

Abbreviated Preliminary Assessment for Anderson Family Property

Elmore County



**State of Idaho
Department of Environmental Quality**

December 2018

Acknowledgments

DEQ would like to thank Mark Anderson for permitting access to his property.

Contents

Introduction.....	3
Section 1. APA Checklist	4
Task 1—Superfund Eligibility Evaluation	4
Task 2—Initial Site Evaluation	5
Task 3—DEQ Site Assessment Decision.....	6
Section 2. Historical and Geologic Information	7
Section 3. Maps.....	9
Section 4. Current Site Conditions and Photographs.....	13
Section 5. References.....	18

Tables

Table 1. Site assessment decision guidelines for a site.....	6
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Figures

Figure 1. Aerial overview map of the Anderson Family Property in Elmore County, Idaho.....	10
Figure 2. Map of major lithology in the vicinity of the Anderson Family Property.....	11
Figure 3. Map of features supporting evaluation of the surface water and ground water pathways and wetlands in the vicinity of the Anderson Family Property.....	12

Photos

Photo 1. Overview of property and dredge piles on northwest part of site, looking east.....	13
Photo 2. Dredge piles in northwest part of property, looking east-southeast.....	14
Photo 3. View to southeast across top of dredge piles. Snake River in background.....	14
Photo 4. East end of area proposed for development, looking north. Dredge piles in background.....	15
Photo 5. Flat area on low bench adjacent to Snake River proposed for development, looking south-southeast.....	15
Photo 6. Vegetation at base of dredge piles, looking north-northeast	16
Photo 7. Gravel surface on top of dredge pile.....	16
Photo 8. Vegetation on top of dredge piles, looking west.....	17
Photo 9. View of farm property across the Snake River, looking south.....	17

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Introduction

This abbreviated preliminary assessment (APA) for the Anderson Family Property, located in Elmore 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. This APA follows the format and guidelines of the U.S. Environmental Protection Agency (EPA) *Abbreviated Preliminary Assessment Checklist* (EPA 1999).

Section 1 provides the APA checklist 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); maps (Section 3); current site conditions and photographs (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.

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Date of Site Inspection: 11/9/2018

Site Inspector: Carolyn Cooper, DEQ State Office

Site Name: Anderson Family Property

Previous Names (aka): Pt. Alturas Bonanza Bar Placer (legal description)

Site Owner: Mark Anderson

Site Location: The Anderson Family Property is accessible by vehicle. From Boise, go east on Interstate 84. Take exit 120 to Glens Ferry. Go south on Bannock Street, turn left onto Old U.S. 30, turn right on Commercial Street, continue on Madison Avenue approximately 2.2 miles to the property boundary. Property is bound on the west and south by the Snake River and on the east by Three Island Crossing State Park.

Township 5 South, Range 9 East, Sections 35 and 36

Coordinates at approximate center of the property:

Latitude	Longitude
42.940189°N	-115.337533°W

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

The Anderson Family Property was investigated by DEQ on November 9, 2018 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. Historical and geological information available for this site is summarized in Section 2. Photographs showing the current site conditions are shown in Section 4.

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 November 9, 2018 site inspection. No structures or equipment related to historic mining were observed at the site. Numerous dredge piles, which appear to consist primarily of soil and gravel, were present on the northwestern part of the property. Soil samples were not collected from the dredge piles, because the piles were not observed to be 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 there was no evidence of erosion or drainage from the piles.

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 dredge piles were observed. Current land uses include agricultural and recreational activities. The site is located on private property and is maintained by the property owner. Potential risks to human or ecological receptors associated with this area are minimal. According to the property owner, future land uses may include residential development along a low bench adjacent to the Snake River.

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:

- | | |
|---|--|
| <input checked="" type="checkbox"/> No Remedial Action Planned (NRAP) | <input type="checkbox"/> Refer to Removal Program – further site assessment needed |
| <input type="checkbox"/> Higher Priority SI | <input type="checkbox"/> Refer to Removal Program – NFRAP |
| <input type="checkbox"/> Lower Priority SI | <input type="checkbox"/> Site is being addressed as part of another CERCLIS site |
| <input type="checkbox"/> Defer to RCRA Subtitle C | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Defer to NRC | |

DEQ Preparer:

Carolyn Cooper

12/21/2018

Carolyn Cooper

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 Anderson Family Property. Supporting information is included in the following sections.

