FACT SHEET
(Pursuant to Nevada Administrative Code [NAC] 445A.401)

Permittee Name: **Solidus Resources, LLC**

Project Name: **Spring Valley Mine RIB's**

Permit Number: **NEV2024112**
Review Type/Year/Revision: **New Permit 2025, Fact Sheet Revision 00**

A. Location and General Description

Location: The facility is located in Pershing County, Sections 4, 5, and 6 of Township 28 North, Range 35 East, Mount Diablo Baseline and Meridian, approximately 12 miles south of Unionville and 20 miles northeast of Lovelock, Nevada.

General Description: The facility consists of fifteen rapid infiltration basins (RIB's) used to infiltrate excess water generated by dewatering activities associated with the development and operation below the ambient groundwater table of the Spring Valley Canyon Mine Project, Water Pollution Control Permit (WPCP) NEV2021101.

Excess dewatering water that is not used in milling, ore processing, dust suppression, or other Nevada Division of Environmental Protection (Division) approved mine site uses will be conveyed by gravity through the 24-inch diameter RIB Transfer Pipeline to one or more of the rapid infiltration basins for discharge at a maximum total rate of less than 12,960,000 gallons per day (12.96 MGD). The nearest habitable building is approximately two miles north of the project facilities. Three wells are downgradient of the proposed facilities, but all three are municipal supply wells owned by other mining companies. There are 41 recorded seeps and springs within one mile of the project boundary.

B. Synopsis

General: The Spring Valley mining district has been mined since 1868 and has produced gold, silver, lead, mercury, copper, antimony, and pinite. Placer gold was discovered in Spring Valley in 1875. Modern exploration at Spring Valley began in 1996 by Kennecott Minerals Company, which searched for the source of the gold in the Spring Valley placer deposits. The current Spring Valley Canyon mine was initially developed as a joint venture between Barrick Gold North America and Midway Gold Corporation in 2010, and was bought by in 2015 by Solidus Resources, LLC, the Permittee.

Geology: The geologic units of Spring Valley are cross-cut and offset by localized faulting associated with the regional Black Ridge fault zone (BRFZ), which strikes in a north-northeast direction through the project area. The BRFZ influences the hydrogeology of Spring Valley and Rochester Canyons, acting as a conduit for groundwater flow along strike, and in the Rochester Mine area, a barrier to lateral flow across the fault zone in the bedrock. Within Spring Valley the BRFZ consists of several north-northeast striking subordinate faults. The East Fault is a low-angle normal fault that dips to the west. The Limerick Fault, West Fault, and Far West Fault are believed to be high angle faults that dip to the east. The Limerick Fault offsets the East Fault.

Subsurface soils encountered in boreholes in the northern and southern areas investigated for potential RIB sites consist primarily of silty to sandy gravel with varying amounts of

clay and cobbles. Various layers of cobbles and clayey layers exist throughout the subsurface. The clayey layers appear to be isolated lenses of discontinuous, thinly bedded layers, predominately occurring in the upper six feet but deeper in some locations. A cemented one- to two-foot-thick hardpan layer was also encountered at varying depths at some test pits, and shallow bedrock was encountered south of the current RIB location.

Dewatering System: Dewatering of the pit area will begin prior to stripping, as the depth to groundwater in the pit area is very shallow (approx. 10 feet pre-mining). Dewatering will consist of both alluvium and bedrock dewatering wells, the number and configuration of which will change as mining progresses. The dewatering system is designed for a maximum capacity of 9,900 gallons per minute (gpm). From the dewatering wells water will be routed directly to the RIB system until the construction of the Dewatering Pond (see *Dewatering Pond*, below). Once the Dewatering Pond is constructed, water will move from the dewatering wells and be collected in the Dewatering Pond, where it will then either be sent to the process facility as makeup water or sent to the RIBs, via the Dewatering Pipeline and RIB Transfer Pipeline (see *Pipelines* section, below).

Dewatering Pond: The Dewatering Pond is intended to contain inflows of 9,900 gallons per minute (gpm) of dewatering water for a 24-hour period with a two-foot freeboard, for a total working volume of 14,256,000 gallons, or 43.75 acre-feet, which meets the definition of a jurisdictional dam per NRS 535.010. This is a clean-water pond and will be constructed with a single-layer of 60-mil HDPE with a three-foot anchor trench at the pond crest. Inflows will enter the pond at the north end, and outflows will exit through the dewatering pipeline at the south end of the pond.

Pipelines: There are normally two pipelines that convey water from the dewatering wells to either the RIBs or the process facility. Initially, the Dewatering Pipeline conveys water from the dewatering wells or Dewatering Pond downgradient to the "tie-in" point. The "tie-in" is the junction where the RIB Transfer Pipeline meets the Dewatering Pipeline at a tee-intersection. Flows can be conveyed either into the RIB Transfer Pipeline, to be routed to the RIBs, or continue along the Dewatering Pipeline, which terminates at a water supply tank at the process facility. The Dewatering Pipeline has a total length of 19,684 feet with a 1,109-foot elevation drop, allowing for gravity conveyance from the Dewatering Pond to the water supply tank at the process area. The Dewatering Pipeline is a 24-inch HDPE pipe for most of its length, but transitions to a 14-inch HDPE pipe after the "tie-in" with the RIB Transfer Pipeline. The 24-inch sections of the Dewatering Pipeline have a minimum design flowrate of 1,000 gpm and a maximum design flowrate of 9,900 gpm, and the 14-inch sections of the Dewatering Pipeline from the "tie-in" to the process facility have a maximum design flowrate of 3000 gpm. From the south side of the Dewatering Pond, the 24-inch HDPE pipe will be contained in a 4-foot-deep trench until it reaches the haul road crossing. The pipe will be contained in a 30-inch corrugate pipe as it moves under the haul road and drainage, then transition to being contained in a 5-foot-deep trench until it reaches the Southeast Waste Rock Facility, where containment will transition again to a four-foot-deep trench.

