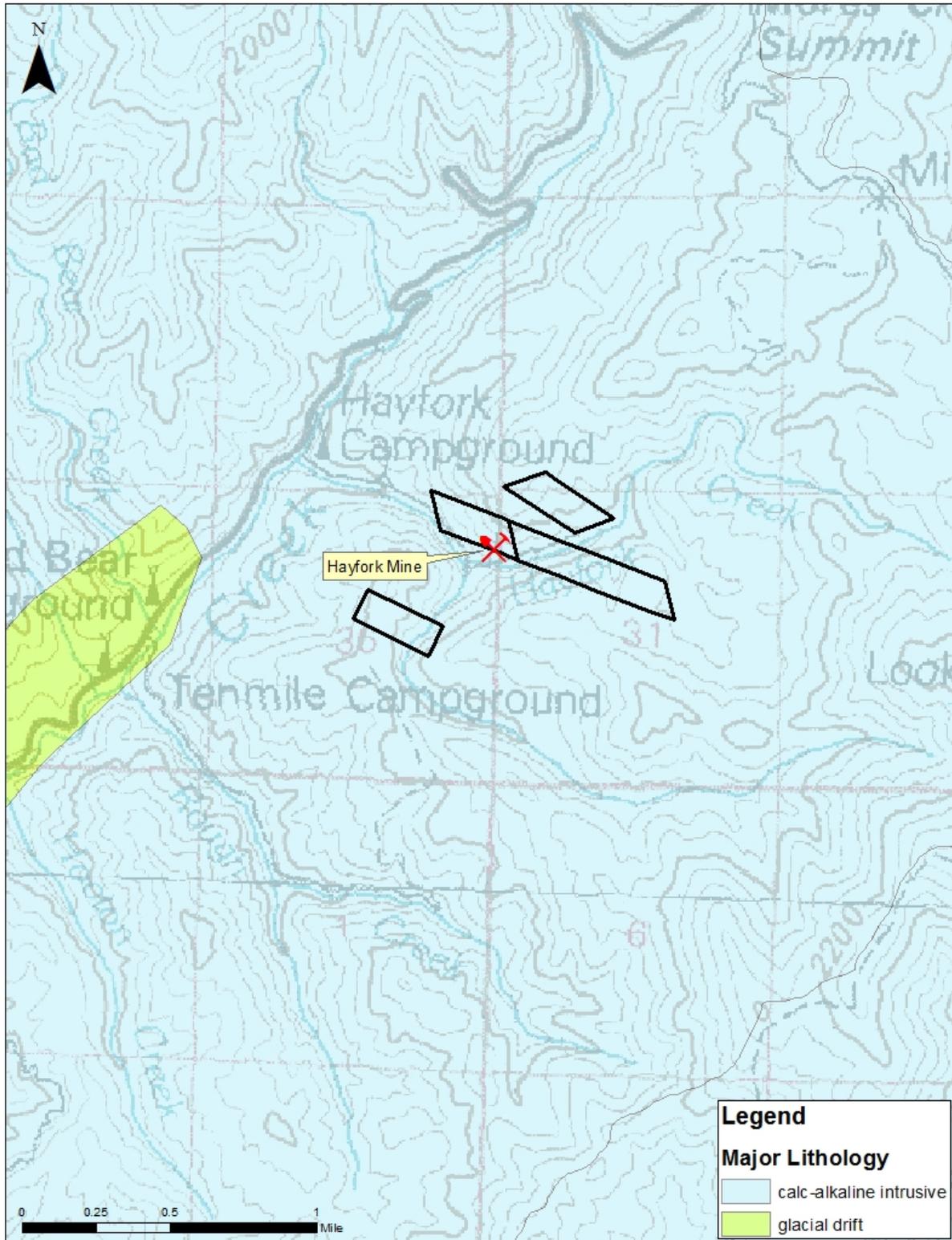


Figure 3. Map of major lithology in the vicinity of the Hayfork Mine.

