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): November 14, 2012

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Turquoise Ridge Mine, SPK-2012-00175 Jurisdicational Waters JD 3 RPWs that flow to a TNW. Drainages 9, 11, 18, Rabbit Creek, and Kelly Creek

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Nevada** County/parish/borough: **Humboldt** City: **Northeast of Winnemucca NV**
Center coordinates of site (lat/long in degree decimal format): Lat. **41.169162°**, Long. **-117.201393°**
Universal Transverse Mercator: **11 483105.91 4557555.47**
Name of nearest waterbody: **Kelly Creek to Humboldt River**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Rye Patch Resevoir**
Name of watershed or Hydrologic Unit Code (HUC): **Middle Humboldt. Nevada., 16040105**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form: **Non-Water JD 1 and Isolated waters JD 2**

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **April 4, 2012**
☐ 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: **N/A**

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*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):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (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: **68,503** linear feet, **2-5.5** wide, and/or **5.18** acres.
      Wetlands: **N/A** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Established by OHWM.**
      Elevation of established OHWM (if known): **N/A used field indicators**

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **N/A. No wetlands present**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] 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).
[3] Supporting documentation is presented in Section III.F.

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: **N/A**

   Summarize rationale supporting determination: **N/A**

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": **N/A**

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[4] 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: **71486 acres**
   Drainage area: **31382 acres**
   Average annual rainfall: **8.3** inches
   Average annual snowfall: **22.7** inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☒ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **15-20** river miles from TNW.
   Project waters are **15-20** river miles from RPW.
   Project waters are **10-15** aerial (straight) miles from TNW.
   Project waters are **10-15** aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: **Project waters do not cross state bondaries**

   Identify flow route to TNW[5]: **Tributaries that originate north of the review area, flow through the review area countinue south and discharge into the Humboldt River**
   Tributary stream order, if known: **unknown**

   (b) General Tributary Characteristics (check all that apply):
   Tributary is: ☐ Natural
   ☐ Artificial (man-made). Explain: **N/A**

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] 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.

☒ Manipulated (man-altered). Explain: **Photo evidence shows that the channel is alterted through diversions and ditching to help flows.**

Tributary properties with respect to top of bank (estimate):
Average width: **5** feet
Average depth: **2** feet
Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

☒ Silts	☒ Sands	☐ Concrete
☒ Cobbles	☒ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Tributaty is stable substraight low flows in the channel do not appear to cause erosional issues.**
Presence of run/riffle/pool complexes. Explain: **Likely some riffle pools complexes but not continuous channel is braided in some sections higher in the watershed.**
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): **1-2** %

(c) Flow:
Tributary provides for: **Intermittent but not seasonal flow**
Estimate average number of flow events in review area/year: **11-20**
Describe flow regime: **Flows occur intermittent or seasonally and likely only occur during spring run off or in response to large storm events.**
Other information on duration and volume:

Surface flow is: **Confined.** Characteristics: **Defined bed and bank. Some braided sections but flows stay within a channel.**

Subsurface flow: **No**. Explain findings: **No surface flow was observed during the consultants site visit. However, they have identified a clear well defined OHWM.**
☐ Dye (or other) test performed: **N/A**

Tributary has (check all that apply):
☒ Bed and banks
☒ OHWM[6] (check all indicators that apply):

☒ clear, natural line impressed on the bank	☐ the presence of litter and debris
☒ changes in the character of soil	☒ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☒ sediment sorting
☐ leaf litter disturbed or washed away	☒ scour
☒ sediment deposition	☐ multiple observed or predicted flow events
☒ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain:

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

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

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: **No Flow was observed during the site visit. Mining is occruing upstream and it is likely that there would be an impact regarding the chemical characteristics of the channels when they flow.**
Identify specific pollutants, if known: **Unknown. However mining does occur in upstream areas.**

[6]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.
[7]Ibid.