The RIB Transfer Pipeline will convey flows from the "tie-in" with the Dewatering Pipeline to the RIBs and runs 9,100 feet with a total of 392 feet in elevation drop along the

total length of the pipeline. The RIB Transfer Pipeline tees into the RIB Distribution Pipelines, which will use two valves to direct flows to the eastern and western branches of the RIB distribution system. The eastern RIB distribution pipeline is 6,325 feet long, has 183 feet of elevation drop, and conveys water to basins B1 through B11. The western RIB distribution pipeline is 1,230 feet long, has 55 feet of elevation drop and conveys water to basins B12 through B15. The RIB Transfer Pipeline and RIB distribution pipelines are constructed of 24-inch diameter high density polyethylene (HDPE) and have maximum designed flow of 9,900 gallons per minute (gpm).

RIB Design: The RIB system is designed with fifteen RIBs, labeled B1 to B15. Each RIB has an average size of 7.2 acres, ranging from 6.2 to 7.7 acres, for a total of 108 acres of infiltration surface area. Each RIB will have a minimum depth of ten feet, to move below a natural 1-2 foot thick caliche layer found at varying depths in the RIB area. RIBs have a design depth of five feet, and a five-foot freeboard. Measured infiltration rates in the RIB area ranged from 1.3 to 4.8 inches per hour.

Three monitoring wells and nine Casagrande-style standpipe piezometers are proposed within the RIB area to monitor groundwater levels and quality. One monitoring well (R MW-1) is to the eastern edge of the RIB area, parallel to B12, and is an upgradient monitoring well. Two downgradient monitoring wells are west of the RIB area, one due west of B9 (RMW-3), and at the far northwest corner of the RIB area (RMW-2), at the property boundary. The nine Casagrande-style standpipe piezometers are dispersed throughout the RIB area to monitoring for mounding under the infiltration area.

Stormwater Diversions: A single stormwater diversion channel, known as the RIB Upstream Diversion Channel is proposed to divert non-contact stormwater around the RIB facility. The facility was designed for the 25-year, 24-hour storm event, with a design peak flow rate of 871 cubic feet per second with 1.5 feet of freeboard. The channel is trapezoidal, with an average of 100-foot width and 3-foot depth and 2.5 high to 1 vertical (2.5H:1V) sloped sides. Additionally, the upper 710 feet of the diversion channel will have a 12-foot wide berm to contain flows on the downstream side of the channel. This section will also have a one-foot thick later of 6-inch minus riprap on the left bank. No additional armoring is proposed, as any erosion that may occur is expected to be minimal and can be repaired as part of standard maintenance of the diversion channel.

C. Receiving Water Characteristics

The Spring Valley Canyon mine project is located within the Buena Vista Valley hydrographic basin. Five sub-watersheds within the Buena Vista Valley hydrographic basin are of interest to the project: the Spring Valley watershed, Indian Creek watershed, East Rochester Canyon, Dry Gulch, and South American Canyon. While the project is primarily located within the Spring Valley sub-watershed, the other sub-watersheds have potential hydraulic connections to the Spring Valley through the Black Ridge Fault Zone.

Spring Valley is an intra-montane subbasin of Buena Vista Valley, situated on the easter slope of the north-south trending Humbold Range. The Humboldt Range drains into the Humbolt River Basin the west and north, the Carson Desert to the south, and Buena Vista Valley to the east.

Topographic divides separate the Spring Valley watershed from the Indian Creek watershed to the north, and from the Rochester Canyons watershed to the south. A range-front pediment defines the eastern portion of the Spring Valley watershed, which consists of transitional rolling highlands from the high mountains to the low-lying basins of Buena Vista Valley. Elevations in the Spring Valley area range from 8,700 feet amsl in the Humboldt Range to 5,200 feet amsl in the alluvial basin. Spring Valley drains to the east toward the low-lying Buena Vista Valley playa.

Groundwater levels within and adjacent to these watersheds indicate that groundwater generally moves parallel to the land surface topographic slope, with regional easterly groundwater flow through the Project area. On the watershed-scale, groundwater flow is more variable and is typically controlled by local topography and major geologic structures. A downward vertical hydraulic gradient is documented in some parts of Spring Valley; however, there are also areas with substantial upward gradients, as evidenced by artesian conditions and calculated gradients and multi-depth vibrating wire piezometers.

Dewatering water discharged to the RIB's is predicted to travel vertically into the unsaturated zone until it reaches the groundwater table, which is estimated to vary between 200 and 300 feet below ground surface, with groundwater flow direction being easterly. When the discharged water reaches the groundwater table, mounding may occur. However, groundwater is predicted to rise only during the first two stress periods, when RIB input rates are greatest and then decline as RIB input rates decrease. Groundwater elevation response is expected to attenuate downgradient with increasing distance from the RIB's.

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 published on the Division website: https://ndep.nv.gov/posts/category/land. 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 the public notice is posted to the Division website. 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 or 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 new Permit.

F. Proposed 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 sampling of upgradient and downgradient monitoring well(s) and piezometers. Specific monitoring requirements can be found in the Water Pollution Control Permit.

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 (the 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.

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Date: 09 June 2025
Revision 00: New Permit