

**DISCHARGE PERMIT MODIFICATION
FREEPORT MCMORAN TYRONE, INC., DP-455
CONSTRUCTION OF NEW LEACH STOCKPILES
DRAFT February 20, 2013**

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit Modification, DP-455, to Freeport McMoRan Tyrone, Inc. (Tyrone) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§ 74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit Modification, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the Gettysburg and Savannah Pits, the 6B, 6C and 7B Leach Stockpiles, and the proposed 6A and 6D Leach Stockpiles, that may move directly or indirectly into ground and surface water, so as to protect ground and surface water for present and potential future use as domestic and agricultural water supply and other uses; to abate pollution of ground and surface water; and to protect public health. In issuing this Discharge Permit Modification, NMED has determined that the requirements of 20.6.2.3109.C NMAC have been met.

Project Description

The facilities covered under DP-455 that currently produce discharges that may move directly or indirectly into ground water are the Gettysburg Pit, the Savannah Pit, the 6C Leach Stockpile contained within the Gettysburg Pit, the 6B Leach Stockpile, and the 7B Leach Stockpile located southwest of the Gettysburg Pit.

This Discharge Permit Modification addresses new leach stockpiles identified as the 6A and the 6D Leach Stockpiles. The 6A Leach Stockpile will be located within the south portion of Savannah Pit as allowed by a variance granted by the WQCC on January 27, 2012, and will abut against the existing 6B Leach Stockpile. The northern portion of the Savannah pit will be left open for collecting and managing Pregnant Leachate Solution (PLS) in the pit bottom. A haul road constructed of waste rock will enter from the west rim of the Savannah Pit to the pit bottom, and waste rock will be placed to construct an access road and pipeline corridor to the north end of the pit bottom. A new PLS collection system will be constructed in the pit bottom including an unlined PLS collection pond (6A PLS Collection Pond) at an elevation of 5,620 feet above mean sea level (amsl). The pond will be equipped with two barge pumps capable of delivering up to 6,000 gallons per minute (gpm) flow rate to a booster station identified as the Land Bridge Booster. This booster was approved by NMED in the form of an amendment to DP-455 dated November 28, 2011. From the Land Bridge Booster, PLS is routed back to the SX/EW plant for processing.

Under normal operating conditions, PLS in the 6A PLS Collection will have a surface elevation of 5,630 to 5,640 feet amsl, resulting in a pond depth varying between 10 and 20 feet. To provide surge capacity for upset conditions resulting from storm water flows and/or diminished pumping capacity due to pump malfunctions or power losses, the maximum permitted PLS

elevation will be 5,650 feet amsl. Existing PLS collection facilities, including the three East Main extraction wells and backup extraction well, the East Main Booster, and associated pipelines will be decommissioned after the 6A PLS is ready for operation. The 6A PLS system will pump PLS reporting from the 6A, 6B, 6D, and 7B Leach Stockpiles.

The 6D Leach Stockpile will fill a narrow corridor that is bounded on the north by the 6B Stockpile, and on the south by the 7B and 6C Stockpiles, and will cover over an area where the 7B PLS Pond and a pipeline corridor are located. The 7B PLS Pond will be decommissioned prior to placement of mine rock in the area and will be replaced by the Land Bridge Booster.

Development of the two new stockpiles will occur simultaneously and they will become part of one continuous stockpile consisting of the 6A, 6B, 6C, 6D, and 7B regulated under DP-455, and the 4A and 4B regulated under DP-166. When completed, the new expanded stockpile will have an east-west length of approximately 8,000 feet.

All stockpiles regulated under DP-455 (6A, 6B, 6C, 6D and 7B) will receive a combined application rate of 18,288,000 gallons per day (12,500 gallons per minute) of acidic leach solution (raffinate). PLS will be collected at existing PLS collection facilities in the Gettysburg pit (the synthetically lined 6C-2 Collection Pond and the unlined Gettysburg Collection Pond at the bottom of the pit), and the new unlined 6A PLS Collection Pond at the bottom of the Savannah Pit.

