

ITEM: 8

SUBJECT: Soper Company, Spanish Mine, Nevada County

BOARD ACTION: Consideration of NPDES Permit and Cease and Desist Order

BACKGROUND: The Discharger owns the historic, inactive Spanish Mine, a former gold and barite mine approximately 3 miles north of the town of Washington, Nevada County. Underground mining for gold ceased in 1942. The open pit barite mine closed in 1988 and was successfully reclaimed with no water quality issues. Soper Company obtained the property in 1996 for its timber values and did not conduct any mining operations.

The old underground mine workings collect and discharge moderately acidic water containing metals from two adits. The discharge enters Poorman Creek, tributary to the South Fork Yuba River. The beneficial uses of Poorman Creek are not significantly impacted by the discharge.

The abatement of mine drainage in remote locations commonly relies on the installation of concrete bulkhead seals, surface water drainage controls and/or operation of 'passive' treatment systems referred to as Best Management Practices (BMPs). Often the flow of pollutants out of a mine adit cannot be completely stopped, even with the installation of concrete bulkhead seals. Additional efforts may be required to abate the discharges. "Passive" treatment systems typically used in remote locations to handle mine drainage where access is limited, do not utilize electricity or chemical feed stock. These systems are subject to variations in the influent quality and quantity, and the effectiveness of its physical and biological processes used in each. These processes vary with changes in temperature, flow rates, and residence time.

The discharge has been ongoing probably since underground mining began pre-1905. It will take a period of time to evaluate the discharges and develop and implement appropriate BMPs as required to comply with the NPDES permit. The implementation of BMPs for the control of mine drainage is necessarily an iterative process, which allows for an evaluation of the success of a specific BMP based on site specific conditions prior to development of additional BMPs. Therefore a Cease and Desist Order with a time schedule for implementing the required BMPs and complying with the NPDES permit is proposed.

ISSUES: Section 122.44(k)(3) of Title 40 of the Code of Federal Regulations (CFR), Best Management Practices (BMPs) may be required in NPDES permits in lieu of numeric effluent limits to control or abate the discharge of pollutants when numeric effluent limits are infeasible.

Numeric effluent limits for pollutant discharges associated with the control of drainage from abandoned, inactive mines in remote regions with limited seasonal access, no infrastructure (including electricity), and highly variable discharge rates and waste constituent concentrations are not feasible. Discharges from the Spanish Mine are highly variable and inconsistent both in volume and the concentration of waste constituents. This variability is due to the discharge being directly related to stormwater and rainfall events.

Numeric limits have long been found to be infeasible for stormwater discharges, and the SIP explicitly excludes stormwater from coverage. The flows from this inactive, historic mine are similar to stormwater discharges in that the discharge from the mine portals are directly related to precipitation experienced at the site. The flow from the mine portals originates from the infiltration of precipitation into the subsurface where it is collected in the underground workings and discharged from the mine portal. Although the mine discharges are not stormwater discharges, in this case, their similarity supports regulating them in a similar manner using BMPs.

BMPs may include surface water diversions, installation of concrete seals in the mine portals, collection of the portal discharges and treatment in "passive" treatment systems. Such systems are commonly used in remote locations to handle mine drainage and do not require electricity or chemical feed stock. These systems are subject to variations in the influent quality and the effectiveness of its physical and biological processes used in each. These processes vary with changes in temperature, flow rates, and residence time. Federal regulations allow for the substitution of BMPs in NPDES permits in lieu of numeric effluent limits to control or abate the discharge of pollutants when numeric effluent limits are infeasible.

The proposed Order contains discharge limitations that are narrative, and does not contain specific numeric effluent limits. In place of effluent limits, the Order requires implementation of BMPs for source control (i.e. diversion of surface waters which may infiltrate into the underground mine workings,) concrete bulkhead seals to plug the mine adits, or passive biological or physical treatment systems.

This permit requires that the Discharger implement BMPs to control or abate pollutants discharged from the mine adits to the receiving waters (Poorman Creek) and comply with numeric receiving water limitations. The BMPs constitute BAT and BCT and will be implemented to minimize the impacts of the discharges. This approach will allow for the long-term maintenance of water quality and protection of the beneficial uses of the receiving waters.

The BMPs provide the flexibility necessary to establish controls to minimize the magnitude of the discharges adequately to prevent

impacts to beneficial uses in the receiving waters.

RECOMMENDATION: Adopt the proposed NPDES permit and Cease and Desist Order.

Mgmt. Review_____

Legal Review_____

31 July/August 1 2008

Central Valley Regional Water Quality Control Board

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