

**APPROVED JURISDICTIONAL DETERMINATION FORM  
U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): June 17, 2015**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Halliburton Rossi Mine, SPK-2014-00755**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: **Nevada** County/parish/borough: **Elko** City:

Center coordinates of site (lat/long in degree decimal format): Lat. **41.0761410778586°**, Long. **-116.427157052026°**  
Universal Transverse Mercator: **11 548121.6 4547367.57**

Name of nearest waterbody: **Boulder Creek**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Rye Patch Reservoir**

Name of watershed or Hydrologic Unit Code (HUC): **Rock, Nevada., 16040106**

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., onsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form:

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: **June 17, 2015**

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet, wide, and/or acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: Pick List**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **The waters identified as "S-5, S-6, and S-12" totaling 3.42 miles as well as the W-2, W-3, W-4, W-5, W-6, W-7, and W-8" totaling 8.42 acres are intrastate isolated waters with no apparent interstate or foreign commerce connection. The wetlands identified as "W-1 and W-8" totaling 1.53 acres are adjacent to the waters identified as "S-1, S-3, S-4, S-10, and S-13". Waters S-1, S-3, S-4, S-10, and S-13 total 5.11 miles of ephemeral streams with no significant nexus to a traditional navigable water. See below for more discussion.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

**SECTION III: CWA ANALYSIS**

**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

**1. TNW**

Identify TNW:

Summarize rationale supporting determination:

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent":

**B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: **Pick List**  
Drainage area: **444 square miles**  
Average annual rainfall: **12 inches**  
Average annual snowfall: inches

**(ii) Physical Characteristics:**

**(a) Relationship with TNW:**

- Tributary flows directly into TNW.
- Tributary flows through **4** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.  
Project waters are **30 (or more)** river miles from RPW.  
Project waters are **30 (or more)** aerial (straight) miles from TNW.  
Project waters are **30 (or more)** aerial (straight) miles from RPW.  
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: **S-13 is an ephemeral stream with an abutting wetland, W-8, and is a tributary to S-3 and the adjacent wetland W-1. S-1 and S-3 are ephemeral streams that are tributary**

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

to Little Coyote Creek (S-4). Little Coyote Creek and S-10 are tributaries to Antelope Creek. Antelope Creek is a tributary to Rock Creek which is tributary to the Humboldt River. The Humboldt River forms Rye Patch Reservoir a TNW-NIF water of the U.S.

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

- Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: **0.5 - 5** feet  
Average depth:       feet  
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

- |  |  |                                   |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts           | <input type="checkbox"/> Sands                     | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles         | <input type="checkbox"/> Gravel                    | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock         | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> Other. Explain: |  |                                   |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope):       %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

Surface flow is: **Pick List.** Characteristics:

Subsurface flow: **Pick List.** Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- Bed and banks  
 OHWM<sup>6</sup> (check all indicators that apply):
- |  |   |
|--|---|
| <input type="checkbox"/> clear, natural line impressed on the bank   | <input type="checkbox"/> the presence of litter and debris          |
| <input checked="" type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation      |
| <input type="checkbox"/> shelving                                    | <input type="checkbox"/> the presence of wrack line                 |
| <input type="checkbox"/> vegetation matted down, bent, or absent     | <input type="checkbox"/> sediment sorting                           |
| <input type="checkbox"/> leaf litter disturbed or washed away        | <input type="checkbox"/> scour                                      |
| <input type="checkbox"/> sediment deposition                         | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining                              | <input type="checkbox"/> abrupt change in plant community           |
| <input type="checkbox"/> other (list):                               |   |
- Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that

apply):

- |  |  |
|--|--|
| <input type="checkbox"/> High Tide Line indicated by:              | <input type="checkbox"/> Mean High Water Mark indicated by:            |
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |  |
| <input type="checkbox"/> other (list):                             |  |

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

**(iii) Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:  
Identify specific pollutants, if known:

**(iv) Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

**(a) General Wetland Characteristics:**

Properties:

Wetland size: **1.53** acres

Wetland type. Explain: **palustrine emergent**

Wetland quality. Explain: **disturbed, used for livestock grazing.**

Project wetlands cross or serve as state boundaries. Explain:

**(b) General Flow Relationship with Non-TNW:**

Flow is: **Ephemeral flow**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

- Dye (or other) test performed:

