

**STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION**



In the Matter of:)
)
)
PETITION FOR A VARIANCE)
FROM REGULATIONS FOR)
THE TYRONE MINE)
SAVANNAH PIT LEACH)
STOCKPILE,)
)
FREEPORT-MCMORAN)
TYRONE, INC.,)
)
Petitioner.)
)
)

No.: WQCC 11-03(V)

STATEMENT OF REASONS AND ORDER

This matter comes before the Water Quality Control Commission (Commission) upon a June 29, 2011, petition filed by Freeport-McMoRan Tyrone, Inc. (Tyrone) for a variance from ground water quality standards during operations in a limited and defined location beneath and adjacent to the Savannah Pit at the Tyrone mine facility in Grant County, New Mexico (Petition). See WQCC Regulations §§ 20.6.2.3109(C) and (H)(3) NMAC. The Commission may grant a variance from any requirement of the water quality regulations pursuant to § 74-6-4(H), NMSA (1978). The New Mexico Environment Department (Department) does not object to Tyrone's petition under certain conditions set forth in the Department's August 23, 2011 Response to Variance Petition (Response).

REASONS

The Commission accepts the position of the Department with respect to Tyrone's Petition including the conditions set forth in the Department's Response. Pursuant to § 74-6-4(H), NMSA (1978), the Commission finds that the application of current ground water regulations to Tyrone, under the circumstances set forth in the petition and in the Department's Response, would place an undue burden on Tyrone if the Petition were to be denied. The Commission also agrees with the Department that the new leach stockpile within the Savannah Pit and the operation of the new stockpile are characterized by unique circumstances and reasons that support the granting of a variance. Those reasons include the following.

1. *Hydrogeology*

The Savannah Pit has a distinct hydro-geological feature, a large active hydrologic sink, which will limit and contain the contamination of groundwater. Given the groundwater elevations below the open pits, the continued pumping of water collected in the Main Pit, and the extensive monitoring of groundwater characteristics in this area, the portions of the aquifer that would be affected by discharges at the Savannah Pit stockpile would be limited to groundwater beneath and adjacent to the Savannah Pit and, to a lesser extent, the Main Pit. The Main Pit is located in close proximity to the Savannah Pit. And the Main Pit is considerably deeper than the Savannah Pit; the floor of the Main Pit is some 650 feet lower than the floor of the Savannah Pit. Moreover, the Main Pit has been excavated to a depth that is below the groundwater table, and Tyrone actively pumps out the water collecting in the Main Pit, thus creating a cone of depression or hydraulic sink around the Main Pit. Based on the Department's assessment, the depressed water table is approximately 100 feet below the floor of the Savannah Pit. The depressed water table caused by the Main Pit extends aurally to encompass the groundwater

beneath the Savannah Pit.

The unique result of these features is that groundwater beneath the Savannah Pit discharges to the Main Pit. The large hydraulic sink created by the Main Pit encompasses and captures the groundwater beneath the nearby Savannah Pit. Therefore, contaminants that move into groundwater below the Savannah Pit will be captured by the hydrologic sink created by the Main Pit. The groundwater affected by the construction and operation of the new leach stockpile should be limited to groundwater beneath the Savannah Pit, groundwater beneath the Main Pit, and groundwater moving between them. This hydrology will be maintained for as long as Tyrone continues removing water that collects at the bottom of the Main Pit, a requirement of the Supplemental Discharge Permit for Closure.

2. *Extent of Disturbance*

Locating new leaching operations within the Savannah Pit will limit the footprint of the mining operations to an area that is already disturbed, and will limit further discharges to groundwater that is already heavily affected by mining. The potential contaminants from the discharge from Savannah include lead, chromium, cadmium, fluoride, aluminum, cobalt, copper, iron, manganese, nickel, sulfate, TDS, zinc, and low pH. The discharge from the new leach stockpile within the Savannah Pit will result in leachate that will exceed numerical groundwater quality standards under section 20.6.2.3103 NMAC, and will exceed existing groundwater quality by a factor of 10 to 1000. By allowing the proposed new leaching operations to proceed only in an area within the Savannah Pit, further groundwater pollution would be limited to areas that are already adversely affected. Conversely, if a new leaching and stockpile operation were established in undisturbed surface areas, there is a potential for groundwater contamination in areas that are not currently affected.

