



May 1, 2017

**GIS, Environmental, & Engineering Services**

70661

Mr. Jeff Huggins  
California Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, CA 95670-6114

*Via Email*  
*centralvalleysacramento@waterboards.ca.gov*

**RE: Comments  
Order R5-2017-XXXX  
Tentative Waste Discharge Requirement  
Soper Company  
Spanish Mine  
Nevada County, California**

Dear Mr. Huggins:

Thank you for the opportunity to comment on the Tentative Waste Discharge Requirements prepared for the treatment and land application of discharge from the Spanish Mine located in Nevada County, California. The following comments were prepared by VESTRA and are being submitted on behalf of Soper Company.

**COMMENT 1 – FINDINGS SECTION, PASSIVE TREATMENT SYSTEM DESIGN AND PERFORMANCE**

We recommend including additional background information on the design and operation of passive treatment systems (PTS) in the Findings section. Recommended information includes the following:

Experience with numerous abandoned mines discharging acid mine drainage (AMD) has shown that significant reductions in AMD can be achieved by implementing best management practices (BMPs). This approach is consistent with Resolution 79-149 (Amendment to the Water Quality Control Plan and Action Plan for Mining) and Resolution 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California). The PTS systems installed at Spanish Mine were identified as the most appropriate treatment BMPs to address AMD from the A-001 and A-003 mine portals based on these resolutions.

The size and hydraulic capacity of PTS systems are generally limited by available space, elevation, topography, precipitation, and the flow rates necessary to facilitate the microbial reduction of target metals. For this reason, the systems are not designed to store or treat the high volumes of water generated by extreme precipitation events and the corresponding increase in portal discharge rates. Rather, the systems are typically designed to bypass flows in excess of the design flow to protect the overall integrity of the systems.

Based on flow data collected between 2003 and 2012, the Spanish Mine treatment systems are capable of treating the discharge from the A-001 and A-003 portals 80 percent of the time. The systems are designed to bypass higher flows to secondary infiltration or spray fields. During emergency or extreme flow conditions, excess discharge may be routed away from the treatment systems to protect the integrity of the systems via an emergency overflow or spillway.

The A-001 and A-003 mine portals existed prior to the adoption of Resolution 68-16, and the results of a baseline study conducted prior to the construction of the PTS systems determined that the water quality in Poorman Creek downstream from the discharge locations was protective of existing and potential beneficial uses. The operation of the PTS systems has further improved the water quality in Poorman Creek.

#### **COMMENT 2 – DISCHARGE PROHIBITION A.4**

**Discharge Prohibition:** Bypass around, or overflow from, the PTS systems is prohibited.

**Recommended Change:** Bypass around, or overflow from, the PTS systems and primary and secondary infiltration fields and/or spray fields is prohibited.

**Rationale:** The PTS systems were designed to bypass high flows to primary and secondary infiltration fields and/or spray fields.

#### **COMMENT 3 – DISCHARGE SPECIFICATION B.7**

**Discharge Specification:** The Discharger shall operate and maintain all treatment, storage, and disposal systems sufficiently to protect the integrity of systems and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in the PTS shall never be less than one foot (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

**Recommended Change:** The Discharger shall operate and maintain all treatment, storage, and disposal systems sufficiently to protect the integrity of systems and prevent overtopping and/or structural failure. ~~Unless a California registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in the PTS shall never be less than one foot (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.~~

**Rationale:** The A-003 PTS system was designed to protect the integrity of the system and prevent overtopping and/or structural failure. However, due to limited space and steep slopes, the system was also designed to operate with less than one foot of freeboard. This design was approved by the RWQCB and the system has been operational for several years.

#### **COMMENT 4 – DISCHARGE SPECIFICATION B.8**

**Discharge Specification:** Wastewater treatment, storage, and disposal systems or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

**Recommended Change:** Wastewater treatment, storage, and disposal systems or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with the Order. ~~Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.~~

**Rationale:** The systems are operational and were constructed in accordance with Cease and Desist Order R5-2008-0105 issued in conjunction with WDR Order R5-2008-0104 (NPDES Permit No. CA0085286). The original design did not include this 100-year monthly allocated design criteria.

#### **COMMENT 5 – DISCHARGE SPECIFICATION B.9**

**Discharge Specification:** On or about 1 October of each year, available capacity shall at least be equal the volume necessary to comply with Discharge Specifications B.7 and B.8.

**Recommended Change:** No change is necessary if the recommended changes to Discharge Specifications B.7 and B.8 are accepted.

**Rationale:** See the Rationale for Discharge Specifications B.7 and B.8.

#### **COMMENT 6 – PASSIVE TREATMENT MONITORING REQUIREMENT NO. 1**

**Passive Treatment Monitoring Requirement:** Conduct and report freeboard measurements quarterly as outlined in Table 2.

**Recommended Change:** ~~Conduct and report freeboard measurements quarterly as outlined in Table 2.~~

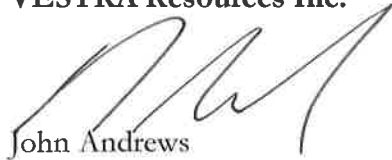
**Rationale:** This monitoring requirement is not necessary if the recommended change to Discharge Specification B.7 is accepted.

Mr. Jeff Huggins/RWQCB  
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Again, thank you for the opportunity to submit comments on the Tentative Waste Discharge Requirements for the treatment and land application of discharge from the Spanish Mine. If you have any questions or require clarification or additional information, please contact me at (530) 223-2585 or William Apger at (530) 675-2343.

Sincerely,

**VESTRA Resources Inc.**



John Andrews  
P.G. 4269

CC: Mr. William G. Apger/Soper Company  
Mr. Paul Violet/Soper Company