Location of Discharge

The Gettysburg Pit, Savannah Pit, and the 6B, 6C & 7B Leach Stockpiles are located at the Tyrone Mine approximately 10 miles southwest of Silver City in Sections 22, 23, 25, 26 and 27, T19S, R15W, Grant County, New Mexico.

Quantity, Quality, and Flow Characteristics of the Discharge

The 6B, 6C and 7B Leach Stockpiles are leached with a sulfuric acid solution (raffinate) which removes metals from the mined ore as it passes through the stockpile. In addition to leaching, these stockpiles and the open pits contain sulfide minerals which, when oxidized, generate acid solutions. These acid solutions react with in situ minerals, which produces acid rock drainage (ARD) and associated metals and sulfate contamination. The leachate from ARD and from the leaching process has moved directly or indirectly into surface and ground water. The regulated discharges under this Discharge Permit include raffinate and its copper-bearing equivalent PLS, stockpiled ore and ARD. The PLS has a TDS concentration up to 100,000 mg/l. The raffinate, PLS and ARD exceed the water quality standards under WQCC Regulations in Section 20.6.3103.A NMAC for Arsenic, Cadmium, Chromium, Fluoride, and Lead; Section 20.6.2.3103.B for Copper, Iron, Manganese, pH, Sulfate, TDS, and Zinc; and Section 20.6.2.3103.C for Aluminum, Cobalt and Nickel. The maximum permitted discharge rate of raffinate applied to the combined 6A, 6B, 6C, 6D, and 7B Stockpiles is 18,288,000 gpd.

Characteristics of Ground water

The facilities covered by this Discharge Permit are located in an actively dewatered area of the Tyrone Mine. Depth to ground water ranges from ground surface (0 feet bgs) at the bottom of the Gettysburg pit to a maximum of approximately 560 feet at the pit perimeters. The total dissolved solids concentration is approximately 500 milligrams per liter.

General

Tyrone's Discharge Plan for DP-455 consists of the Discharge Permit Renewal applications for DP-455 and DP-670 submitted on August 12, 2009, and a supplemental request for permit modification submitted on April 13, 2010. In addition, the Discharge Plan includes applicable information and materials submitted as part of the original discharge plan for DP-455 approved on January 15, 1988 and renewed on January 15, 1995, December 13, 2004 and August 17, 2010. This Discharge Plan also includes applicable information and materials submitted as part of the original discharge plan for DP-670 approved on July 30, 1990, modified on May 7, 1995, and renewed on August 8, 1995 and December 13, 2004. The discharge shall be managed in accordance with the Discharge Plan as conditioned by this Discharge Permit.

Pursuant to 20.6.2.3109.E NMAC, NMED reserves the right to modify permit requirements in the event NMED determines that the requirements of 20.6.2 NMAC are being, or may be, violated or standards of 20.6.2.3103 NMAC are being, or may be, violated at any place of withdrawal of water for present or reasonably foreseeable future use due to a discharge regulated under this Discharge Permit. This may include a determination by NMED that operational practices approved under this Discharge Plan are not protective of ground and surface water quality, and that a modification is necessary to protect water quality or abate water pollution. Permit modification may include but is not limited to lining or relining impoundments, changing discharge locations, changing waste and leachate management practices, expanding monitoring requirements and/or implementing abatement of water pollution.

Issuance of this Discharge Permit Modification does not relieve Tyrone of its responsibility to comply with all conditions or requirements of the WQA, WQCC Regulations, and any other applicable federal, state, and/or local laws and regulations such as zoning requirements and nuisance orders.