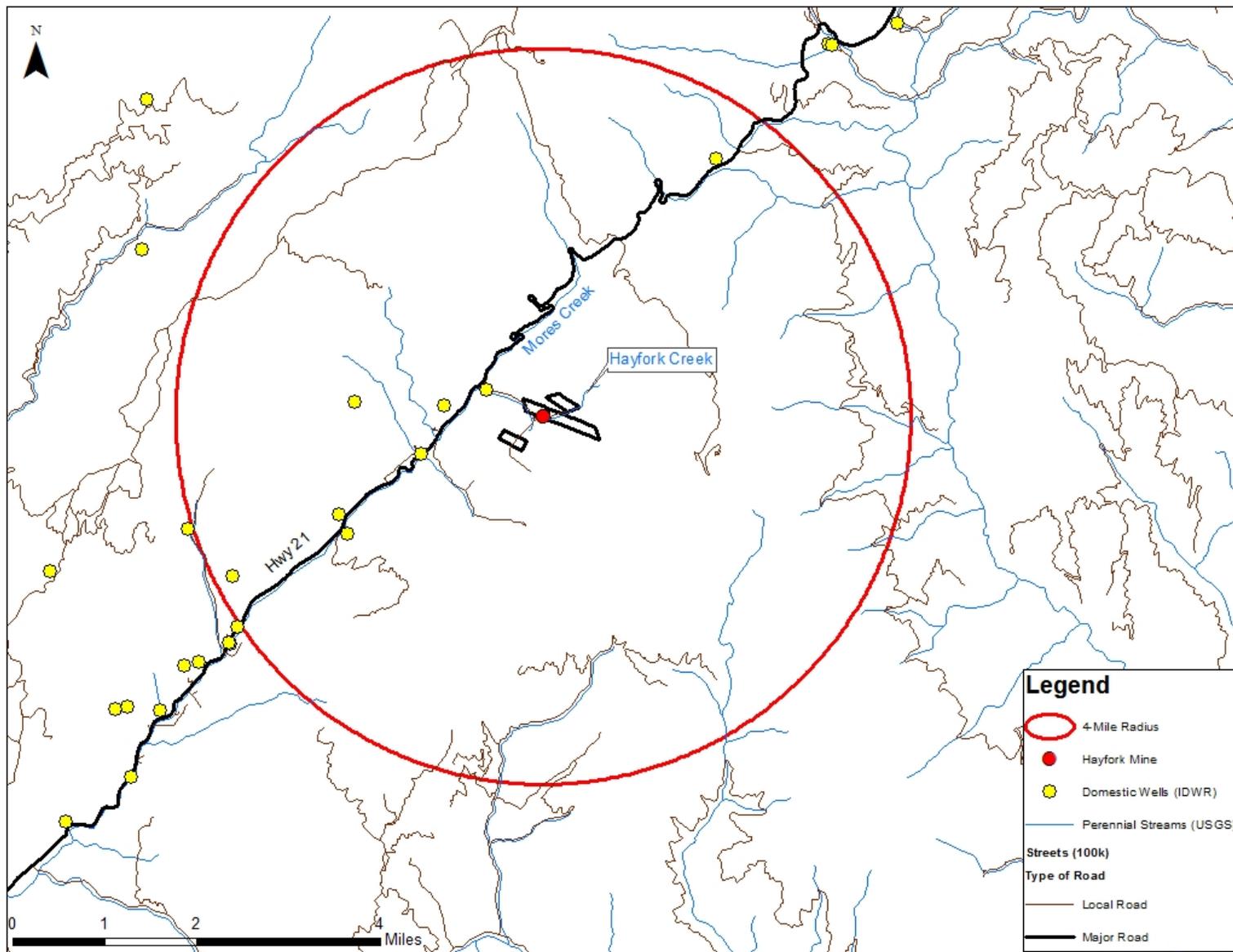


Figure 4. Map of features supporting evaluation of the surface water and ground water pathways in the vicinity of Hayfork Mine.

Section 5. Current Site Conditions and Photographs

The Hayfork Mine area has numerous locations of small mining-impacted areas. The landowner accompanied and directed DEQ to locations with evidence of past mining on June 2, 2016 (Figure 2). During this site inspection, DEQ collected site observations and photographs. Soil and waste rock samples were not collected because waste piles were either not present or relatively small (did not appear to exceed 1,500 cubic yards in volume). In addition, the small waste rock piles were not actively eroding into nearby surface water and/or were well vegetated and not creating fugitive dust. Surface water and sediment samples were not collected because all, except for one adit located on the Gold Bug claim, had no drainage. The small amount of water draining from this adit showed no evidence of acidity (consistent with the calc-alkaline nature of the bedrock in this area); in addition, no rock staining was observed and dense, healthy vegetation was present. Numerous locations were visited; however, the list of locations is not exactly the same as the locations visited by IGS in 1995 (IGS 1995). Sites visited are summarized in this section.

An adit at Site A (Figure 2) was partially collapsed with rock and wood. At the time of the site visit, no water or waste rock piles were present and the adit was accessible (Photos 1-2).



