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		Date:	September 8, 2026

Reference: Addendum to South Railroad Project Antidegradation Alternative Analysis and Socioeconomic Impacts, National Pollutant Discharge Elimination System Draft Permit (NV0024267), August 18, 2026

INTRODUCTION

Gold Standard Ventures (US) Inc. (GSV), a wholly owned subsidiary of Equinox Gold Corp., has applied for a National Pollutant Discharge Elimination System (NPDES) permit in support of the South Railroad Mine Project (Project), a proposed open-pit gold mining operation located in Elko County, Nevada, approximately 17 miles south of Carlin and 25 miles southwest of Elko (Figure 1).

On August 18, 2026, GSV submitted a report titled *South Railroad Project Antidegradation Alternative Analysis and Socioeconomic Impacts, National Pollutant Discharge Elimination System Draft Permit (NV0024267)* to the Nevada State Environmental Council (SEC) to support a request for Antidegradation Review of the sulfate, fluoride, and nitrate standards proposed in the draft permit. On August 28, 2026, the draft permit was revised resulting in modification of some of its proposed standards, most notably the chloride and TDS standards.

This addendum to the August 18, 2026, report (August 2026 Report) is intended to:

1) support a request for Antidegradation Review of the proposed chloride and TDS standards in addition to the proposed sulfate, fluoride, and nitrate standards, and
2) supply information regarding the alternatives analysis and socioeconomic impacts of the proposed chloride and TDS standards.

Key revisions or additions to the August 2025 Report are highlighted in red text below to assist the reader.

BACKGROUND

Compared to the August 2026 Report, the following information remains unchanged:

- Introduction (Section 1)
  - Project Summary (Section 1.1)
  - Project Discharge Basis (Section 1.2)
    - Dewatering Rates and Discharge Timing (Section 1.2.1)
    - Propose Base Treatment: Coagulation-Assisted Filtration (Section 1.2.2)
- Existing Conditions (Section 2)
  - Hydrologic Setting (Section 2.1)
  - Receiving Water (Section 2.2)
    - Applicable Water Quality Standards and Beneficial Uses (Section 2.2.1)

        - Baseline Water Quality (Section 2.2.2)
    - Untreated Water Source (Groundwater) (Section 2.3)
        - Baseline Water Quality (Section 2.3.1)

Based on the revised draft permit, chloride and TDS would be added to the list of Pollutants of Concern (Section 2.3.2). For chloride and TDS, the pollutant-of-concern determination is driven by the Tier 2/RMHG-based revised draft permit limit rather than an exceedance of the next most restrictive beneficial-use standard. The technical implications of the relatively small chloride and TDS concentration reductions required to meet the revised draft permit limit are evaluated in the addendum below in the Alternative Identification and Analysis of Alternatives sections.

Chloride occurs at low concentrations (i.e., 2.2 to 9.4 mg/L) in both the receiving water and in the groundwater source to be treated. However, the proposed treatment process includes addition of a ferric chloride reagent to provide the mechanism to absorb arsenic and other metals from solution. The use of this reagent for metal removal and reduction of metal toxicity risk would increase the chloride concentration in the discharge to approximately 47 mg/L. The draft permit standard for chloride is based on 10% of the most restrictive water quality standard. This permit standard was revised from 85 mg/L (i.e., 10% of the acute exposure limit for aquatic life) to 23 mg/L (i.e., 10% of the chronic exposure limit for aquatic life). The revised standard is now less than the anticipated chloride concentration in the treated discharge.

TDS occurs at low to moderate concentrations (i.e., 110 to 240 mg/L) in the receiving water (i.e., 64 to 310 mg/L) and in the groundwater source to be treated (i.e., 150 to 180 mg/L). However, the proposed treatment process includes addition of reagents to provide the mechanism to absorb arsenic and other metals from solution (e.g., ferric chloride, sodium hypochlorite, sodium bisulfite, sodium hydroxide). The use of this reagent for metal removal and reduction of metal toxicity risk would increase the TDS concentration in the discharge to approximately 264 mg/L. The draft permit was revised to 239 mg/L. The revised standard is now less than the anticipated TDS concentration in the treated discharge.

