

Regional Water Quality Control Board
Central Valley Region
Board Meeting – 31 July/1 August 2008
Response to Comments for Soper Company
Spanish Mine
Tentative Waste Discharge Requirements

The following are responses to written comments received from interested parties in response to the Tentative Waste Discharge Requirements (NPDES permit) for Soper Company (Discharger), Spanish Mine issued on 15 January 2008. Written comments from interested parties on the tentative NPDES permit were originally required to be received by the Regional Water Quality Control Board (Regional Water Board) by 15 February 2008 in order to receive full consideration. The tentative NPDES permit was removed from the March 2008 agenda to allow staff time to address the comments. The tentative NPDES permit was rescheduled for the 31 July/1 August 2008 meeting of the Regional Water Board. Comments were received by the original due date from the following party:

1. California Sportfishing Protection Alliance (CSPA)

Written comments from the above interested party are summarized below, followed by the response of the Regional Water Board staff.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

CSPA- COMMENT #1: The proposed Permit fails to contain an Effluent Limitation for copper in violation of the California Toxics Rule, Federal Regulations (40 CFR 122.44), the California Water Code (CWC), Section 13377 and the State’s Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP).

CSPA comments 2-8 include identical issues for zinc, cadmium, lead, nickel and with the exception of not claiming a violation of the SIP, for cobalt, iron, and manganese.

RESPONSE (to comments #1-8)

Pursuant to 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.

Recent State Water Board decisions have interpreted “infeasible” to mean “inappropriate” or improper. The State Water Board has made clear that

“infeasibility” refers to “the ability or propriety of establishing” numeric limits.¹ For example, in the Lake Davis and rescinded Silver King Creek NPDES permits for the use of rotenone to control unwanted fish species, the Regional Water Board and State Water Board (respectively) found that numeric effluent limits were infeasible because aquatic pesticide application produces “no definable ‘effluent’ upon which limits can be placed. Rotenone and potassium permanganate are commercial products of formulated chemical composition, rather than an effluent waste stream from a controllable process or activity.”² In the statewide Aquatic Pesticide Permit, Water Quality Order No. 2004-0009-DWQ, the State Water Board found that numeric effluent limitations were infeasible because, among other things, “it would be impractical to treat the numerous short duration intermittent pesticide releases to surface waters from many different locations.” As discussed below, similar considerations apply to the discharges from this facility.

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

Establishing numeric effluent limits for pollutant discharges associated with the control of drainage from historic, abandoned mines in remote regions with limited seasonal access, no infrastructure, and highly variable influent rates and waste constituent concentrations is not feasible. The volume, concentration, and loading of wastes discharged from these old mines can vary widely with changes in season, temperature and precipitation. “Passive” treatment systems typically used in remote locations to handle mine drainage do not utilize pumps, motors, fuel, electricity or chemical feedstock, nor do they require continuous monitoring and adjustment of the treatment process. Such passive treatment systems are reliable but cannot always respond to large or rapid changes in influent flow rates or constituents concentrations, and cannot provide a consistent effluent. The effectiveness of these systems is subject to variations in the influent quality and the effectiveness of the physical and biological processes used in each. These processes vary with temperature, flow rate, and residence time. Therefore, the tentative NPDES permit contains discharge limitations that are narrative, and does not contain specific numeric effluent limits. In place of numeric effluent limits, the tentative NPDES permit requires implementation of BMPs as allowed for in 40 CFR 122.44(k)(3) for source control and passive biological or physical

¹ Order WQ 2006-0012 (Boeing) at 14.

² R5-2007-0053, Finding G; see also, Water Quality Order No. 2005-0010-DWQ, Finding 17.

treatment systems to treat residual discharges.

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 the flexibility necessary to establish controls for the long-term maintenance of water quality and the protection of the beneficial uses of the receiving waters.

State Water Resources Control Board Resolution No 79-149, *Amendment to Water Quality Control Plan and Action Plan for Mining* includes many BMPs available for control of acid mine drainage from abandoned mines. Listed BMPs include surface water controls (regrading, revegetation, hydraulic works) to control infiltration, and mine drainage control, including collection and reuse of mine drainage, sealing underground mines to prevent discharges, and treatment of the mine discharge. These BMPs and other BMPs developed more recently, including the use of passive biological and physical treatment systems to reduce the metals in solution to insoluble precipitates, can significantly reduce the amount of metals entering surface and ground water.

While the SIP does require numeric effluent limits for zinc, cadmium, lead, and nickel, we do not believe the SIP overrules 40 CFR Section 122.44(k)(3) which allows for the substitution of BMPs under certain circumstances as described above. Sections II.F.-Effluent Limits, in the Findings and Section V.A.-Best Management Practices, in the Fact Sheet (Attachment F) clarify these findings.

