

INFORMATION SHEET

ORDER R5 _____
BUTTE SAND AND GRAVEL, MOREHEAD LAND LLC, BEGONIA MCPHERRIN,
ROSE MCPHERRIN, AND ANNA MCPHERRIN
SOUTH BUTTE QUARRY
SUTTER COUNTY

Background

Butte Sand and Gravel submitted a Report of Waste Discharge (RWD) that describes modifications to the facility operations and expansion of the existing Butte Sand and Gravel facility. The facility was expanded to include the existing, adjacent Butte Ranch Quarry to create a single mining facility renamed as the South Butte Quarry.

The Butte Sand and Gravel facility is regulated under Waste Discharge Requirements (WDRs) Order 5-00-174, which prescribes requirements for the discharge of aggregate wash water from a gravel crushing operation to a closed, recirculation pond system consisting of two settling ponds, and recycling through reuse in the main washing plant and/or irrigation of pasture land. Butte Ranch Quarry, which performs crushing and dry processing operations of mined sand and gravel, was not previously regulated under WDRs. A January 2007 Reclamation Plan was certified for the South Butte Quarry, which allows the two adjacent aggregate mining facilities to operate as one facility and increased the mining and reclamation area from 186 acres to approximately 320 acres. The Butte Sand and Gravel facility has expanded and WDRs Order 5-00-174 no longer reflects the current facility operations. Therefore, WDRs Order 5-00-174 will be rescinded and replaced with this Order.

South Butte Quarry is owned and operated by Butte Sand and Gravel. The facility is located on land owned by Morehead Land LLC, Begonia McPherrin, Rose McPherrin, and Anna McPherrin. In 2006, a clarifier was added to the wash water and recycling system. Aggregate wash water is currently pumped to the clarifier, where polymers are added to enhance fines settlement. Water decanted from the clarifier is returned to the existing Clean Water Pond for reuse as aggregate wash water or irrigation water for the Designated Irrigation Areas (DIAs). The Discharger proposes to cease irrigation of the DIAs with water from the Clean Water Pond and/or any process water generated from the aggregate washing operations. Fines from the clarifier are sent to the fines placement area, also referred to as the Silt Drying Beds, covering approximately 70 acres. Fines are allowed to dry in place and used in reclamation of the site or excavated areas. Any free water retained in the fines is collected in the Silt Pond and returned to the Clean Water Pond. The former north Settling Pond has been filled with fines. The former south Settling Pond remains empty and will serve as a back-up fines placement area.

The derivation of selected terms and conditions of the Order is discussed below.

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Order Terms and Conditions

The antidegradation directives of State Water Board Resolution 68-16 require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policies and procedures for complying with this directive are set forth in the Basin Plan (including by reference State Water Board Resolution 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," or "Antidegradation" Policy). Resolution 68-16 prohibits degradation of groundwater unless it has been shown that:

- The degradation is consistent with the maximum benefit to the people of the state.
- The degradation will not unreasonably affect present and anticipated future beneficial uses.
- The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and
- The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

In allowing a discharge, the Central Valley Water Board must comply with Water Code section 13263 in setting appropriate conditions. The Central Valley Water Board is required to implement the Basin Plan and consider the beneficial uses to be protected along with the water quality objectives essential for that purpose. The Central Valley Water Board need not authorize the full utilization of the waste assimilation capacity of the groundwater (Water Code section 13263(b)) and must consider other waste discharges and factors that affect that capacity.

The material used in the Discharger's operation are natural earth materials subjected to a classification and separation process using recycled wash water and site groundwater. Polymers are used to enhance fines settling and appear to add some dissolved solids to the wastewater.

Based on wastewater quality data included in the RWD, the constituent of concern that has the potential to degrade groundwater is manganese. Dissolved manganese concentrations exceeding the 50 ug/L secondary MCL were detected in the sample obtained from the Silt Pond and Clean Water Pond. The Discharger attributes the high manganese concentrations to the vegetation growth at the ponds. Vegetation falls to the bottoms of the ponds, creating reducing conditions to mobilize the manganese already present in the natural mineral composition of the silts and clays. The Discharger proposes to implement the following best management practices (BMPs) to minimize the potential for reducing conditions.

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- Implement a pond maintenance program to remove vegetation and decaying matter from accumulating on or below the water surface or perimeter of the ponds.

The following treatment and control measures are implemented at the mining facility:

- The potential for evapoconcentration and potential migration has been reduced since operation of the clarifier and discontinued use of the Settling Ponds.

This Order establishes discharge prohibitions, discharge specifications, groundwater limitations, and monitoring requirements to assure protection of the beneficial uses of groundwater.

Groundwater Limitations C.1, C.2, C.3, C.4

Groundwater limitations are established to protect the beneficial uses of groundwater. With the exception of manganese, total coliform organisms, and pH, the WDRs will set narrative groundwater limits not to exceed concentrations statistically greater than existing background groundwater quality. The discharge, in combination with other sources, shall not cause underlying groundwater to:

- Contain manganese at a concentration greater than 50 mg/L.
- Exceed the Basin Plan's numeric water quality objective for total coliform organism of 2.2 MPN/100mL.
- Exhibit a pH of less than 6.5 or greater than 8.4 pH units.
- Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

Provisions D.1.b

To address the high manganese concentrations detected in the Silt Pond and Clean Water Pond and reduce the potential for reducing conditions, the Discharger will implement BMPs. In order to evaluate the effectiveness of the BMPs and ensure no potential impacts to groundwater, the Order requires submittal of a *Manganese Minimization Evaluation Report* and an annual evaluation.

Monitoring Requirements

The Order requires monitoring of the ponds, wastewater, and water supply. Additional wastewater monitoring includes manganese, the only constituent for concern. In addition, the Order requires monitoring the water supply, including pH, EC, arsenic, chloride, iron, lead, manganese, potassium, and sodium to assess any potential impacts to groundwater. If results of the monitoring reveal a previously undetected threat to water quality or indicate a change in waste character such that the threat to water quality is significantly increased, the Central

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Valley Water Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16.

Reopener

The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. If the information obtained from the monitoring activities indicate a significantly increased threat to water quality, it may be appropriate to reopen the Order to address compliance with the Basin Plan.

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