

Abbreviated Preliminary Assessment for Silver King Mine

Idaho County



**State of Idaho
Department of Environmental Quality**

November 2015



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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

November 5, 2015

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

Subject: Abbreviated Preliminary Assessment for the Silver King Mine, Idaho County, Idaho

Dear Mr. Marcy:

The Idaho Department of Environmental Quality (DEQ) completed the enclosed Abbreviated Preliminary Assessment (APA) for the Silver King 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 Silver King Mine is located on private property in Idaho County and is part of the Warren Mining District. This assessment was conducted with landowner permission. DEQ visited the site on September 3, 2015. No concerns with past mining activities were observed during the site visit; therefore, no samples were collected.

Based on DEQ's desktop research and site observations, a **No Remedial Action Planned (NRAP)** designation is recommended for the Silver King Mine. The landowner will receive a copy of this APA. This APA 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 blue ink that reads "Dana Swift".

Dana Swift
Mine Waste Project Coordinator

Enclosures

cc: Kenneth L. Smith
William D. Collins

Acknowledgments

DEQ would like to thank Kenneth L. Smith for permitting access to the mine site.

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Introduction

This abbreviated preliminary assessment (APA) for the Silver King Mine in the Warren Mining District, Idaho 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 historical and geologic information (Section 2); current site conditions and photographs (Section 3); maps (Section 4); and references (Section 5). 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 **Date:** 11/2/2015
Mine Waste Project Coordinator
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Boise, ID 83706
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dana.swift@deq.idaho.gov

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

Site Name: Silver King Mine

Previous Names (aka): N/A

Site Owner: Kenneth L. Smith
5028 W. Baywood
Boise, ID 83703

Site Location: The Silver King Mine is accessible by vehicle and then by foot. Follow NF-340 south through Warren and turn left at the road that runs along Slaughter Creek. Vehicle traffic on this road is limited. By foot, at the fork in the road, follow the road to the left. The mine site is located to the north, approximately 0.5 mile northeast of NF-340.
Township 22 North, Range 06 East, Section 12

Latitude: 45.267048°N **Longitude:** -115.667208°W

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

The Silver King Mine was investigated by the DEQ on September 3, 2015 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. Limited historical information is available for this site. The only historical reference document identified by the Idaho Geological Survey (IGS) was Reed 1937. IGS lists the following commodities and approximate ranges of production: silver (10,001-50,000 oz) and gold (101-500 oz).

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 September 3, 2015 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, the Silver King Mine had no mining related water present, no active surface water sources, and no identified releases or potentials for release. The closest residential dwellings are approximately 0.5 mile to the south of the site; occupancy and duration of occupancy within these residences is unknown. No on-site targets were identified. Although this site is located on private property, public access is unrestricted. Current land uses could include recreational activities. Evidence of all-terrain vehicle use and recent chain saw cuts on trees fallen across paths and trails were observed during the site visit. 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
Dana Swift

11/4/2015
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 Silver King Mine. Desktop research and site inspection observations confirm that there are

no current releases of heavy metals or other deleterious materials by surface water, soil exposure, ground water or air pathways.

Section 2. Historical and Geologic Information

The following information is quoted directly from the U.S. Geological Survey Pamphlet No. 45 *Geology and Ore Deposits of the Warren Mining District Idaho County, Idaho* (Reed 1937). DEQ cannot improve or expand upon geologic information included in historic reports; therefore, information from these reports is included as direct quotations. The plate referenced in this quote has not been duplicated in this report.

Silver King vein.

The Silver King vein lies on the hill east of Warren in the northern part of Sec. 12, T. 22 N., R. 6 E. Claims covering the vein are reported to be patented and to belong to the Sigo Myers estate of Savanna, Ga., the owner of the Iola.