Section 2. Historical and Geologic Information

The Idaho Geological Survey (IGS) does not have any specific commodity, production, location, or historical information for the subject property. However, historical documents related to mining in the area were available from the IGS Database of the Mines and Prospects of Idaho (IGS 2018). Historic placer mining, primarily for gold, was conducted along the Snake River, starting in the late 1800s.

DEQ cannot improve or expand upon historical information included in previously published reports and other publications; therefore, information from these documents is included as direct quotations.

The following information is from *Notes on the Fine Gold of Snake River, Idaho* (Hill 1915):

History

Though flour gold was known to exist in considerable quantities in Snake River, it was not until 1871 that experiments were made toward its recovery. For many years the gravels of Snake River have been intermittently worked at a large number of places, extending from Moran, Wyo. (Buffalo Fork), to the mouth of Boise River. None of the larger operations, so far as known, have met with marked financial success, though unquestionably some individuals have made a small amount of money. Probably the most extensive workings on Snake River were in southern Idaho, in the vicinity of Rupert, Minidoka, and American Falls.

Placer Gravels-Distribution

The placer gold deposits along Snake River may be classed as stream placers and bench placers. The stream placers consist of boulders, gravels, and sands that form bars, banks, fills, and shoals along the present streams. Many of these deposits are temporary and change more or less during every heavy storm. The bench placers are older stream deposits, at higher levels represented by terrace remnants.

At King Hill and Glens Ferry several attempts to dredge the present stream gravels have not proved financially successful. In the canyon between King Hill and Guffeys there are a number of bars that have been worked in the past. It is thought that most of these gravels are in the present stream channel, though little information is available concerning the operations on this part of Snake River.

Placer Gravels-Character

The gravels of Snake River consist for the most part of white, cream-colored, and gray quartzite pebbles, with some pebbles of dark slates and a few of white quartz and red and gray flint. Pebbles of granular and fine-grained igneous rocks and schist occur in the Jackson Hole country and in less numbers along the lower part of the river. The sand accompanying the gravels is composed in the main of quartz grains and heavy minerals. In most places there are grains of a black sand that is light in weight and can be washed away from the heavy "black sands."

The gravels are of two fairly distinct sizes and are more or less sorted. By far the greater in amount are the relatively coarse gravels, such as are most abundant in the present river channel. Lying in small lenses in the coarse gravels and on the tops of the high bars of the present Snake River channel are smaller deposits of fine gravels. The fine gravels are everywhere mixed with a much larger quantity of heavy sands than the

coarse gravels and carry more gold. These gravels are locally known as the "skimbar" gravels. The terrace gravels contain lenses of fine gravels that are believed to be old skim-bar gravels.

Gold Distribution

The gold is most often found in appreciable amounts in the gravels of the terrace and present stream deposits and is more abundant in the fine gravels. The most valuable gravels found along Snake River, comparable to skim-bar gravels, are much finer than the average material handled by the river. The gold content of the skim-bar gravels is not equally distributed over the skim bar. The richest gravels are found in the outer edges of the bars, where the gravels "tail off," and to a depth of 6 to 8 inches only. The rich gravels consist of heavy particles carried, probably in suspension, by strong currents during high water and deposited at the edges of the higher bars, where eddies have retarded the currents or where the carrying capacity of the water is checked by the lessening of the depth of the channel.

Gold Character

The Snake River gold is in minute particles, most of which are flat. The largest pieces are scarcely 0.01 inch in diameter, and the colors range from those of that size to some so small that the separate flakes can be distinguished only with a high-power microscope. The large flakes as a rule are somewhat cupped, apparently owing to the turning up of their edges by repeated knocks. This characteristic was noted in most of the colors separable by the eye. Most of the microscopic colors are flat, but some are rounded irregular grains. Most of the gold has a bright-yellow color, but certain flakes appear red-brown in some lights. In part the color of the rusty gold appears to be due to a roughened surface, but some of the larger flakes of brown color have a thin coating of brown material that is probably iron hydroxide.