Photo 1. Partially collapsed adit surrounded by rock and wood debris.



Photo 2. Close-up of the adit.

At the location of the former old mill site (Figure 2), no waste rock piles were observed. Remnants of the former mill include wood, rock, and rusty parts (Photo 3).



Photo 3. Location and remains of old mill site.

An adit located on the Gold Bug claim, just north of the former mill site (Figure 2), was mostly collapsed with a small amount of water originating from the adit opening. The surrounding area was covered with dense healthy vegetation (Photos 4-5).



Photo 4. Mostly collapsed adit located on the Gold Bug claim.



Photo 5. Close-up of adit.

As identified in the IGS 1995 report, an old structure was observed on the Switzerland claim. Access to this structure and an open adit is limited because they are located on the other side of a creek (Photos 6-8) from the road with no bridges present in the area. A small waste rock pile is located to the east of the adit (Photo 9). No erosion from the waste rock pile was observed.



Photo 6. Old structure (left) and Switzerland adit (right).



Photo 7. Close-up of old structure at Switzerland adit site.



Photo 8. Close-up of Switzerland adit.



Photo 9. Small waste rock pile east of Switzerland adit.

A well vegetated waste rock pile downhill from a collapsed hole/tunnel was visited on the Humming Bird claim. No openings were observed (Photos 10-11).



Photo 10. Location of old waste rock pile on Humming Bird claim.



Photo 11. Collapsed hole or tunnel (no openings).

The Black Eagle site included a boarded up adit (Photo 12). No water originated from this adit. Approximately 30 feet in front of the adit is an old work shack remodeled into a cabin for summer time use; however, according to the landowner this cabin has not been used in recent years. It is built on a vegetated waste rock pile and tracks exiting the adit have been removed.



Photo 12. Boarded up Black Eagle adit.

Based on information from the landowner, the Black Eagle site also includes a structure built in the 1980s to support prospecting. A tunnel located inside the old structure has caved in (Photos 13-14).



Photo 13. Structure at Black Eagle site.



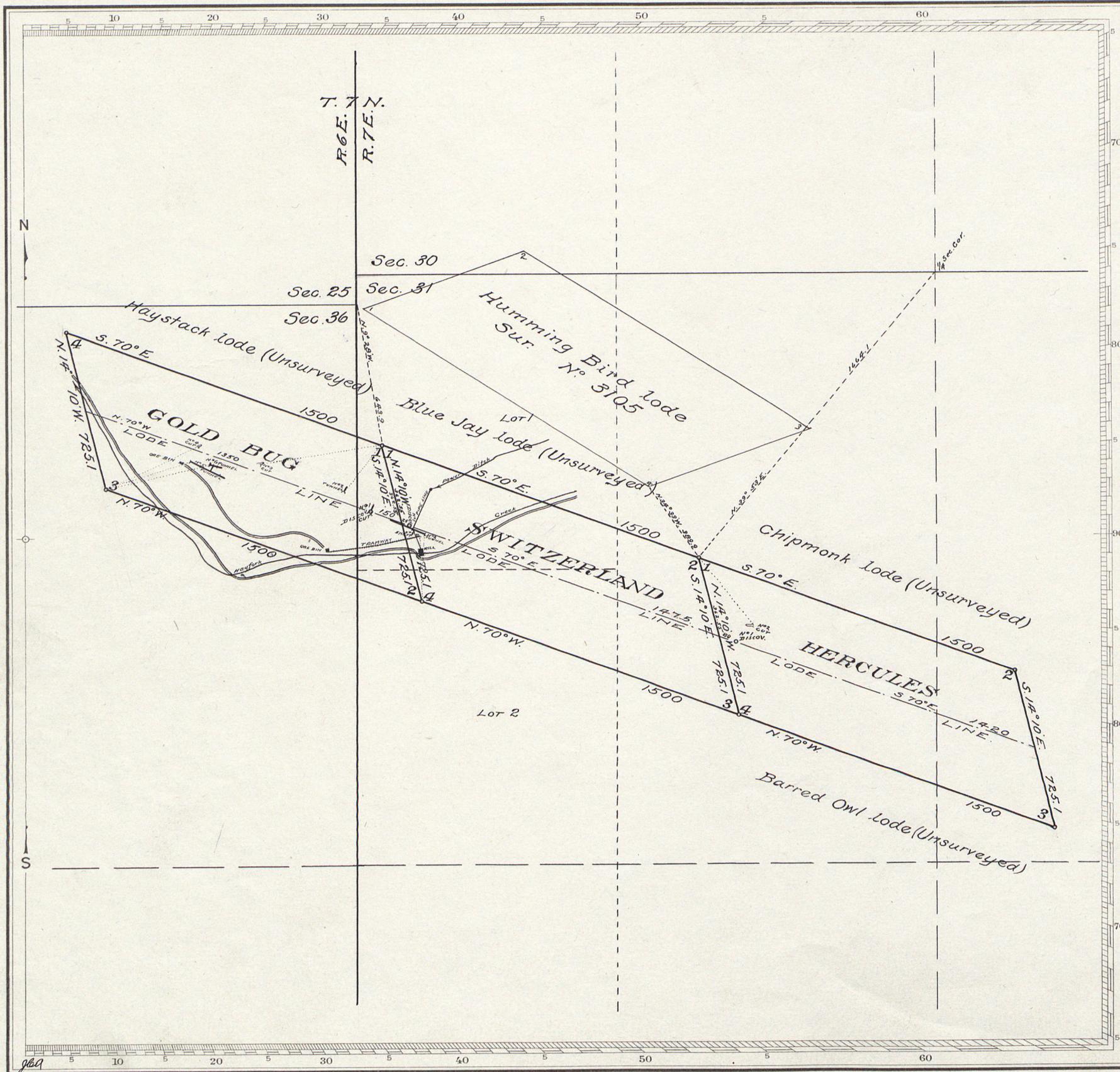
Photo 14. Collapsed tunnel on the back side of old structure.