The vein is said to have been worked between 1900 and 1906, and to have produced about \$35,000 worth of precious metals, much of it silver. It was opened by several crosscut tunnels from the hillside facing Slaughter Creek and three of the tunnels are located on Plate 1. The tunnel nearest the creek is reported never to have reached the vein. All of the crosscuts are now inaccessible except for the first few hundred feet and, hence, the vein was not seen underground.

The country rock in the vicinity of the Silver King vein is considerably altered and in many places contains tiny veinlets of quartz. Pegmatite in joints is common in the accessible parts of the crosscuts.

The vein was traced on the surface for about 1,300 feet and it trends about N. 67° E. The dip is to the south. The vein appears to follow a distinct zone of fracturing in the quartz monzonite. In many places the zone is at least 5 feet thick and the fractures are filled with white vein quartz, in places as much as one foot thick. The veins and veinlets in the fractures are everywhere observed sharply separated from the walls and show no gradation into the walls. At places, the vein quartz contains angular fragments of quartz monzonite. The white quartz contains sparsely disseminated, fine-grained sulphides.

Section 3. Current Site Conditions and Photographs

Silver King Mine site observations and photographs were collected during the DEQ site inspection on September 3, 2015. The weather was approximately 50°F with light rain. Minimal evidence of mining was observed during the visit (Photos 1-3). A location of the former tunnel(s) has caved in and waste rock piles remain (Photos 4-6). However, at the time of the site visit, there were no active water sources draining from the mining area, the site is well vegetated, no erosion from the waste rock piles was observed, and the waste rock is believed to be only from underground workings as no evidence of milling operations took place on the site. The main road to the mine site has not been maintained (Photo 7).



Photo 1. Silver King Mine old workings area.



Photo 2. Silver King Mine old workings area.



Photo 3. Silver King Mine old workings area.



Photo 4. Caved in tunnel and waste rock piles.



Photo 5. Waste rock piles near caved in tunnel.



Photo 6. Caved in tunnel and waste rock piles.



Photo 7. Non-passable road to Silver King Mine site.

Section 4. Maps

The Silver King Mine is located northeast of Warren, Idaho (Figure 1). Specific site location details are included in the above checklist. The generalized geology of this area is shown in Figure 2 with a description included in Section 2 of this report.

The Silver King Mine is located north of Slaughter Creek. For the surface water pathway, the probable point of entry (PPE) is into unnamed drainages located within the Silver King Mine property boundary. The 15-mile target distance limit (TDL) follows Slaughter Creek to Warren Creek and ends in the Salmon River near the confluence with Indian Creek (Figure 3). Wetlands are present downstream of the site within a 2-mile radius (Figure 3). At the time of the site visit, there were no active water sources draining from the mining area and no evidence of erosion from the waste rock piles; therefore, the potential for exposure from surface water pathways is minimal.

There are seven domestic wells and no public water systems (PWS) within the four mile radius of the Silver King Mine (Figure 3). 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 since no history of milling operations is known for this site. The waste rock piles are surrounded by vegetation; therefore, fugitive dust is likely limited in this area. The nearest residences are approximately 0.5 mile to the south and southeast of the site. No schools or day care facilities are known to be located within four miles of the mine site. The potential for exposure from the soil and air pathways are minimal.