Addition of chloride and TDS to the Pollutant of Concern results in the following updated summary table:

Table 4. Pollutants of Concern

Parameter	Units	No. of Samples	Count ND	Min. Meas.	Median Meas.	Max. Meas.	Most Restrictive WQS	Draft Permit Limit	Min Basis	RPA
Antimony, Total Recoverable	µg/L	22	7	<2.5	3.8	9	146	14.6	Tier 2/ RMHQ	42.6
Arsenic, Total Recoverable	µg/L	21	0	14	63	100	50	29	Tier 2/ RMHQ	145.3
Iron, Total Recoverable	µg/L	22	4	<100	270	720	1,000	875	Chronic Aquatic Life	1660.5
Manganese, Total Recoverable	µg/L	22	0	21	26.5	98	200	115	Tier 2/ RMHQ	220.2
Thallium, Total Recoverable	µg/L	21	16	<1	<1	<2	13	1.3	Tier 2/ RMHQ	7.6
Fluoride	µg/L	10	9	<300	<300	<300	1,000	357	Tier 2/ RMHQ	700.9
Sulfate	mg/L	21	0	26	32	37	250	25	Tier 2/ RMHQ	40.8
Chloride	mg/L	21	0	2.2	3.65	3.8	230	23	Tier 2/ RMHQ	4.82
TDS	mg/L	12	0	150	160	180	500	239	Tier 2/ RMHQ	197.4

ND = non-detect
RPA = Reasonable Potential Analysis

The inclusion of the revised chloride and TDS standards does not affect the analysis in the August 2026 Report of potential nitrogen species variability (Section 2.3.3).

ALTERNATIVES IDENTIFICATION

Inclusion of the chloride and TDS standards as a treatment target modifies the identification and descriptions of Alternative Treatment Technologies from those presented in the August 2026 Report Section 3.1. The modifications are as follows:

3.1.1 Partial-Stream Reverse Osmosis

Partial-stream reverse osmosis would involve diverting 80% of the coagulation-assisted filtration effluent through reverse osmosis treatment prior to recombining the treated stream (permeate) with the remainder of the coagulation-assisted filtration effluent. Reverse osmosis processes are pressure-driven membrane processes that remove dissolved ions by separating a lower-dissolved-solids permeate from a concentrated reject stream. Under this alternative, the membrane system would be sized to treat only the portion of flow necessary to reduce target constituents in the blended effluent, rather than treating the full discharge volume. Although reverse osmosis would be technically capable of achieving the revised limits, treating a greater fraction of flow increases membrane capacity, energy consumption, and reject generations. Approximately 100 million gallons per year or concentrated reverse osmosis reject is projected to be generated. Management of this waste stream would substantially increase project capital and operation costs along with presenting additional environmental and disposal challenges.

Alkalinity removed through reverse osmosis would be replaced to meet permit requirements. Due to the higher percentage of water treatment via reverse osmosis, blended effluent hardness would also be reduced below levels typically utilized to mitigate metal toxicity for aquatic species (i.e., 40-50 mg/L hardness as $CaCO_3$). Under the revised chloride and TDS standards, the replacement of hardness would also become more technically challenging. Conventional hardness replacement via addition of calcium chloride would be constrained by the chloride standard and would have little margin for error when raising hardness to meet discharge targets while constraining chloride and TDS concentrations below the revised standards.

3.1.2 Partial-Stream Ion Exchange

Partial-stream ion exchange for removal of chloride would be technically infeasible. To remove chloride, the anion exchange resin would need to be in the bicarbonate (HCO_3) or hydroxide (OH) form, rather than the chloride form previously considered for selective sulfate removal. An HCO_3 form resin would exchange chloride and sulfate for bicarbonate ions but would increase TDS. An OH form resin would provide net TDS removal while also removing sulfate and chloride but would raise pH and result in high scaling potential for calcite ($CaCO_3$) and brucite ($MgOH_2$) within the resin bed.