Section 6. References

- Anderson, A.L. 1947. Geology and Ore Deposits of Boise Basin, Idaho. U.S. Geological Survey Bulletin 944-C.
- BLM (U.S. Department of the Interior Bureau of Land Management). General Land Office Records. 2016. <http://www.glorerecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1>
- IGS (Idaho Geological Survey). 2016. <http://www.idahogeology.org/webmap/?show=mines>
- Mitchell, V.E. and E.H. Bennett. 1995. *Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 4), Chapter Two: Boise National Forest, Part B: Idaho City Ranger District, Section III: Properties In and Near the Pioneerville and Centerville Mining Districts, Boise County, Idaho*. Idaho Geological Survey. Prepared for the U.S. Forest Service.

Appendix A. Historical Mine Plats

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Claim Located Amended September 22, 1925

Mineral Survey No. **3106** PATENTED

Lot No. _____
Boise Land District.

PLAT

OF THE CLAIM OF

Mrs. Josephine R. Jarvis
KNOWN AS THE

**GOLD BUG, SWITZERLAND AND
HERCULES LODES**

**IN MOORES CREEK MINING DISTRICT,
BOISE COUNTY, IDAHO**

Containing an Area of **61.980** Acres.
Scale of **400** Feet to the inch.

Variation **22° E.**
SURVEYED November 23-24 1925 **BY**
Gordon C. Smith
U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of
Mrs. Josephine R. Jarvis
known as the

GOLD BUG GROUP
comprising the above named lodes

from which this plat has been made under my direction,
have been examined and approved, and are on file in this Office,
and I hereby certify that they furnish such an accurate description
of said Mining Claim as will, if incorporated into a patent,
serve fully to identify the premises, and that such reference is
made therein to natural objects or permanent monuments as
will perpetuate and fix the locus thereof.
I further certify that Five Hundred Dollars worth of labor has
been expended or improvements made upon said Mining Claim
by claimant or her grantors and that
said improvements consist of 5 tunnels, 2 winzes, 1 raise
and a common improvement shaft.

that the location of said improvements is correctly shown
upon this plat, and that no portion of said labor or improve-
ments has been included in the estimate of expenditures
upon any other claim.
And I further certify that this is a correct plat of said Mining
Claim made in conformity with said original field notes of the
survey thereof, and the same is hereby approved.