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

☐ Riparian corridor. Characteristics (type, average width): **Channels have little to no riparian corridor through the project site. There is some riparian near the confluence of the Humboldt River.**

☐ Wetland fringe. Characteristics: **Channels have little to no wetland fringe through the project site. There appears to be some wetland fringe near the confluence of the Humboldt River.**

☐ Habitat for:

- ☐ Federally Listed species. Explain findings: **None**
- ☐ Fish/spawn areas. Explain findings: **None observed**
- ☐ Other environmentally-sensitive species. Explain findings: **None**
- ☐ Aquatic/wildlife diversity. Explain findings: **Very little if any diversity occurs along these channels. Vegetation appears to be the same throughout the channel profile.**

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: acres
Wetland type. Explain:
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. 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 **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
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: **Pick List**
Approximately acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

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: **Drainages 9, 11, 18, Rabbit Creek, and Kelly Creek all have defined OHWM with the ability to carry pollutants, floodwaters, or transfer organic carbon to support downstream foodwebs at the Humboldt River. Although no water was observed the evidence in sediment sorting and scouring indicate flows occur in these channels.**

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: **Drainages 9, 11, 18, Rabbit Creek, and Kelly Creek, originate in the Osgood and Snowstorm Mountains. Near this area there is approximately 8.27 inches of precipitation each year. This allows for sufficient seasonal flows which are great enough to develop a clear defined OHWM and a connection to Kelly Creek which eventually discharges to the Humboldt River. These drainages also appear to support a larger drainged area then the other drainages identified in JD 1 and 2. This would create additional flows and improve the drianages ability to create a well defined OHWM. From the edge of the project site to the Humboldt River is approximately 12 miles. The Humbolt River flows directly into Rye Patch Resevoir. The nearest TNW from the edge of the project site is approximately 70 straight line miles.**

Provide estimates for jurisdictional waters in the review area (check all that apply):
☒ Tributary waters: **68,503** linear feet **2-5.5** wide.
☐ Other non-wetland waters: **N/A** acres.
Identify type(s) of waters:

3. Non-RPWs[8] 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 jurisidictional. 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.[9]
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):[10]
☐ 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:

Identify water body and summarize rationale supporting determination:

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

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] 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.*

☐ 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:
☐ 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): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: 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): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: 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: **Waters of The United States Jurisdicational Determination Turquoise Ridge Mine, Humboldt County, NV January 24, 2012**
☒ 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-DRY HILLS SOUTH**
☐ 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 Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **Waters of The United States Jurisdicational Determination Turquoise Ridge Mine, Humboldt County, NV January 24, 2012**
or ☒ Other (Name & Date): **Waters of The United States Jurisdicational Determination Turquoise Ridge Mine, Humboldt County, NV January 24, 2012**
☐ Previous determination(s). File no. and date of response letter:
☐ Applicable/supporting case law:
☐ Applicable/supporting scientific literature:
☐ Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

See additional information from the Waters of the United States Jurisdictional Determination Turquoise Ridge Mine Humboldt County Nevada, dated January 24, 2012, and prepared by JBR Engineering.

Drainage 9 is to the south of Drainage 8 located in the central portion of the survey area (Figure 9). This drainage originates in the Osgood Mountains and continues east to southeast. Drainage 9 displays indicators of an OHWM including a natural line impressed

on the bank and defined bed and bank after it passes through a culvert (RF 11, Photo 11) and continues southeast until it converges with Kelly Creek (RF 12, Photo 12). During the time of the survey, tumbleweeds (Sisymbrium sp.) had blown into and covered portions of the drainage. The channel averages two feet in width and continues for 15,796 feet (Figure 9) until it reaches the Kelly Creek drainage.

Drainage 11 flows east to southeast in the central portion of the survey area originating from Rocky Canyon and connecting to Kelly Creek (Figure 5). Drainage 11 displays indicators of an OHWM including a natural line impressed on the bank and defined bed and bank after it passes through a culvert (RF 14, Photo 14) and continues southeast until it converges with Kelly Creek (RF 15, Photo 15). During the time of the survey, tumbleweeds had blown into and covered portions of the drainage. The channel averages two feet in width and continues for 16,887 feet (Figure 10) until it reaches the Kelly Creek drainage.

Drainage 18 is located to the east of Kelly Creek in the southeast portion of the survey area (Figure 5). This drainage originates in the Snowstorm Mountains and continues southwest. Drainage 18 displays indicators of an OHWM including scour, sediment sorting, and a natural line impressed on the bank after it passes through a culvert (RF 40, Photo 39). Drainage 18 continues southwest until it converges with Kelly Creek. The channel averages 2.5 feet in width and continues for 550 feet (Figure 12) until it reaches the Kelly Creek drainage.