It should also be noted three of the constituents under discussion (cobalt, iron and manganese) are not listed in the SIP as a priority pollutant (nor does CSPA claim they are) but the water quality objectives used for the Receiving Water Limits to protect the beneficial uses of Poorman Creek were derived from the following: 1) cobalt-Agricultural Water Quality Goal, 2) iron-secondary MCL, and 3) manganese-secondary MCL.

While there are no identifiable impacts on the beneficial uses assigned to Poorman Creek by the mine discharge, the implementation of BMPs significantly reduce the metals loading to Poorman Creek and it is the goal of the Discharger (and Regional Water Board) to eventually eliminate all discharges to the creek from the mine.

CSPA-COMMENT #9: The proposed Permit established a technically invalid defacto mixing zone contrary to the legal requirements of the Basin Plan and the SIP.

RESPONSE

As part of their application package for waste discharge requirements, the Discharger included an evaluation of stream flow data obtained from a stream gage station operated below the discharge point on Poorman Creek by the U.S. Geological Survey between 1961 and 1971. Flows ranged between 2,738 and 1,440,648 gpm. Maximum flows from the mine discharges have been measured to up to 30 gpm from Discharge Point 1 and 50 from Discharge point 3. It is the intent of the Discharger to eliminate the discharge to surface waters from Discharge Point 3 shortly; therefore, it will not continue to contribute waste constituents to the watercourse. The ultimate plan is to also eliminate the discharge to surface waters from Discharge Point 1.

In this instance, all the stream flow and mine portal discharge flow is directly related to precipitation. Stream flows are a result of direct precipitation runoff, snowmelt, and groundwater discharge while the flow from the mine portals is from the infiltration of precipitation into the subsurface and its collection and discharge from the portal. There are no other sources of water to contribute to the respective flows. The mine is constructed in crystalline bedrock where groundwater moves through fractures in the rock. There is no “aquifer” or geologic structure to provide for long-term storage of precipitation that would allow high portal flows to continue significantly beyond a period of high stream flows. Therefore, it is highly unlikely that a minimum stream flow would correspond with a maximum portal discharge. This is supported by the USGS data showing lowest stream flows in the late summer and fall as expected, and the lowest portal flows are also in the fall months as shown in Tables F-2 and F-3 of the tentative NPDES permit.

However, Regional Water Board staff agrees a more formal approach to documentation of the assimilative capacity and mixing zone boundaries of Poorman Creek are necessary. Section C.1.b.-Mixing Zone and Dilution Study, has been added to the tentative NPDES permit to address this issue.

CSPA-COMMENT #10: The proposed Permit is wrong in citing Federal Regulations 40 CFR 122.44(k)(3) as allowing best management practices (BMPs) for the discharge in lieu of Effluent Limitations.

RESPONSE

Regional Water Board staff disagrees with CSPA’s statement “The proposed permit does not contain a single argument in defense of why Effluent Limits would be impracticable.”

The argument that effluent limits are impracticable or infeasible is not simply based on the idea that electricity is not available as suggested by CSPA. There are multiple reasons that, when taken as a whole make effluent limits infeasible. Our response to CSPA’s Comments #1-8 above provides a discussion of why

effluent limits are not feasible and BMPs are justified. Further information is provided on page F-7 through F-9 of the tentative NPDES permit.

CSPA also takes exception to the term “abandoned mine”, believing it indicates the mine does not have an owner. The mine at issue is not an active mine nor has it been mined in the recent past, when regulatory laws and regulations were in-place. Often such mines have not been used for 50+ years and are commonly referred to as “abandoned”. Regional Water Board staff does not mean there is no landowner or responsible party, but simply the mine has not been closed or reclaimed to the standards expected today. The term “abandoned mine” is simply a characterization of an old mine that is no longer in use and has been left “as is” or abandoned.

CSPA further suggests that because proposed tentative NPDES permit requires monthly monitoring throughout the year, the site must be fully accessible for all purposes throughout the year. Site access for the purpose of gathering water samples may be possible using a snowmobile, cross-country skis, etc. However even these modes of transportation may, at times, be dangerous or even impossible depending upon snow and weather conditions. This does not suggest the site may be accessible for the operation of a continuous “active” treatment system that requires motors, pumps, chemical feed stocks, fuel, generators, and continuous operation oversight.

The monitoring program of the tentative NPDES permit has been modified to state that monitoring for a given time period may be postponed due to access and safety considerations.