II. FINDINGS

In issuing this Discharge Permit, NMED finds:

1. Tyrone is discharging effluent or leachate from the Gettysburg and Savannah Pits and the 6B, 6C and 7B Leach Stockpiles and is proposing to discharge effluent or leachate from the 6A and 6D Leach Stockpiles so that such effluent or leachate may move directly or indirectly into ground water within the meaning of 20.6.2.3104 NMAC.
2. Tyrone is discharging effluent or leachate from the Gettysburg and Savannah Pits and the 6B, 6C and 7B Leach Stockpiles and is proposing to discharge effluent or leachate from the 6A and 6D Leach Stockpiles so that such effluent or leachate may move into ground water of the

State of New Mexico which has an existing concentration of 10,000 milligrams or less of total dissolved solids within the meaning of 20.6.2.3101.A NMAC.

3. The discharge from the Gettysburg and Savannah Pits, the 6B, 6C and 7B Leach Stockpiles, and the proposed 6A and 6D Leach Stockpiles, is not subject to any of the exemptions of 20.6.2.3105 NMAC.

III. AUTHORIZATION TO DISCHARGE

Pursuant to 20.6.2.3104 NMAC, it is the responsibility of the permittee to ensure that discharges authorized by this Discharge Permit are consistent with the terms and conditions herein.

Tyrone is authorized to discharge a maximum of 18,288,000 gpd of acidic leach solution (raffinate) collectively to the combined stockpile system consisting of the 6A, 6B, 6C, 6D and 7B Leach Stockpiles. Tyrone is also authorized to collect PLS at the unlined 6A PLS Collection Pond upon completion of construction.

IV. PERMIT CONDITIONS

In addition to the conditions specified in the August 17, 2010 Discharge Permit Renewal and Modification, and the conditions specified in the variance granted by the WQCC on January 27, 2012, Tyrone shall comply with the following conditions, which are enforceable by NMED.

1. Tyrone is authorized to construct the 6A and 6D Leach Stockpiles. The footprints of the proposed 6A and 6D Stockpiles shall not exceed 85.5 acres and 10.2 acres respectively, and they shall conform to the configurations shown on Sheets 5 and 7 attached to the Application for Modification of Discharge Permit 455 dated January 27, 2012 and Sheets 3 and 4 attached to the Addendum to the Permit Modification Application dated January 22, 2013. Tyrone may only expand the footprint or land surface area of these stockpiles for the purpose of facility closure as approved through the Supplemental Discharge Permit for Closure DP-1341, or through a permit modification to DP-455. [20.6.2.3109 NMAC]
2. Tyrone shall operate the 6A PLS Collection Pond under normal operating conditions with a ponded PLS surface elevation of 5630 to 5640 feet amsl, and at a maximum PLS surface elevation of 5650 feet amsl during upset conditions due to stormwater flows or diminished pumping capacity due to pump malfunctions or power losses.
3. In association with construction of the 6A and 6D Stockpiles, Tyrone shall decommission existing PLS collection facilities and associated pipelines, including the East Main extraction wells, the East Main Booster, and 7B PLS Pond.
4. Tyrone shall construct and operate the Land Bridge Booster and associated pipelines.
5. Tyrone shall report approximate volumes of material placed during construction of the 6A and 6D Stockpiles and the approximate percentage of the Savannah Pit that has been backfilled. Reporting on material placement and backfilling shall be submitted semiannually

on February 15th and August 15th of each year with the monitoring reports required in the August 17, 2010 Discharge Permit Renewal and Modification. [20.6.2.3107 NMAC]