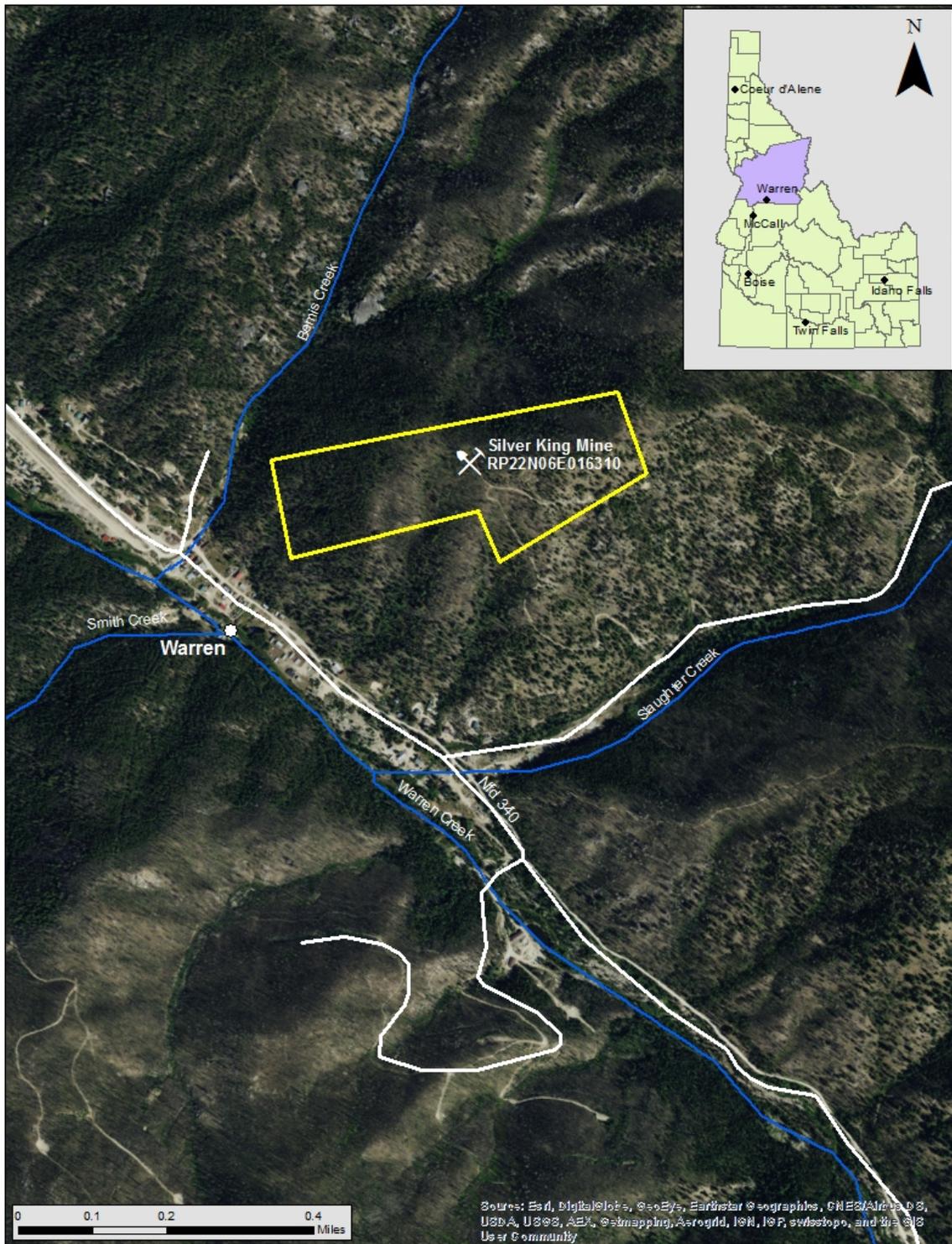


Figure 1. Aerial overview map of the Silver King Mine site with parcel boundary outlined in yellow.