The following historical and geological information is quoted from *Fine Gold of Snake River and Lower Salmon River, Idaho* (Staley 1945):

Snake River

Historically, the presence of gold along the Snake River was among the first discoveries in the State. A determined effort toward mining through this area apparently was not undertaken until the Seventies (1870s). The size of Snake River gold particles has been the contributing cause of difficulties in past operations. These particles are so small as to require 3,000 to 4,000 of them to have a value of one cent (gold, \$35.00 per ounce). Still there is found an appreciable quantity of coarser particles and occasional nuggets. A very small amount of platinum usually accompanies the gold.

Production

Very unsatisfactory records were kept on the production of the area under consideration, and this is equally true of both the Snake and the Salmon. An estimate for Snake River production from Elmore County is 759 ounces, or approximately 0.2% of the total amount taken from the river.

Mining

From available information it would appear that every conceivable kind of apparatus has been tried – bucket dredges, suction dredges, dragline scrapers, dragline shovels, picks, shovels, and wheelbarrows, etc. With the exception of one instance (the Sweetser-Burroughs Suction Dredge near Minidoka), there is no record of the economic success of any of the large-scale ventures. The numerous investigators of Snake River gold deposits are all unanimous in stating that, at least up to the time of their investigation, the small operation alone has paid a profit.

Treatment and Recovery of Gold

Experience has shown that the gold occurring in Snake River is not difficult to recover. Very simple equipment has been successfully used. The Sweetser-Burroughs dredge contained burlap-covered tables.

The successful small-scale operations also used burlap or similar covering or expanded metal lath or punched steel plates.

The following information is quoted from *A History of Gold Dredging in Idaho* (Spence 2015):

The period prior to about 1910 was largely a time of trial-and-error experimentation. The new dredging ideas on the Snake extended from around Huntington in Oregon to east of Idaho Falls and were especially prominent in the region from Weiser to perhaps Caldwell, with lesser applications in the stretch from Grand View, Bruneau, and Glens Ferry.

In late 1903, the *Boise Statesman* reported that the Canton-Snake Gold Company was building a dredge at Glens Ferry to work on the river. The bucket-line dredge was powered by two large marine boilers and four huge steam engines and was expected to dig up to 7,200 cubic yards a day...these efforts seem to have come to naught. In early 1906 the Ida-Elmore Company announced that it was ready to start up the old Canton machine above Glens Ferry. The dredge had been lying idle for some time because of a breakdown. Alas, this was but another of the Snake's "successful failures." Again, the result did not lead to any sustained digging. Later that same year, J.N. Parks, the treasurer of the Idaho Gold Extraction Company, was operating a dredge on the Snake near Glens Ferry. Although the dredge had been working for only three weeks, Parks believed the results demonstrated the richness of the ground. Because of low water, the dredge was digging the river bottom rather than the company's extensive placer gravels onshore...No further information was forthcoming. Either the process itself was flawed, or the black sands were not concentrated enough to make their operation economically successful.

In 1938 the US Bureau of Mines put out an information circular in which it warned individuals and companies against being too optimistic regarding the chances of striking it rich by handling black sands.

Section 3. Maps

The Anderson Family Property is located in Elmore County approximately 70 miles southeast of Boise, Idaho (Figure 1). Specific site location details are included in Section 1. The generalized geology of this area is shown in Figure 2.

Using the approximate center point of the property, Figure 3 shows the surface water, public water systems, domestic wells, and wetlands within a four mile radius of the subject property. There are two public water systems and eighty domestic wells within the four mile radius of the site. The Snake River forms the southern and western boundaries of the subject property, and there are numerous wetlands within the four mile radius. The potential for exposure from ground water and surface water pathways is minimal.

Based on ownership and property boundaries obtained from the parcel maps for Elmore County (Idaho State Tax Commission 2018), the nearest residential dwelling is located 0.8 mile to the northeast of the property. The entire town of Glens Ferry, with an approximate population of 1,300 residents, lies within the four mile radius of the site. Three schools are located within four miles of the subject property. No day care facilities are known to be located within the four mile radius of the site.

The on-site soil/gravel piles appear to be dredge piles from historic placer mining activities. The piles were surrounded by vegetation and limited erosion was observed; therefore, fugitive dust from the piles is likely limited. No structures or equipment related to historic mining activities were observed at the site. Current land uses include agricultural and recreational activities. Overall, the potential for exposure from the soil and air pathways is minimal.