**(c) Wetland Adjacency Determination with Non-TNW:**

- Directly abutting
- Not directly abutting
  - Discrete wetland hydrologic connection. Explain:
  - Ecological connection. Explain:
  - Separated by berm/barrier. Explain:

**(d) Proximity (Relationship) to TNW**

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Flow is from: **No Flow**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:  
Identify specific pollutants, if known:

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **2**

Approximately **1.53** acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)  
W-1

Size (in acres)

Directly abuts? (Y/N)  
W-8 (N)

Size (in acres)  
0.42

Summarize overall biological, chemical and physical functions being performed:

**C. SIGNIFICANT NEXUS DETERMINATION**

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: **S-13 is an ephemeral stream that is tributary to S-3. S-1 and S-3 are ephemeral streams that are tributary to Little Coyote Creek (S-4). Little Coyote Creek and S-10 are tributaries to Antelope Creek. Antelope Creek is a tributary to Rock Creek which is tributary to the Humboldt River. Rock Creek only occasionally connects to the Humboldt River (USGS Study, Prudic et al. 2005). Due to limited flows during rain and snowmelt events and the distance to the Humboldt River (approximately 30 miles) and Rye Patch Reservoir (approximately 120 miles) any flows from Little Coyote Creek or S-10 would be lost due to evaporation and infiltration prior to reaching Rye Patch Reservoir. S-1, S-3, Little Coyote Creek (S-4), S-10 and S-13 do not have a significant nexus to Rye Patch Reservoir, the nearest TNW-NIF, due to insufficient frequency, duration, and volume of flow to have an effect on waters of the U.S.**
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

**D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):**

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - TNWs: linear feet, wide, Or acres.
  - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:

- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:           linear feet            wide.
  - Other non-wetland waters:            acres.
- Identify type(s) of waters:

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:           linear feet,            wide.
  - Other non-wetland waters:            acres.
- Identify type(s) of waters:

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
  - Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
  - Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area:            acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:            acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:            acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

- As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
- Demonstrate that impoundment was created from “waters of the U.S.,” or
  - Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
  - Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

**Identify water body and summarize rationale supporting determination:**

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:           linear feet,           wide.
- Other non-wetland waters:           acres.  
Identify type(s) of waters:
- Wetlands:           acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **S-1, S-3, Little Coyote Creek (S-4), S-10 and S-13 do not have a significant nexus to Rye Patch Reservoir, the nearest TNW-NIF, due to insufficient frequency, duration, and volume of flow to have an effect on waters of the U.S. See below for additional information.**
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **3.42 miles** linear feet, **0.5 - 5 feet** wide.
- Lakes/ponds:           acres.
- Other non-wetland waters:           acres. List type of aquatic resource:
- Wetlands: **8.42** acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **5.11 miles** linear feet, **0.5 - 5 feet** wide.
- Lakes/ponds:           acres.
- Other non-wetland waters:           acres. List type of aquatic resource:
- Wetlands: **1.53** acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "**Halliburton Rossi Mine Expansion prepared by AECOM**"
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; NV-SANTA RENIA FIELDS**
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name:
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is:           (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): **Google Earth**  
or  Other (Name & Date):
- Previous determination(s). File no. and date of response letter: **SPK-2000-25139, August 13, 2010; November 17, 2011 and May 9, 2014**
- Applicable/supporting case law:
- Applicable/supporting scientific literature: "**Trends in Streamflow on the Humboldt River between Elko and Imlay, Nevada, 1950-99**", <http://pubs.usgs.gov/sir/2005/5199/>; "**Humboldt River Chronology - Part I**", <http://water.nv.gov/mapping/chronologies/humboldt/hrc-pt1.pdf>
- Other information (please specify):

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

Features identified in the report as S-2, S-8, S-9, S-11, S-14, S-15 and S-16 are erosional features that lack an OHWM and/or cattle ponds. These features are not waters.

S-6 is a seep that starts at the south wall of the King South Dump. Wetland W-6 is located along the headwaters of the channel. Further downstream, a cattle pond was created through an earthen berm. Behind the berm, the ponding of water has led to the development of wetland W-7. South of the berm, the drainage crosses the county road and turns west. Near the road crossing, the surface water flow dissipates. There is a large pond of water on the low spot of the county road. South of the county road crossing, OHWM indicators are no longer present.

S-7 is a seep on the toe of slope of the Queen Dump. There are no OHWM indicators along the channel.