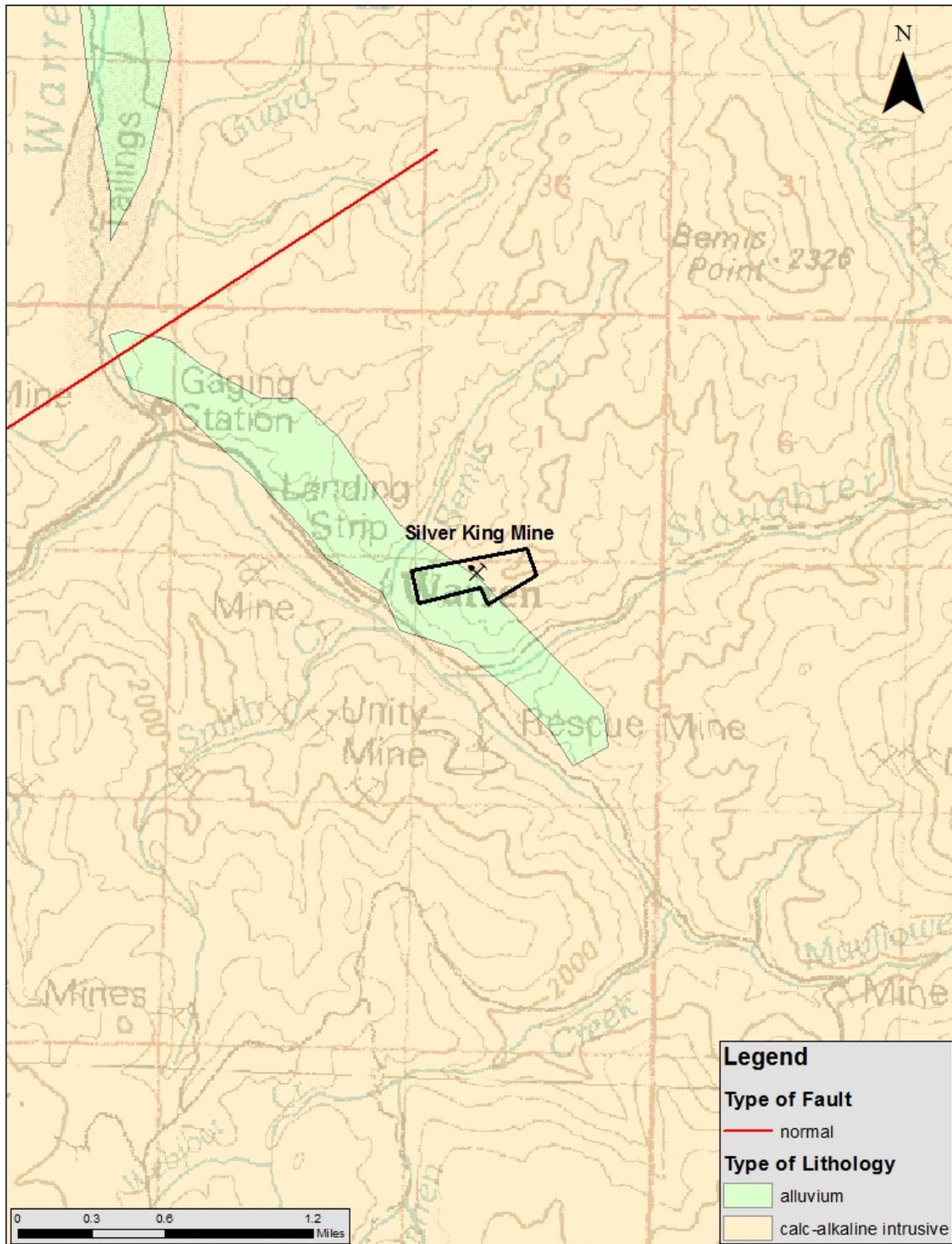


Figure 2. Map of major lithology in the vicinity of the Silver King Mine.