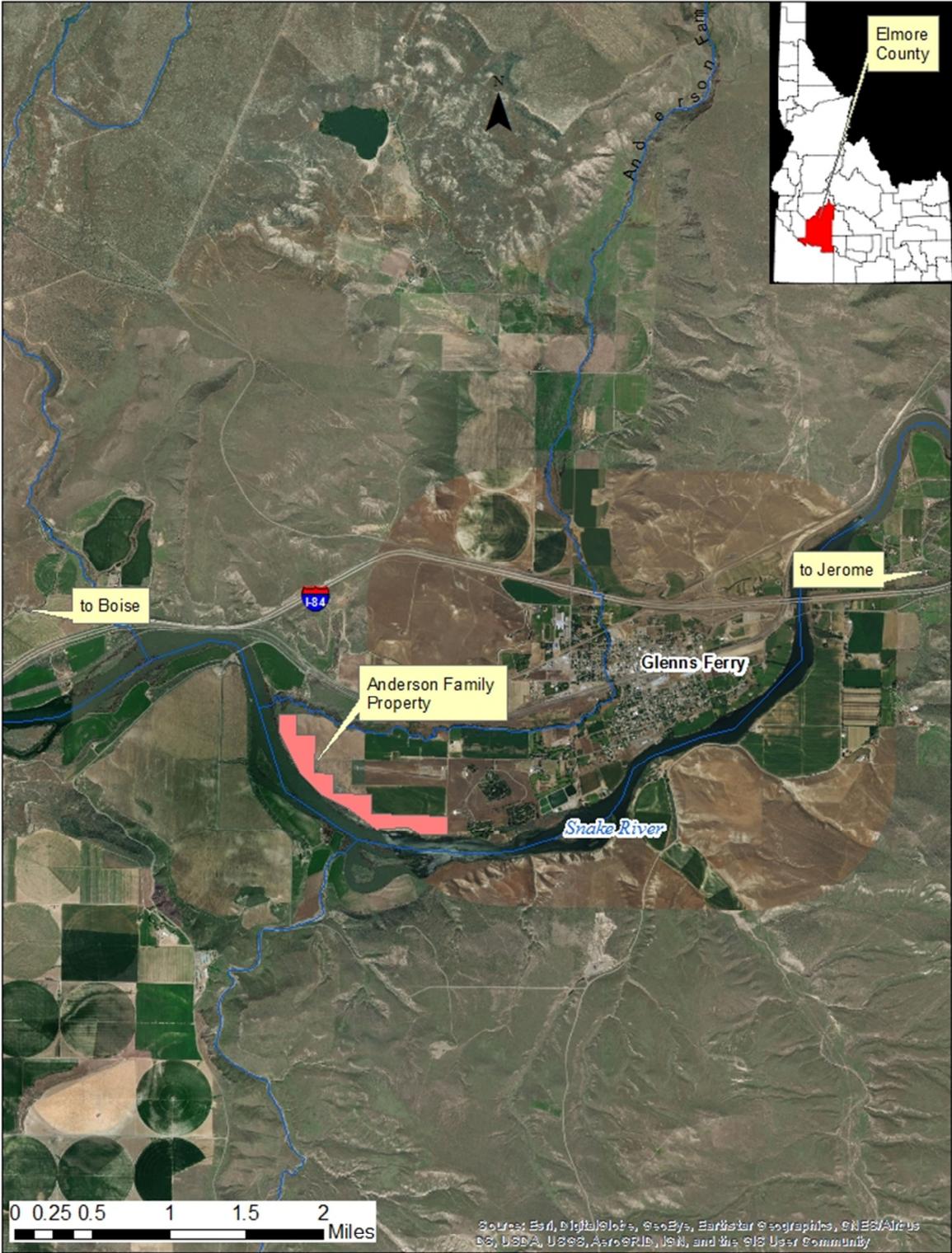


Figure 1. Aerial overview map of the Anderson Family Property in Elmore County, Idaho.

