

## FACT SHEET

(pursuant to Nevada Administrative Code [NAC] 445A.401)

Permittee Name: **Krause Thacke Mining & Minerals L.L.C.**

Project Name: **Jackpot/Patsy Mine Project**

Permit Number: **NEV2009114**

Review Type/Year/Revision: **Renewal Permit 2015, Fact Sheet Revision 00**

### **A. Location and General Description**

*Location:* The Jackpot/Patsy Mine Project (Jackpot Project) is located approximately 24 miles south of the city of Boulder City and 1.5 miles northwest of the town of Nelson, in south central Clark County, Nevada. The mine and physical separation facility site are located within a portion of Sections 32 and 33, Township 25 South (T25S), Range 64 East (R64E); and Section 5, T26S, R64E, Mount Diablo Baseline and Meridian.

The Project site is located in the historic Eldorado Mining District (also known as the Colorado, El Dorado Canyon and Nelson Mining Districts) on the east side of Opal Mountain and is comprised of nine unpatented claims on public land administered by the U.S. Bureau of Land Management (BLM), Southern Nevada District--Las Vegas Field Office. The claims comprise a total area of 180 acres; however the initial Jackpot Project disturbance will be confined to 4.91 acres.

*Access:* From Boulder City, proceed south on U.S.-95 for 10 miles to the junction of S.R.-165. Proceed east then southeast on S.R.-165 for 10 miles to the town of Nelson and the junction of Clark County Road (C.R.)-16A. Proceed west then northwest on C.R.-16A for a distance of 2.1 miles to the Jackpot Project site.

*Permittee:* The current Permittee of record for Jackpot Project is Krause Thacke Mining & Minerals L.L.C. (KTMM). The facility has been owned and operated by the Thacke family since 1934 and is jointly managed by KTMM and International Development Consortium (IDC).

*General Description:* The Permittee will utilize physical separation (gravity concentration) to recover precious metals from ore obtained from its own surface mine located on the Project site. Up to 36,000 tons of ore will be processed annually with the facility projected to operate for a period of no more than five years.

The current operating plan states that the gravity concentrates produced will be shipped off site to a facility in Arizona for additional processing and precious metals recovery. The Jackpot Project is designed to be operated and closed

without any discharge or release in excess of those standards established by regulation except for meteorological events which exceed the 24-hour, 25-year design storm event. The use of chemicals in the concentrating process is not authorized.

## **B. Synopsis**

*Background/History:* As stated above, the Jackpot Project is located within the historic Eldorado Mining District, a district characterized by occurrences and minor deposits of precious metals, base metals, and rare earths. The earliest documented mining in the district occurred in 1857 and continued intermittently until about 1984. Over 50 mining and milling facilities operated within the district, mining and beneficiating ores containing gold, silver, and copper with minor amounts of zinc and mercury. The three most notable operations included the Techatticup, Eldorado Rand, and Wall Street, all low tonnage operations. A gold heap leach pad operated at the Wall Street site until 1985.

The Jackpot Project has been in the Thacke family since 1934. Historical records refer to the Jackpot Project site as the "Aluminum Ridge Claims," "Patsy Claims," and most recently as the "Patsy Quicksilver Mine." Mercury exploration occurred at the site during the 1930s and continued well into the 1940s. During this period, KTMM initiated development of a 45-degree, 165-foot long exploration decline to delineate the extent of the mercury mineralization. Further development of the decline was later abandoned when only insignificant occurrences of mercury-bearing minerals were encountered. A gate has since been installed at the decline portal to prohibit public entry.

*Geology/Mineralogy:* The geology of the Jackpot Project site is characterized as a rhyolitic flow overlying a bleached, limonite-stained andesite. The andesite exhibits both propylitic and argillic alteration and contains minor amounts of finely disseminated pyrite.

Meteoric water mobility procedure (MWMP)-Profile I characterization results for both ore and waste rock samples show elevated iron concentrations but still below the Division Profile I iron reference value. Mercury is less than the Division Profile I reference value and is therefore not a concern. Acid-base accounting (ABA) results for the ore and waste rock indicate that both are non-potentially acid generating (non-PAG).

*Mining:* Three precious metal ore deposits ("M-Hill," "T-Knob," and "Jackpot") have been identified by KTMM for development at Jackpot Project site. The plan is to develop the "M-Hill" deposit first, with all mining to be completed within five (5) years. Development of the "T-Knob" and "Jackpot" deposits are projected for a later date.

Surface mining of the “M-Hill” will involve the excavation of a cut 200-foot wide by 475-foot long, to a depth of approximately 60 feet. The trench is open on both ends with 15-foot high by 20-foot wide benches on each wall. The drill and blasted material will be loaded into a wheel loader and hauled a short distance to the ore stockpile area.

*Production Facility:* The production facility is comprised of coarse and fine crushing and screening plants (with associated feed bins and conveyors), a concentrating table, and several tanks for water collection, clarification, and recycling back into the process.

A wheel loader transports run-of-mine (ROM) ore to the stockpile area at the coarse crushing and screening plant where it is transferred by front-end-loader to the coarse crushing and screening plant. The ROM ore is crushed and screened to minus 8-mesh, with the oversize material returned to the crusher for additional size reduction and the undersize material discharged, collected and transported to the fine crushing plant for additional size reduction. The oversize material is returned to the crusher for additional size reduction while the undersize material is discharged to the wet concentrating table to produce a rough gravity concentrate and a tailings fraction. Water and suspended fine waste from the concentrating table are collected in a series of tanks for water collection, clarification and recycling back into the process. Total tank storage capacity is 4,250 gallons (3 tanks at 750 gallons each and 1 tank at 2,000 gallons).