The water identified as S-5 is a headwater tributary of Boulder Creek. Palustrine emergent wetlands W-4 and W-5 abut S-5. According to a 2008 delineation for the Barrick Arturo Mine project area, the gradient in Boulder Valley, between the point where Boulder Creek crosses Dunphy Road in northern Boulder Valley to the creek's mapped confluence with Rock Creek Ditch is very flat, averaging approximately 11 feet per mile or a 0.2% slope. In this flat valley setting, the Boulder Creek channel braids and meanders considerably as it flows south through the valley, greatly increasing the distance over which water must pass to reach a tributary to the Humboldt River. The USGS mapped Boulder Creek channel terminates at a diversion of Rock Creek. In the project vicinity, Boulder Creek is a cobble and boulder-bedded channel averaging approximately 8 feet in width. The channel widens downstream, to approximately 30 feet wide at the point the channel crosses to the western side of Boulder Valley Road. As the channel continues through the side part of the valley, the channel width decreases. A 6-foot active channel was observed approximately 14.5 stream miles downstream of the project area. A discontinuous 3-foot OHWM channel was observed approximately 16.9 miles from the project. At approximately 17.8 miles from the project area, no evidence of OHWM was found. The 2008 report documents a 6.7-mile gap between Boulder Creek and Rock Creek Ditch. The distance from Rock Creek Ditch to the Humboldt River, the nearest potential jurisdictional tributary to Rye Patch Reservoir is 23-30 miles. In 2014 the 2011 Flow Frequency Assessment for Boulder Creek was updated and included as part of the delineation report. This analysis found that the OHWM correctly identified the terminus of Boulder Creek prior to connection with the Humboldt River.

The Rock Creek Valley Hydrographic Area is 444 square miles (284,160 acres). This is only 6 percent of the middle basin of the Humboldt River which has a drainage area of about 7,800 square miles (20,000 km<sup>2</sup>) and lies between Palisade and Emigrant Canyon. Overall the Humboldt River Basin is 16,600 square miles and the river is 330 miles long. Rock Creek drainage area is only 3 percent of the Humboldt River Basin.

The delineation area receives an average of 12 inches of precipitation a year. Stream-gauge measurements undertaken by the USGS suggest that Palisade Canyon, between Carlin and Beowawe, is the point where the river's flow ceases to increase and begins to decrease. Palisade Canyon is up river from where Rock Creek confluences with the Humboldt River. In the drainage area above the streamflow gage near Imlay, Nevada, 98 percent of the annual precipitation was lost to evapotranspiration or to ground-water storage. This includes the area where S-4 (Little Coyote Creek) and S-10, Antelope Creek and Rock Creek are located.