6. Within 120 days of completion of construction, Tyrone shall submit to NMED as-built plans of the 6A PLS Collection Pond and the Land Bridge Booster.
7. Within 120 days after completion of the 6A and 6D stockpiles, Tyrone shall provide a topographic map showing the completed configuration of the expanded leach stockpiles (6A, 6B, 6D, 6C, 7B, 4A and 4B Stockpiles) and configuration of the entire Savannah Pit. The map shall have a contour interval no greater than 25 feet and shall be at a scale of 1 inch equals 400 feet (1:4800) or larger. The map shall also show the location of all facilities within the immediate area of the expanded leach stockpiles and Savannah Pit, including sumps, major pipelines, booster stations and associated facilities, buildings, and wells.
8. Tyrone shall measure the following discharge volumes using appropriate metering devices and/or calculation methods. Discharge volumes and dates shall be submitted semiannually on February 15th and August 15th of each year with the monitoring reports required in the August 17, 2010 Discharge Permit Renewal and Modification. [20.6.2.3107 NMAC]
 - a. The daily volumes of raffinate (gpd) discharged to the tops of each of the 6A, 6B, 6C, 6D and 7B Leach Stockpiles.
 - b. The daily volumes of PLS (gpd) pumped from the unlined 6A PLS Collection Pond once it is in operation.
9. Tyrone shall maintain a closure plan for the 6A, 6B, 6C, 6D and 7B Leach Stockpiles, and associated facilities pursuant to the Supplemental Discharge Permit for Closure, DP-1341. Tyrone shall submit a revised closure plan for these facilities for incorporation into the DP-1341. In the event that Tyrone modifies or expands any facilities covered under this Discharge Permit in a manner that exceeds the scope of the closure plan, Tyrone shall propose changes to the closure plan accordingly. [20.6.2.3107 A (11) NMAC]
10. Tyrone shall maintain financial assurance pursuant to the Supplemental Discharge Permit for Closure, DP-1341, for the 6A, 6B, 6C, 6D and 7B Leach Stockpiles, and associated facilities to cover the cost of a third party to implement the closure plan. The financial assurance shall be incorporated pursuant to DP-1341 to ensure that funds will be available to implement the closure plan if at any time Tyrone is unable, unwilling, or otherwise fails to implement closure of the facility. In the event that Tyrone modifies or expands any facilities covered under this Discharge Permit in a manner that exceeds the scope of the closure plan, Tyrone shall propose changes to the financial assurance accordingly. [20.6.2.3107 A (11) NMAC]

GENERAL TERMS AND CONDITIONS

11. In addition to any other requirements provided by law, approval of this Discharge Permit Modification is subject to the General Requirements as specified in the Discharge Permit Renewal and Modification approved on August 17, 2010. Refer to the Discharge Permit, DP-455, for specific information on the following General Requirements.

Monitoring and Reporting
Record Keeping
Inspection and Entry
Duty to Provide Information
Spills, Leaks and Other Unauthorized Discharges
Retention of Records
Enforcement
Modification and/or Amendments

Compliance with Other Laws

12. Nothing in this Discharge Permit shall be construed in any way as relieving Tyrone of its obligation to comply with all applicable Federal, State, and local laws, regulations, permits, or orders. [74-5-5.K WQA]

Liability

13. The approval of this Discharge Permit does not relieve Tyrone of liability should the operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations. [20.6.2.1220 NMAC]

Right to Appeal

14. Tyrone may file a petition for a hearing before the WQCC on this Discharge Permit. Such petition must be made in writing to the WQCC within thirty (30) days after Tyrone receives this Discharge Permit. Unless a timely petition for a hearing is made, the decision of NMED shall be final. [74-6-5.N WQA]

Transfer

15. Prior to any transfer of ownership, control, or possession of the permitted facility or any portion thereof, Tyrone shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Permit with the notice. Tyrone shall deliver or send by certified mail to the NMED a copy of the notification and proof that such notification has been received by the proposed transferee. [20.6.2.3111 NMAC]

Term

16. The effective date of this Discharge Permit Modification is the date it is issued and signed by the Chief of the Ground water Quality Bureau. The term of this Discharge Permit Modification expires on the same day as the August 17, 2010 Discharge Permit Renewal and Modification. To renew this Discharge Permit, Tyrone must submit an application for renewal at least 120 days before that date. [74-6-5.H and 20.6.2.3109.H NMAC]

Issued this ___ day of ____, 2013

Jerry Schoepner, Chief
Ground water Quality Bureau
New Mexico Environment Department

Under authority delegated by the Secretary of the New Mexico Environment
Department

draft