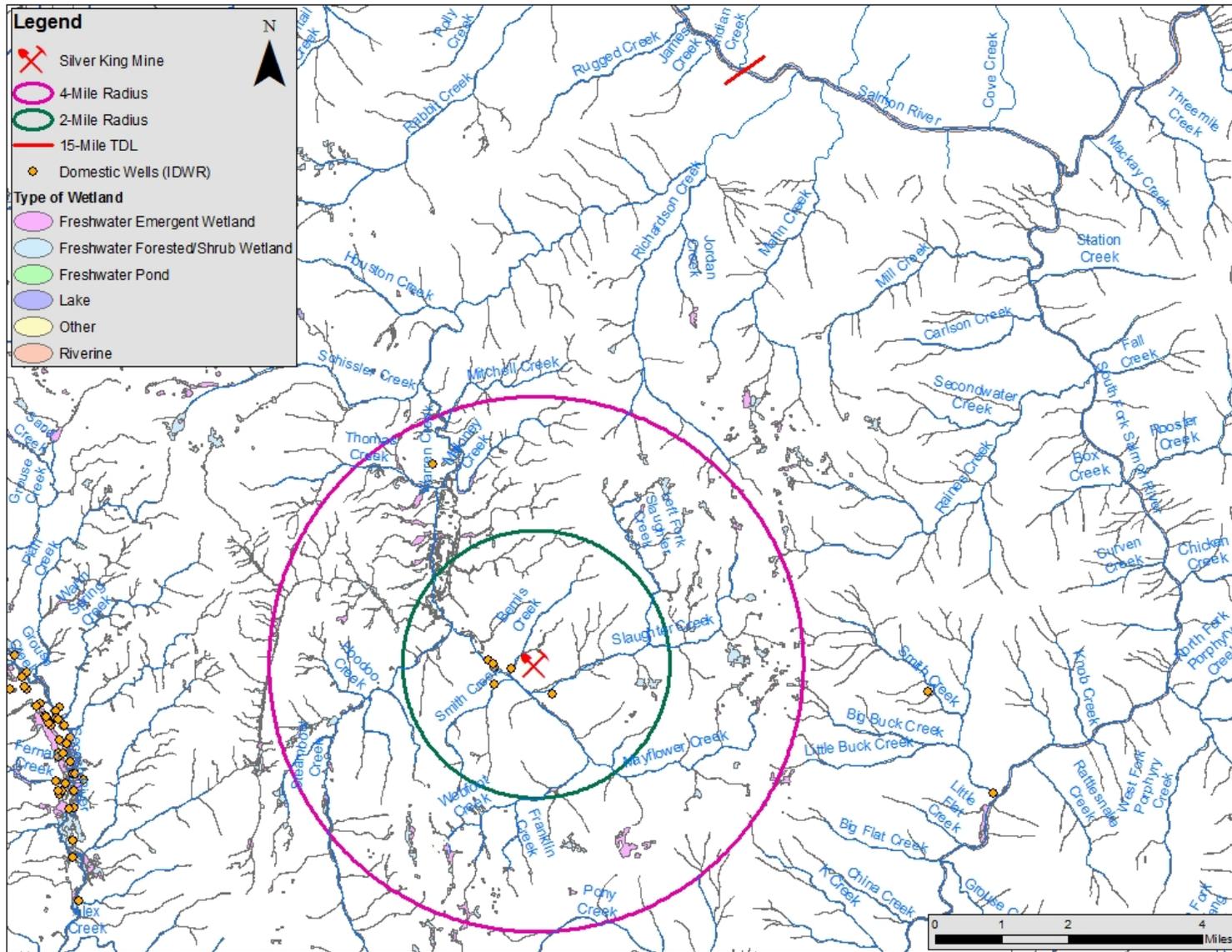


Figure 3. Map of features supporting evaluation of the surface water and ground water pathways in the vicinity of the Silver King Mine.

Section 5. References

- EPA (U.S. Environmental Protection Agency). 1999. *Improving Site Assessment: Abbreviated Preliminary Assessments*. Quick Reference Guidance Series. Office of Emergency and Remedial Response Site Assessment Team. EPA-540-F-98-037. OSWER 9375.2-09FS. PB98-963308.
- IGS (Idaho Geological Survey). 2015. Mine Database. Available at:
<http://www.idahogeology.org/webmap/?show=mines>
- Reed, J.C. 1937. *Geology and Ore Deposits of the Warren Mining District Idaho County, Idaho*. University of Idaho, Moscow, Idaho. Pamphlet No. 45.

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