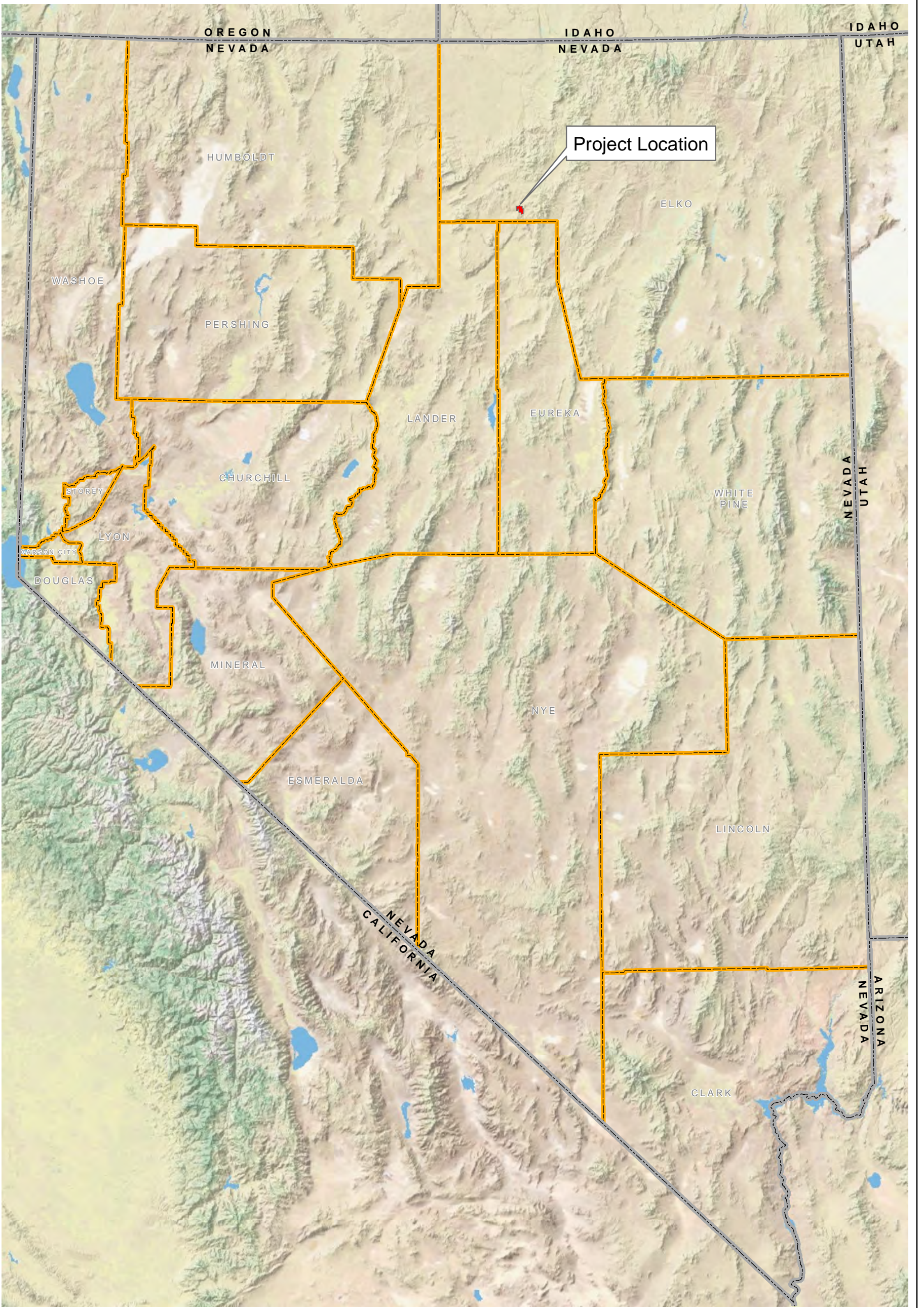
S-13 is an ephemeral stream with an abutting wetland, W-8 and is a tributary to S-3 and the adjacent wetland W-1.



S-1 and S-3 are ephemeral streams that are tributary to Little Coyote Creek (S-4). Little Coyote Creek and S-10 are tributaries to Antelope Creek. Antelope Creek is a tributary to Rock Creek which is tributary to the Humboldt River. Rock Creek only occasionally connects to the Humboldt River (USGS Study, Prudic et al. 2005). Due to limited flows during rain and snow melt events and the distance to the Humboldt River (approximately 30 miles) and Rye Patch Reservoir (approximately 120 miles) any flows from Little Coyote Creek or S-10 would be lost due to evaporation and infiltration prior to reaching Rye Patch Reservoir. S-1, S-3, Little Coyote Creek (S-4), S-10 and S-13 do not have a significant nexus to Rye Patch Reservoir, the nearest TNW-NIF, due to insufficient frequency, duration, and volume of flow to have an effect on waters of the U.S.

Wetland W-2 is located within the mining operation within the jig pond. Wetland W-3 is located within the overflow pond for the jig pond. Neither has a surface connection to a water.

The waters identified as "S-5, S-6, and S-12" totaling 3.42 miles as well as the W-2, W-3, W-4, W-5, W-6, and W-7" totaling 8.42 acres are intrastate isolated waters with no apparent interstate or foreign commerce connection. The wetlands identified as "W-1 and W-8" totaling 1.53 acres are adjacent to the waters identified as "S-1, S-3, S-4, S-10, and S-13" which total 5.11 miles and are ephemeral streams with no significant nexus to a traditional navigable water.