3. *Limited Leaching Capacity*

The Tyrone Mine has a shortage of stockpile capacity to accommodate the remaining ore reserves. The mine has approximately 180 million tons of remaining reserves that can be economically leached at current prices and the current remaining stockpile capacity is approximately 150 million tons, therefore resulting in a 30 million ton deficit. The alternative to constructing a leach stockpile within the Savannah Pit is to construct a new leach stockpile near the main entrance of the mine that would be located in an area where the groundwater has not been adversely affected by mining operations. That alternative would be burdensome for Tyrone and would unnecessarily expose currently unaffected groundwater to possible contamination.

4. *Compliance with Other Requirements*

Tyrone is required to comply with other requirements of applicable discharge permits. While under the variance, Tyrone will not be required to meet groundwater quality standards beneath the Savannah Pit during operations. However, Tyrone will still be required to comply with other requirements in its operational discharge permit, DP-455, and its discharge permit for closure, DP- 1341. The Commission notes that DP-455 and DP-1341 are to be modified, pursuant to applicable law including public hearing requirements as appropriate, to address the new leaching operation in the Savannah Pit. The permits contain the following conditions:

- A. Taking certain operational measures to reduce the contamination where technologically feasible and practical such as lining any new booster pumping stations;
- B. Monitoring and reporting;
- C. Implementing a contingency plan to address spills or releases of contaminants;

- D. Complying with the abatement requirements of the regulations, 20.6.2.4000 to 20.6.2.4115 NMAC;
- E. Establishing financial assurance; and
- F. Upon cessation of mining operations, implementing closure measures that will protect groundwater quality into the future.

5. *Abatement of Pollution*

Tyrone will be required to abate water pollution in accordance with the abatement regulations, 20.6.2.4000 to 20.6.2.4 115 NMAC. Section 74-6-4(G) of the WQA provides that the Commission “may only grant a variance conditioned upon a person effecting a particular abatement of water pollution within a reasonable period of time.” Tyrone will be required to abate the water pollution resulting from the Savannah operations in accordance with the Commission’s abatement regulations.

CONDITIONS

Based on the reasons set forth above, the Commission further accepts the Department’s recommended conditions as set forth in the Department’s Response. Those conditions are as follows:

1. The variance is approved only as to the new leach stockpile within the Savannah Pit.
2. The variance applies only to exceedence of groundwater quality standards that occur within the hydraulic sink of the Savannah Pit.
3. Tyrone must implement the new leach stockpile within the Savannah Pit, and the operation of the stockpile must be done in accordance with operational discharge permit DP-455, as modified and approved by the Department after the opportunity for public hearing.

4. Tyrone must establish financial assurance for the new leach stockpile in accordance with Supplemental Discharge Permit for Closure DP-1341, as modified and approved by the Department after the opportunity for a public hearing.
5. Tyrone must monitor the effects on groundwater resulting from the new leach stockpile within the Savannah Pit, and the operation of the stockpile as part of its approved discharge permit modification.
6. Tyrone shall install synthetic liners in all sumps and pumping stations at the Savannah Pit and associated leach stockpiles.
7. Tyrone must install high density polyethylene pipelines or compatible pipelines which have been approved by the Department prior to installation at the Savannah Pit and associated leach stockpiles.
8. Tyrone must provide a contingency plan to address possible releases of contaminants resulting from the Savannah leaching operations that escape the hydrologic sink formed by the Main Pit. The contingency plan must include, at a minimum, notification procedures and corrective action measures to be taken if monitoring wells adjacent to the Savannah Pit indicate anomalies in the potentiometric surface or water quality analyses.
9. Tyrone must take all other reasonable and technologically feasible pollution prevention measures to limit other sources of groundwater contamination from the Savannah Pit and associated leaching operations. Such measures do not include installing a liner beneath the new leach stockpile in the Savannah Pit, or in the adjacent PLS collection pond.

10. Upon completion of mining operations, Tyrone must abate water pollution in the Savannah and Main Pits in accordance with the applicable discharge permits and the pollution abatement regulations. *See e.g.* §§ 20.6.2.4000 to 20.6.2.4115 NMAC.
11. The variance approved by the Commission shall expire by operation of law five (5) years from the date of this order as set forth below.
12. The Commission notes that Tyrone has already completed condition number ten (10) as set forth in the Department's Response, namely the completion and provision of a detailed feasibility analysis to install a synthetic liner in the PLS pond located in the bottom of the Savannah Pit.

ORDER

For the reasons set forth above, the Commission approves Tyrone's Petition subject to the enumerated conditions. This order is limited and narrowly tailored to the unique circumstances discussed above and nothing in this order is intended to suspend or waive enforcement of any other applicable law or regulation applicable to Tyrone.

DONE AND SIGNED this _____, day of January, 2012.



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