The gravity concentrate is collected and transported off-site to a facility in Arizona for additional processing and precious metal recovery. The tailings fraction is transported to the waste rock disposal facility (WRDF) for temporary stockpiling until it is returned to the excavation trench as backfill.

*Water Requirements:* Daily water requirements for the Jackpot Project are estimated at 1,000 gallons. All water used in the processing and dust suppression will be purchased from the city of Boulder City and will be transported to the Jackpot Project site via tanker truck and stored in a 1,000 gallon portable tank at the site.

*Fuel and Lubricants Storage and Dispensing:* The fuel storage and dispensing area is comprised of a steel diesel storage tank (1,000 gallon capacity) and a steel gasoline storage tank (50 gallon capacity) which will be installed at the Jackpot Project site. Both tanks will be placed within in a bermed containment area lined with a minimum 40-mil high-density polyethylene (HDPE) and sized to accommodate 110 percent of the largest storage tank volume. All lubricants will be stored on concrete containment within the shop area.

*Waste Rock Disposal Facility (WRDF):* Waste rock and tailings will be collected and transported by truck to the WRDF for temporary storage prior to its use as

backfill at the trench excavation site. Approximate capacity of the WRDF is 200,000 tons.

*Stormwater Diversion Structures:* During the 17 September 2013 mine compliance inspection, Division personnel identified localized flood damage within the process area as a result of recent monsoon rains. In the Division's 24 September 2013 inspection follow-up letter to KTMM, the Division's inspector reiterated the requirement that berms, ditches and other structures be installed to keep meteoric water out of the process areas of the Jackpot Project site.

In response, KTMM and their construction contractor submitted an Engineering Design Change (EDC) to the Division on 21 November 2013 addressing the run-off concerns. The EDC was approved by the Division on 26 November 2013.

The diversion structure is comprised of a 2-foot high berm and 2-foot deep by 8-foot wide channel constructed outside the Jackpot Project fence line. The diversion structure intercepts storm flow from a natural drainage and diverts it around the Project site and then discharge flow back into the drainage. The channel is constructed at a 3 percent grade and has been over-designed to manage a storm flow in excess of the 100-year, 24-hour storm event.

**C. Receiving Water Characteristics**

There are no perennial streams, springs, seeps or any other features that can be considered as surface water within a one-mile radius of the Jackpot Project. All streams and surface waterways within one mile of the facility are ephemeral and flow only during precipitation events. The depth to groundwater beneath the Jackpot Project site is 425 feet below ground surface and the quality is generally good with the exception of iron, which on occasion has exceeded the 0.60 milligram per liter (mg/L) Division Profile I reference value.

**D. Procedures for Public Comment**

The Notice of the Division's intent to issue a permit authorizing the facility to construct, operate and close, subject to the conditions within the Permit, is being sent to the **Las Vegas Review-Journal** in Las Vegas for publication. The Notice is being mailed to interested persons on the Bureau of Mining Regulation and Reclamation mailing list. Anyone wishing to comment on the proposed permit can do so in writing within a period of 30 days following the date of public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected intrastate agency, or any interested agency, person

or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.403 through NAC 445A.406.

**E. Proposed Determination**

The Division has made the tentative determination to issue the permit.

**F. Proposed Effluent Limitations, Schedule of Compliance, Monitoring, Special Conditions**

See Section I of the Permit.

**G. Rationale for Permit Requirements**

The facility is located in an area where annual evaporation is greater than annual precipitation. Therefore, it must operate under a standard of performance which authorizes no discharge(s) except for those accumulations resulting from a storm event beyond that required by design for containment.

The primary method for identification of escaping process solution will be placed on required routine visual monitoring of water storage tanks and process components.

**H. Federal Migratory Bird Treaty Act**

Under the Federal Migratory Bird Treaty Act, 16 U.S. Code 701-718, it is unlawful to kill migratory birds without license or permit, and no permits are issued to take migratory birds using toxic ponds. The Federal list of migratory birds (50 Code of Federal Regulations 10, 15 April 1985) includes nearly every bird species found in the State of Nevada. The U.S. Fish and Wildlife Service is authorized to enforce the prevention of migratory bird mortalities at ponds and tailings impoundments. Compliance with State permits may not be adequate to ensure protection of migratory birds for compliance with provisions of Federal statutes to protect wildlife.

Open waters attract migratory waterfowl and other avian species. High mortality rates of birds have resulted from contact with toxic ponds at operations utilizing toxic substances. The Service is aware of two approaches that are available to prevent migratory bird mortality: 1) physical isolation of toxic water bodies through barriers (e.g., by covering with netting), and 2) chemical detoxification.

These approaches may be facilitated by minimizing the extent of the toxic water. Methods which attempt to make uncovered ponds unattractive to wildlife are not always effective. Contact the U.S. Fish and Wildlife Service at 1340 Financial Boulevard, Suite 234, Reno, Nevada 89502-7147, (775) 861-6300, for additional information.

<i>Prepared by:</i>	<i>Rob Kuczynski, P.E</i>
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<i>Fact Sheet Revision 00: (Permit Revision 00)</i>	<i>Renewal Permit and Fact Sheet. No operational changes.</i>