To reliably achieve the draft chloride, sulfate, and TDS limits simultaneously via ion exchange, the process would require a conventional demineralization configuration consisting of an acid form (H^+) cation exchange resin followed by a base form (OH^-) anion exchange resin. The cation exchange resin would remove calcium, magnesium, sodium, and other cations prior to the anion exchange resin and prevent fouling. The anion exchange resin would subsequently remove chloride, sulfate, bicarbonate, and other anions. This configuration is fundamentally different from the sulfate selective process previously evaluated and is more analogous to a boiler-water demineralization system.

Regeneration requirements would be substantially higher because the demineralization system would exchange essentially the full ionic load of the water rather than selectively removing sulfate. Based on the expected ion exchange feed water chemistry, the total regeneration duty is estimated to increase by approximately 10-15 times relative to the previously evaluated ion exchange process. In addition, sodium chloride (NaCl) regeneration would no longer be appropriate. The cation exchange resin would require acid regeneration with hydrochloric acid (HCl) and the anion exchange resin would require base regeneration with sodium hydroxide (NaOH). This would result in a substantial increase in concentrated acid/base waste volumes.

In addition, a demineralization ion exchange system would require downstream effluent reconditioning because the process would remove essentially all hardness and alkalinity from the treated water. The revised draft permit requires a minimum effluent alkalinity of 91 mg/L as $CaCO_3$, and hardness would also need to be restored to support WET compliance; an effluent hardness of approximately 40–50 mg/L as $CaCO_3$ would be targeted to reduce osmotic stress and mitigate residual metals toxicity. Conventional reconditioning chemicals would be significantly constrained by the revised discharge limits. For example, calcium chloride addition sufficient to restore 40–50 mg/L as $CaCO_3$ of hardness would introduce approximately 28–35 mg/L of chloride, exceeding the 23 mg/L chloride limit before accounting for any residual chloride in the ion exchange effluent. This alone renders the ion exchange alternative infeasible.

3.1.3 Barite Precipitation

While feasible for the removal of sulfate from solution, barite precipitation would not be feasible for the removal of chloride from solution. Barite precipitation utilizes a barium-bearing reagent to form barite (barium sulfate) which precipitates from solution as a solid. Barium does not combine with chloride to form solids efficiently to reduce dissolve chloride concentrations in solution.

The other alternatives presented in the August 2026 Report remain infeasible as presented, i.e., the information in the following sections remains unchanged when considering the revised chloride and TDS standards:

- Alternative Discharge Location/Mixing (Section 3.2)
- Alternative Processes (Section 3.3)
    - Rapid Infiltration Basins (Section 3.3.1)
    - Reuse in Mining Operations (Section 3.3.2)
- Seasonal or Controlled Discharge (Section 3.4)
    - Seasonal of Controlled Discharge During Higher-Flow Periods (Section 3.4.1)
    - Land Application (Section 3.4.2)
- No Discharge Alternative (Section 3.5)

Consideration of the revised draft chloride and TDS standards has implications for the technical feasibility screening and revises the information provided in Table 5 of the August 2026 Report as shown below:

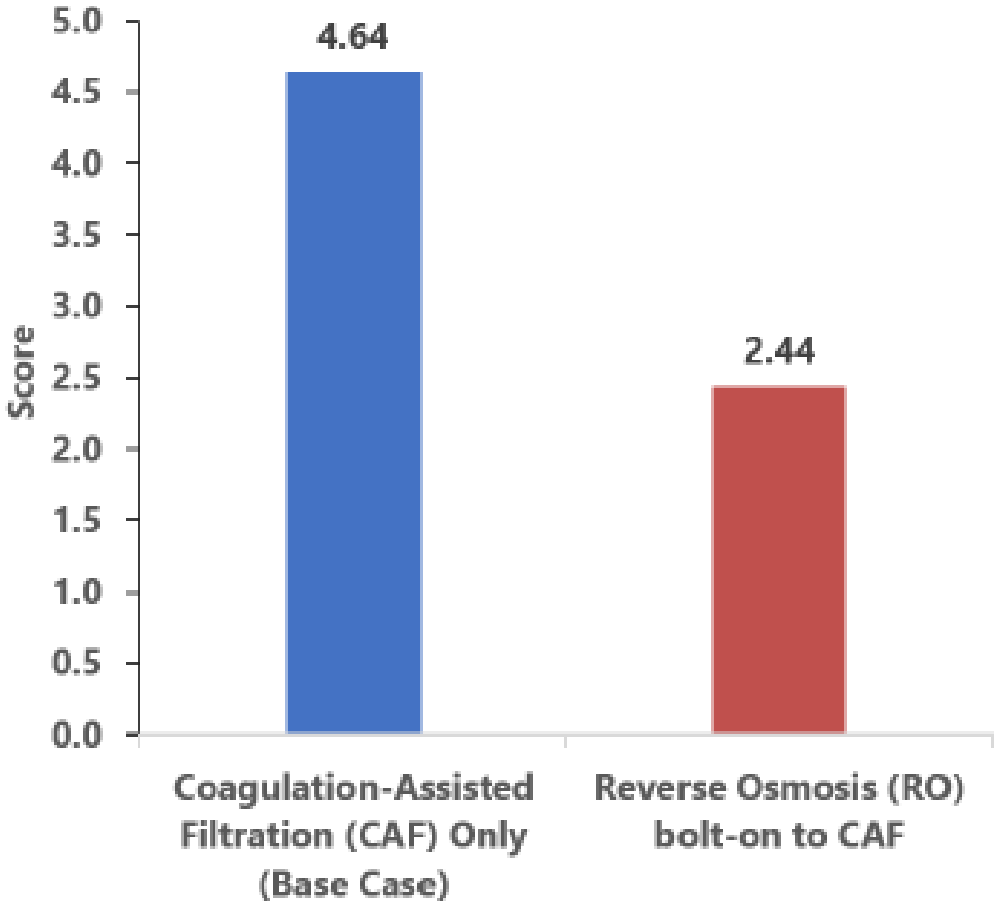
Table 5. Initial Technical Feasibility Screening of Alternatives

Alternative	Fatal Flaw Category	Technical Feasibility Screening Result	Advance to MAA?
Proposed coagulation-assisted filtration	None identified	Technically feasible as the proposed base treatment system	Yes
Partial-stream RO	None identified at screening level	Potentially feasible as supplemental treatment	Yes
Partial-stream ion exchange	Infeasible resin regeneration needs for design	Not feasible as a standalone strategy	No
Barite precipitation	Ineffective for chloride removal	Not feasible as a standalone strategy	No
Downstream perennial reach/ mixing concept	Insufficient and variable assimilative capacity	Not technically reliable as a compliance strategy	No
Rapid infiltration basins	Hydrogeologic and implementation uncertainty	Demonstrated to be unreliable for full projected flows.	No
Reuse in mining operations	Insufficient demand relative to dewatering supply	Useful as a partial water-management measure, but not a standalone alternative	No
Seasonal or controlled discharge	Storage and operational constraints	Not feasible as a standalone discharge-management strategy	No
Land application	Capacity, seasonality, and land-area constraints	Not feasible as a standalone alternative	No
No discharge alternative	No practicable complete water-management pathway	Not feasible based on projected dewatering volumes	No

ANALYSIS OF ALTERATIVES

Based on the infeasibility of partial-stream ion exchange and barite precipitation, the multiple accounts analysis of alternatives (August 2026 Report Section 4.2) includes only the partial stream-RO alternative when considering the revised draft chloride and TDS concentrations. The results of the analysis of the Base Case and partial stream-RO alternative remain unchanged compared to the August 2026 Report.

Figure 7. Overall MAA Score by Retained Alternatives



Based on the MAA results, the proposed coagulation-assisted filtration treatment system is identified as the preferred alternative for the Project. The preferred alternative provides reliable metal and suspended solids treatment, is technically implementable, avoids the large secondary waste streams and long-term off-site disposal obligations associated with supplemental sulfate, chloride, and TDS treatment, and provides the best overall balance of technical feasibility, environmental tradeoffs, economic achievability, social considerations, and consistency with Project objectives. The MAA supports the conclusion that the incremental reduction in sulfate, fluoride, nitrate, chloride, and TDS concentrations is outweighed by the associated technical, environmental, economic, and social tradeoffs.