Rabbit Creek is located east of Drainages 7 and 8 and flows south through the survey area (Figure 9). This creek contained standing water during the survey and had an average channel width of 5.5 feet (RF 27, Photo 27) that continues for 11,470 feet before converging with Kelly Creek (RF 28,).

Kelly Creek enters the east portion of the survey area southeast of Rabbit Creek (Figure 5) where it continues southwest toward the Humboldt River. This creek has a braided channel before entering the survey area (RF 29 and RF 30, Photos 28 and 29) where the channels did not contain surface water but had indicators of an OHWM including bed and bank definition, sediment sorting, vegetation absent, and a natural line impressed on the bank. Kelly Creek continues south through the survey area until the channel is directed into a weir where surface water is expressed (RF 31, Photo 30). Inside the survey area, the Kelly Creek drainage averages four feet in width and continues for 23,800 feet. Kelly Creek continues south of the survey area where the channel flows through another weir (RF 32, Photo 31). There was no surface water present from this point at the time of the survey, but sediment sorting, water staining, and bed and bank definition continued in the drainage. The Kelly Creek drainage continues to the southwest across Red House Flat (Figure 13) where the channel becomes altered/bladed for approximately 4,200 feet (RF 33, Photo 32) and is directed through a culvert and to the west (RF 34, Photo 33). The Kelly Creek drainage splits and continues southwest and west. The southwest branch is bladed and splits again, heading south and southwest. Both the south (RF 36, Photo 35) and southwest (RF 37, Photo 36) branches lose indicators of an OHWM in a meadow. The west branch continues into a ditch regulated by a flow gate (RF 35, Photo 34). The Kelly Creek ditch to the west of RF 35 continues through a large culvert and weir (RF 38, Photo 37) and meanders to the west and to the southwest where it intersects with the Humboldt River (RF 39, Photo 38 and Figure 13).

Additional Information JD 1 for this project site:

The project site is located in the Black Rock Desert-Humboldt. The project area is scattered with upland drainage swales and washes with no defined OHWM. These swales dissipate prior to reaching other drainges or tributaries.

Drainages 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14, 15, 16, 17 are upland drainages which do not appear to carry sufficent flows to develop OHWM through erosion and sediment transportation. The drainages were evaluated in accordance with the information provided in A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States. All of these drainages were considered upland drainge swales with no OHWM or wetland characteristics and therefore would not be jurisdicational. These drainages do not have a physical chemical or biological connection to any TNW.

Drainage 1 is located in the northwest portion of the survey area (Figure 6). This drainage does not have any OHWM indicators present (RF 1 and RF 2, Photos 1 and 2).

Drainage 2 is located in the north-central portion of the survey area east of Drainage 1 (Figure 6). This drainage does not have any OHWM indicators present (RF 3, Photo 3).

Drainage 3 is located in the northeast portion of the survey area (Figure 7). This drainage does not have any OHWM indicators present (RF 4, Photo 4).

Drainage 4 is located in the northeast portion of the survey area (Figure 7). This drainage does not have any OHWM indicators present (RF 5, Photo 5).

Drainage 5 is located in the north-central portion of the survey area (Figure 8). This drainage does not have any OHWM indicators present (RF 6, Photo 6).

Drainage 6 is located in the western portion of the survey area south of Drainage 1 (Figure 8). This drainage does not have any OHWM indicators present (RF 7, Photo 7). A culvert is located under the road that runs perpendicular to the drainage.

Drainage 7 is located southeast of Drainage 5, originating in the eastern portion of the survey area and traveling to the southeast (Figure 8). This drainage does not have any OHWM indicators present (RF 8, Photo 8).

Drainage 8 is located in the east-central portion of the survey area south of Drainage 7 (Figure 9). This drainage does not have any OHWM indicators present (RF 9 and RF 10, Photos 9 and 10).

Drainage 10 is located in the central portion of the survey area, south of Drainage 9 (Figure 9). This drainage does not have any OHWM indicators present (RF 13, Photo 13).

Drainage 12 is located south of Drainage 11 (Figure 10) and historically originated in Hanson Canyon. This drainage does not have any OHWM indicators present (RF 16, Photo 16).