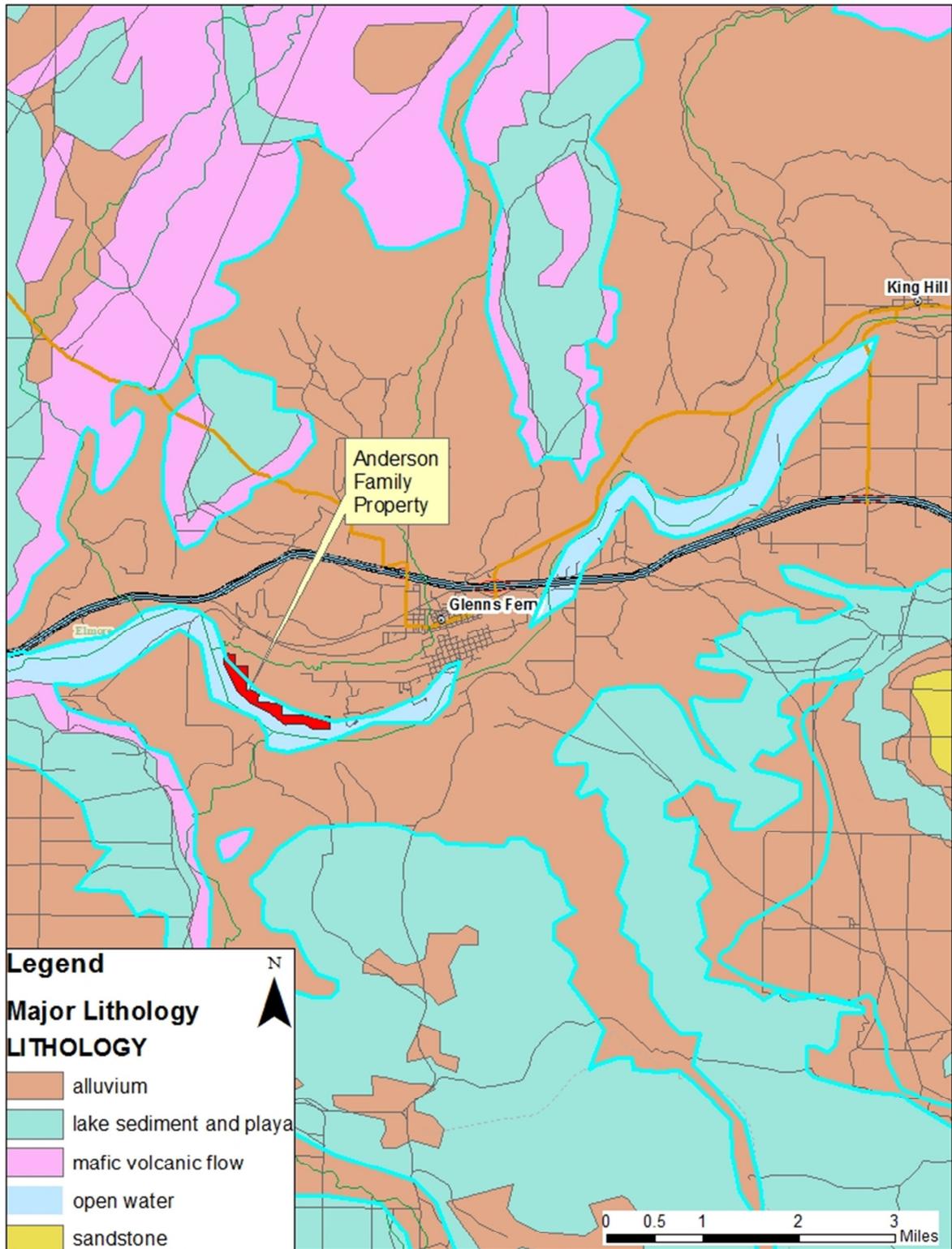


Figure 2. Map of major lithology in the vicinity of the Anderson Family Property.

