

Questions Yates Shaft Feasibility

1. What is the practical design life for the facility?

Answer: The practical design life for the facility is 50+ years.

2. What are the maximum weights and dimensions of materials to be hoisted or lowered in the shaft?

Answer: The original hoisting plant was designed, manufactured and installed in the 1930's and 1940's for the use of hoisting gold ore and larger double-decker cages for personnel conveyance. As such, the original capacity and cage/skip speed was much larger and faster than the current, aged equipment and shaft conditions allow. When this procurement gets to the RFP stage, additional documentation referencing the original hoisting plant capacity/design along with the current load, speed and dimension limits will be provided.

3. Is it the intent to replace all the timber in the shaft including that which has recently been replaced?

Answer: Yes, all timbers/members (old shaft timbers/lacing and recently replaced members) are intended to be removed and replaced in the shaft, using steel and concrete as the replacement materials of choice.

4. Is there a standard design including material specifications for the timber replacement upgrades that have been done?

Answer: The original shaft was constructed in the 1930's and 1940's prior to the existence of modern-day ground control devices. As such, the original timber and lacing structure was the ground control utilized to contain and maintain the shaft. The geology and rock mass is such that the original shaft has held up very well after 80+ years of operation without the use of modern ground control techniques.

As the old timbers and lacing is replaced, SDSTA crews are adding 5-foot and 7-foot thread-bar bolts in a C-pattern, capped with 5'x7' panels of 3"x3" wire mesh to bring the shaft ground control up to more modern standards. The timber and lacing are being replaced with rough-sawn pine, dimensionally equivalent to the original timbers and lacing being removed, without a specified timber grade. No official grading of timber/lumber was utilized for the timber replacement effort, except for when wood guides are replaced as wood guides have a pre-specified timber grade certification. The timber structure is being further supported/manipulated with the use of turnbuckles to help control sagging between sets as needed during the timber/lacing replacement campaign.

Additional information regarding the ground control design, guide timber grade/certification, and turn-buckle design/installation will be provided during the RFP stage of this procurement.

5. Are there bearing sets in the shaft?

Answer: Yes. Most of the bearing sets are located at every station within the shaft, and stations are typically located every 150 feet. There are other bearing sets in the shaft in addition to the typical station locations. The Yates shaft cross-section, existing station profiles, and locations of all the existing bearing sets will be provided during the RFP stage of this procurement.

6. Are there NDT results and/or engineering certifications for the hoisting system components including hoists, hoist ropes, headframe, sheaves, and other critical components currently in use?

Answer: Yes, SDSTA will provide NDT results and engineering certifications for the hoisting system components, ropes, headframe, sheaves, conveyances, and other critical components. This information will be provided during the RFP stage of this procurement.

7. Are the hoist specifications for the existing equipment available for review?

Answer: Yes. Hoist specifications for the existing equipment will be provided during the RFP stage of this procurement.

8. Does the shaft make significant water inflows with corrosive properties that will affect the concrete or steel being considered?

Answer: The total mine water infiltration ranges between 250 to 750 gpm depending upon the season (winter, spring, summer or fall) and precipitation events. More detailed water quality and quantity data, specific to the Yates shaft, will be provided during the RFP stage of this procurement.

9. Is there a geotechnical report available to support the design of the replacement shaft lining?

Answer: Yes. There are multiple site investigation reports which evaluated much of the rock mass exposed within the shaft-way over the years. These reports will be provided during the RFP stage of this procurement.