Drainage 14 is located south of the Summer Camp Creek drainage and crosses east under a maintained road through a culvert (Figure 11). This swale collects runoff but does not have enough flow or slope to concentrate flows to cause scour and erosion. No indicators of an OHWM were present in Drainage 14 (RF 21, Photo 21).

Drainage 15 is located south of Drainage 14 and crosses east under a maintained road through a culvert (Figure 11). This drainage does not have any OHWM indicators present (RF 22, Photo 22).

Drainage 16 is located south of Drainage 15 and crosses east under a maintained road through a culvert (Figure 11). This drainage does not have any OHWM indicators present (RF 23, Photo 23).

Drainage 17 is located east of Drainage 13 in the southeast portion of the survey area (Figure 12). This drainage does not have any OHWM indicators present (RF 26, Photo 20 RF 26).

Additional Information JD 2 for this project site:

The following waters, Drainage 13, Summer Camp Creek, and Julian Creek displayed sections with OHWM but only along a portion of their flow paths. The OHWM becomes difuse and is no longer visible as these waters drain to lower elevations. There is no connection to any RPW from the lowest points of these drainages. These drainages are isolated with no connection to intrastate waters and have no interstate or foreign commerice connection. These drainages have an area of 5.04 acrs or 82,438 linear feet and range in width from 1.75 feet o 3.5 feet wide. Distances between these areas are large enough that you would not consider this a jurisdicational drainage with a discontinuous OHWM. The OHWM for Drainage 13 ends approximately 0.50 miles from Summer Camp Creek. Summer Camp Creek OHWM also terminates prior to converging with Drainage 13. According to the USGS maps the drainages continue 8.5 miles and eventually terminate prior to reaching Kelly Creek or the Humboldt River. OHWMs were not observed beyond the points mapped in Figure 10. The end of the OHWM for Drainage 13 and Summer Camp Creek is approximately 12 miles from the Humboldt River. Julian Creek is similar to Drainage 13 and Summer Camp Creek with the OHWM terminating in the same area and approximately 12 miles north of the Humboldt River. These drainages do no flow to Kelly Creek. There are no defined swales or other drainage features downstream of the end point of the OHWMs of Drainage 13, Summer Camp Creek and Julian Creek. The lack of the OHWM features are visible in the photos attached to the Waters of the U.S. Jurisdictional Determination Turquoise Ridge Mine Humboldt County, NV

Based on the information provided there does not appear to be any physical, chemical, or biologcal connection between Drainage 13, Summer Camp Creek, Julian Creek and any TNW

Drainage 13 is located south of Drainage 12, originates in Hanson Canyon, and is currently diverted around mining disturbance (Figure 5). A concrete diversion channel directs water from and around the mine site into a new channel (RF 17, Photo 17), which continues to the southeast. Indicators of an OHWM in the drainage included an observed flow event, presence of drift and debris, and a natural line impressed on the bank. The channel averages 3.5 feet in width and continues for 25,944 feet, passing through two culverts, before entering an infiltration basin (Figure 10). There are no indicators of an OHWM in the channel below the infiltration basin (RF 18, Photo 18).

Summer Camp Creek is located south of Drainage 13 and continues southeast from the Osgood Mountains (Figure 10). Summer Camp Creek did not contain surface flow during the survey (RF 19, Photo 19). Indicators of an OHWM were present and included a natural line impressed on the bank, destruction of terrestrial vegetation, and a defined bed and bank. The channel averaged 2.75 feet wide and continued for 29,705 feet. The Summer Camp Creek drainage continues to the east through two culverts before indicators of an OHWM are no longer visible in the channel near a two-track road (RF 20, Photo 20).

Julian Creek is located south of Summer Camp Creek and continues southeast from the Osgood Mountains (Figure 11). Julian Creek did not contain surface flow during the survey (RF 24, Photo 24). Indicators of an OHWM were present and included a natural line impressed on the bank, destruction of terrestrial vegetation, and scour. The channel averaged 1.75 feet wide and continued for 26,789 feet. The Julian Creek drainage continues to the southeast before the channel terminates at an excavated stock pond (RF 25, Photo 25). There are no indicators of an OHWM past the earthen dam at the southern end of the stock pond ceasing any significant nexus to a jurisdictional drainage.