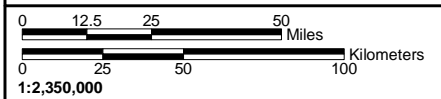


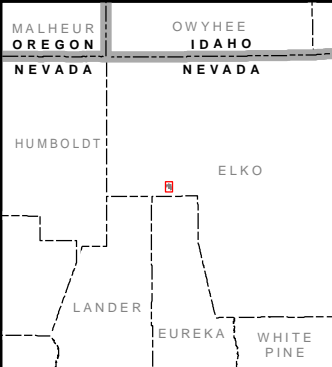
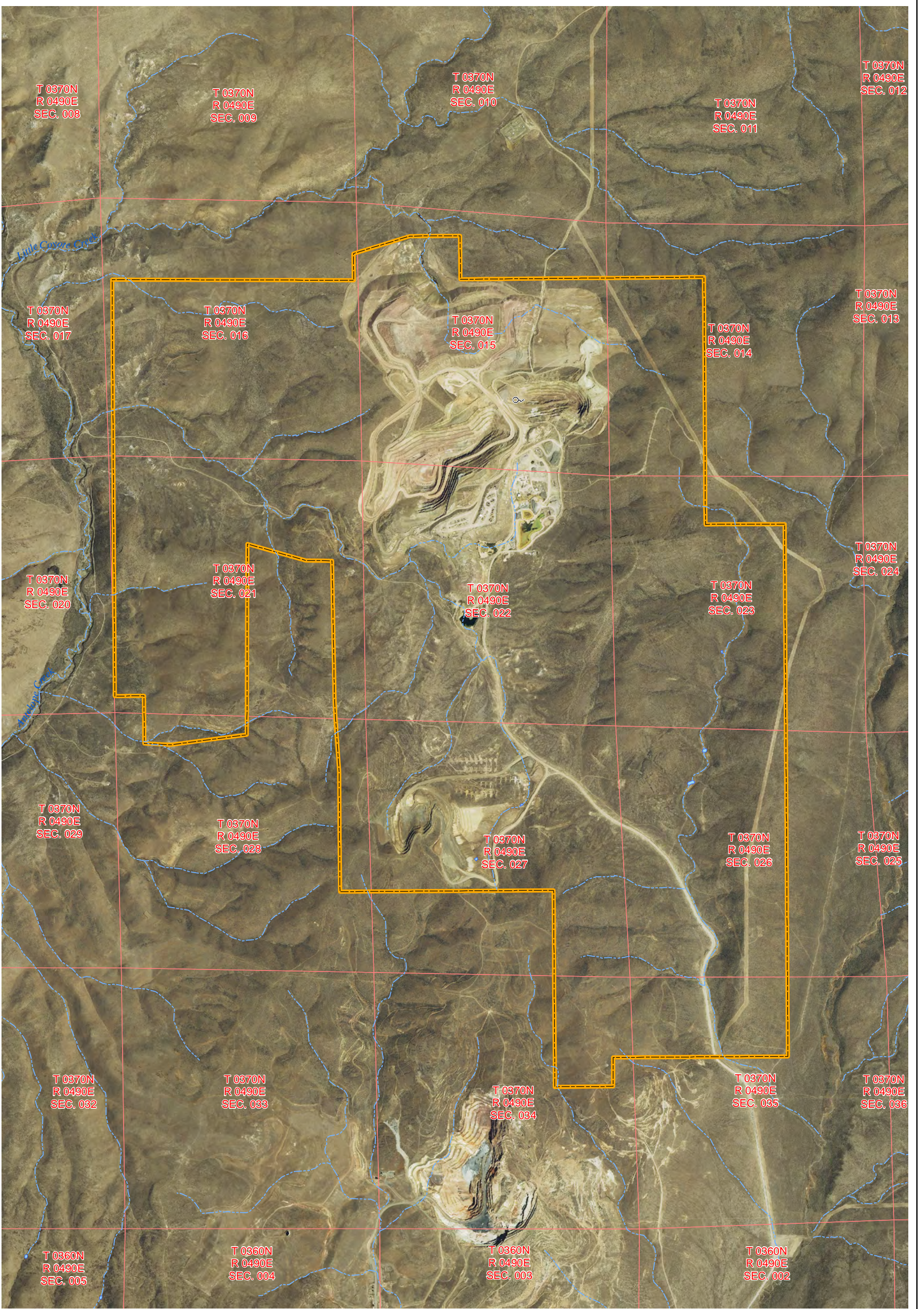


-  County Boundary
-  State Boundary

### Halliburton Rossi Mine Expansion

**Figure 1**  
**Project Location**





**Rossi Mine Expansion Project**

**Features from National Hydrography Dataset (NHD)**

- Spring/Seep
- Intermittent Stream
- Lake/Pond

Source: NHD 2012.

**Halliburton  
Rossi Mine Expansion**

**Figure 2  
Site Description**

0 1,000 2,000 4,000 Feet

0 200 400 800 Meters

1:24,000

N