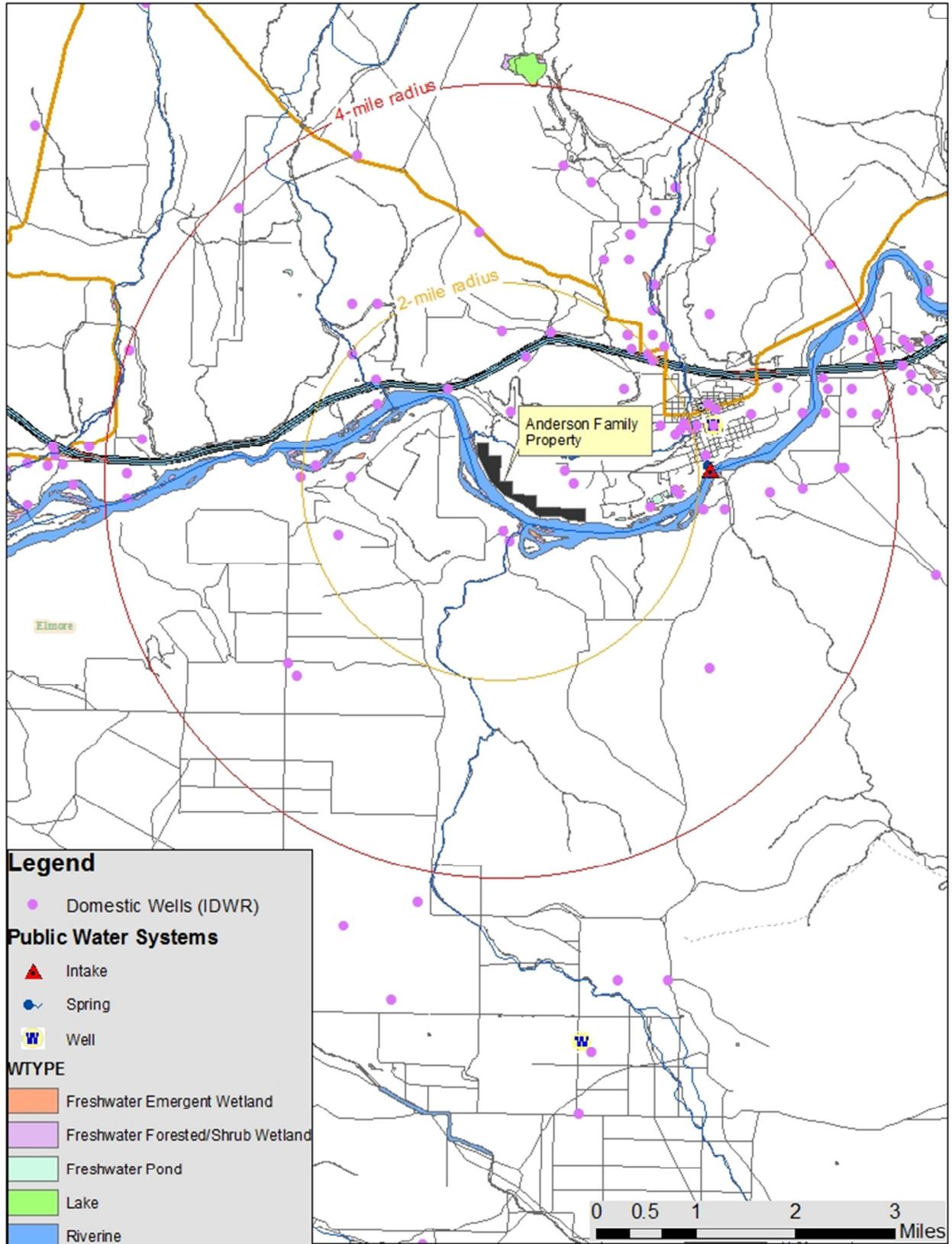


Figure 3. Map of features supporting evaluation of the surface water and ground water pathways and wetlands in the vicinity of the Anderson Family Property.

Section 4. Current Site Conditions and Photographs

Observations and photographs of the Anderson Family Property were collected during the DEQ site inspection on November 9, 2028. Soil samples were not collected from dredge piles, because the piles were not observed to be 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 there was no evidence of erosion or drainage from the piles.



Photo 1. Overview of property and dredge piles on northwest part of site, looking east.



Photo 2. Dredge piles in northwest part of property, looking east-southeast.



Photo 3. View to southeast across top of dredge piles. Snake River in background.



Photo 4. East end of area proposed for development, looking north. Dredge piles in background.



Photo 5. Flat area on low bench adjacent to Snake River proposed for development, looking south-southeast.



Photo 6. Vegetation at base of dredge piles, looking north-northeast



Photo 7. Gravel surface on top of dredge pile.



Photo 8. Vegetation on top of dredge piles, looking west.



Photo 9. View of farm property across the Snake River, looking south.

Section 5. References

EPA (U.S. Environmental Protection Agency). 1999. *Abbreviated Preliminary Assessment Checklist*.

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Staley, W.W. 1945. *Fine Gold of Snake River and Lower Salmon River, Idaho*. Idaho Bureau of Mines and Geology, University of Idaho, Moscow, Idaho, Pamphlet No. 72.