Additional Information from JD3 for this project site:

Drainages 9, 11, 18, Rabbit Creek, and Kelly Creek, originate in the Osgood and Snowstorm Mountains. Near this area there is approximately 8.27 inches of precipitation each year. This allows for sufficient seasonal flows which are great enough to develop a clear defined OHWM and a connection to Kelly Creek which eventually discharges to the Humboldt River. These drainages also appear to support a larger drainged area then the other drainages identified in JD 1 and 2. This would create additional flows and improve the drianages ability to create a well defined OHWM. From the edge of the project site to the Humboldt River is approximately 12 miles. The Humbolt River flows directly into Rye Patch Resevoir. The nearest TNW from the edge of the project site is approximately 70 straight line miles.

Drainage 9 is to the south of Drainage 8 located in the central portion of the survey area (Figure 9). This drainage originates in the Osgood Mountains and continues east to southeast. Drainage 9 displays indicators of an OHWM including a natural line impressed on the bank and defined bed and bank after it passes through a culvert (RF 11, Photo 11) and continues southeast until it converges with Kelly Creek (RF 12, Photo 12). During the time of the survey, tumbleweeds (Sisymbrium sp.) had blown into and covered portions of the drainage. The channel averages two feet in width and continues for 15,796 feet (Figure 9) until it reaches the Kelly Creek drainage.

Drainage 11 flows east to southeast in the central portion of the survey area originating from Rocky Canyon and connecting to Kelly Creek (Figure 5). Drainage 11 displays indicators of an OHWM including a natural line impressed on the bank and defined bed and bank after it passes through a culvert (RF 14, Photo 14) and continues southeast until it converges with Kelly Creek (RF 15, Photo 15). During the time of the survey, tumbleweeds had blown into and covered portions of the drainage. The channel averages two feet in width and continues for 16,887 feet (Figure 10) until it reaches the Kelly Creek drainage.

Drainage 18 is located to the east of Kelly Creek in the southeast portion of the survey area (Figure 5). This drainage originates in the Snowstorm Mountains and continues southwest. Drainage 18 displays indicators of an OHWM including scour, sediment sorting, and a natural line impressed on the bank after it passes through a culvert (RF 40, Photo 39). Drainage 18 continues southwest until it converges with Kelly Creek. The channel averages 2.5 feet in width and continues for 550 feet (Figure 12) until it reaches the Kelly Creek drainage.

Rabbit Creek is located east of Drainages 7 and 8 and flows south through the survey area (Figure 9). This creek contained standing water during the survey and had an average channel width of 5.5 feet (RF 27, Photo 27) that continues for 11,470 feet before converging with Kelly Creek (RF 28,).

Kelly Creek enters the east portion of the survey area southeast of Rabbit Creek (Figure 5) where it continues southwest toward the Humboldt River. This creek has a braided channel before entering the survey area (RF 29 and RF 30, Photos 28 and 29) where the channels did not contain surface water but had indicators of an OHWM including bed and bank definition, sediment sorting, vegetation absent, and a natural line impressed on the bank. Kelly Creek continues south through the survey area until the channel is directed into a weir where surface water is expressed (RF 31, Photo 30). Inside the survey area, the Kelly Creek drainage averages four feet in width and continues for 23,800 feet. Kelly Creek continues south of the survey area where the channel flows through another weir (RF 32, Photo 31). There was no surface water present from this point at the time of the survey, but sediment sorting, water staining, and bed and bank definition continued in the drainage. The Kelly Creek drainage continues to the southwest across Red House Flat (Figure 13) where the channel becomes altered/bladed for approximately 4,200 feet (RF 33, Photo 32) and is directed through a culvert and to the west (RF 34, Photo 33). The Kelly Creek drainage splits and continues southwest and west. The southwest branch is bladed and splits again, heading south and southwest. Both the south (RF 36, Photo 35) and southwest (RF 37, Photo 36) branches lose indicators of an OHWM in a meadow. The west branch continues into a ditch regulated by a flow gate (RF 35, Photo 34). The Kelly Creek ditch to the west of RF 35 continues through a large culvert and weir (RF 38, Photo 37) and meanders to the west and to the southwest where it intersects with the Humboldt River (RF 39, Photo 38 and Figure 13).