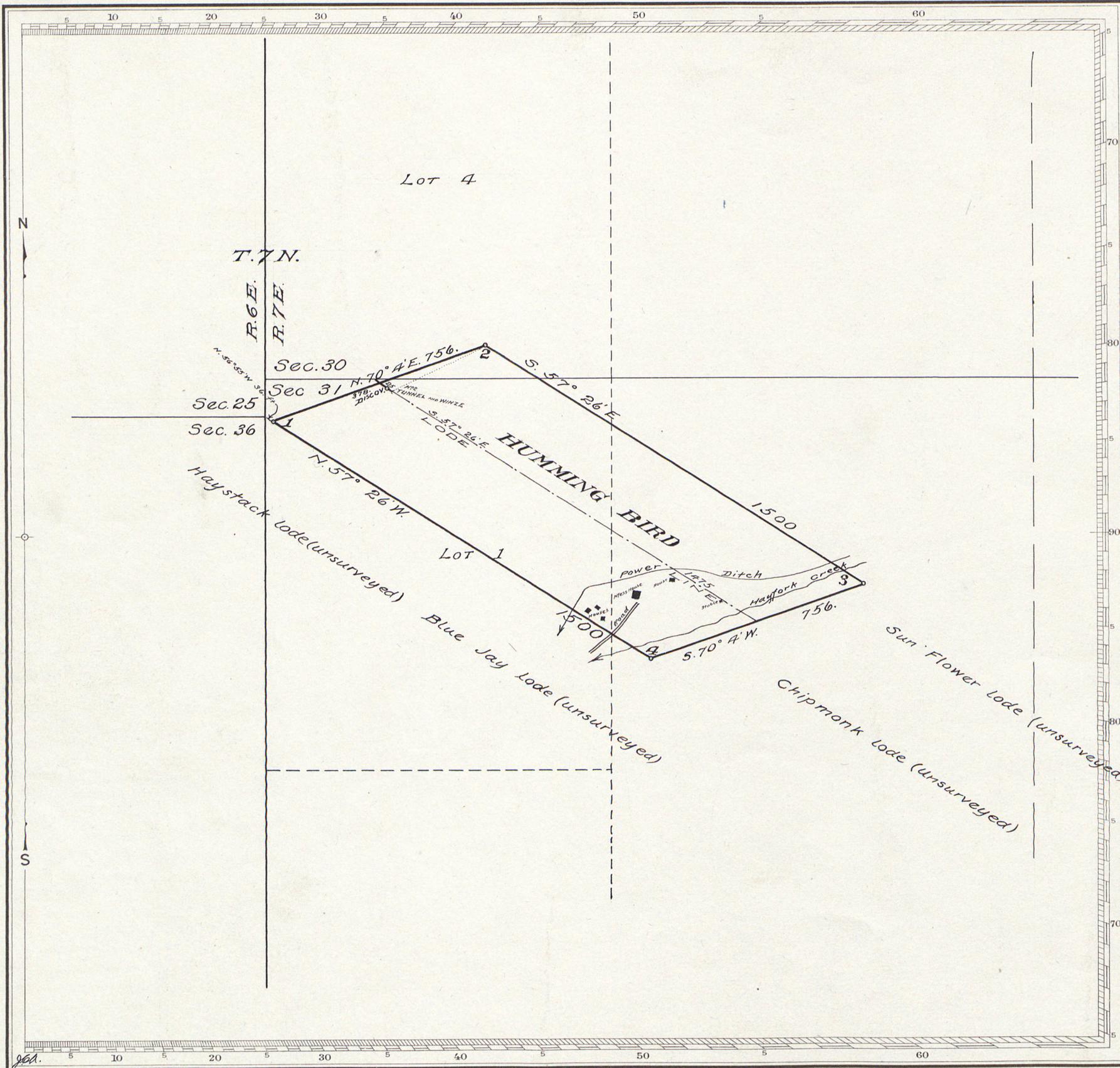
Office of U.S. District *Alan R. McCord*
Cadastral Engineer, } Office Cadastral Engineer
Boise, Idaho, }

December 11, 1925

Amount deposited \$ 125. See MS. 3104 & 3105

Cost of Office Work \$ 31.42

Amount to be Refunded \$ 43.09



Claim Located Amended September 22, 1925

Mineral Survey No. 3105 PATENTED

Boise Lot No. _____ Land District.

PLAT

OF THE CLAIM OF

Mrs. Josephine R. Jarvis
KNOWN AS THE

HUMMING BIRD LODE

IN MOORES CREEK MINING DISTRICT,
BOISE COUNTY, IDAHO
Containing an Area of 20.654 Acres.
Scale of 300 Feet to the inch.
Variation 22° E.

SURVEYED Nov. 23 to Nov. 24 1925 BY
Gordon C. Smith,
U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of
Mrs. Josephine R. Jarvis
known as the HUMMING BIRD LODE

from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof. I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimant or her grantors and that said improvements consist of a winze and part of a tunnel.

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

Alan R. McCord

Office of U.S. District Cadastral Engineer
Boise, Idaho,
December 11, 1925

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Amount deposited \$ 21.29

Cost of Office Work \$ 21.29

Amount to be Refunded \$