

**DISCHARGE PERMIT RENEWAL AND MODIFICATION
FREEPORT MCMORAN TYRONE, INC., DP-363
1A & 1B LEACH STOCKPILES AND EAST-SIDE SEEPAGE COLLECTION SYSTEM**

Draft – May 17, 2012

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal and Modification, DP-363, 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 Renewal and Modification, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from the 1A and 1B Leach Stockpiles, 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, NMED has determined that the requirements of 20.6.2.3109.C NMAC have been met.

Facility Description

The facilities currently covered under DP-363 that produce discharges that move directly or indirectly into ground water include the unlined 1A Leach Stockpile, the synthetically lined Pregnant Leach Solution (PLS) 1A PLS Overflow Pond, the unlined 1A Storm Water Pond, and the 30,000 gallon stainless steel 1A PLS Collection Tank. The 1A Leach Stockpile covers approximately 148 acres and is actively leached. Raffinate is applied to the top surface and slopes of the stockpile. PLS from the 1A Leach Stockpile is collected at the toe of the stockpile and is transferred to the 1A PLS Collection Tank. Overflow from the 1A PLS Collection Tank is transferred to the 1A PLS Overflow Pond that has a capacity of 3,600,000 gallons. Seepage water from the adjacent 1C Stockpile (DP-396) is pumped to the 1A PLS Overflow Pond and impacted ground water from interceptor wells and trenches in Oak Grove Draw and its tributaries is pumped into the 1A PLS Collection Tank. The unlined 1A Storm Water Pond with a 2,000,000 gallon capacity is used for storm water collection only, and includes a concrete sump from which storm water is pumped to the 1A PLS Overflow Pond as it collects, avoiding the long term storage of storm water in the 1A Storm Water Pond. PLS from the 1A PLS Collection Tank and 1A PLS Overflow Pond is pumped to the 1B PLS Collection Tank and then to the solution extraction/electrowinning (SX/EW) plant for copper recovery. Alternatively, PLS is pumped to other stockpiles for use as leach solution to improve copper grade before return to the SX/EW plant. While most of the PLS from the 1A Leach Stockpile reports to collection facilities on the east side of the stockpile, a portion of the PLS also reports off the west side and into the Gettysburg Pit (DP-455) at a rate of approximately 250 gpm. The 5750 extraction well on the 6B Leach Stockpile (DP-455) is a backup system to manage additional flows during storm events. It is plumbed to discharge to an infiltration trench in the 1B Leach Stockpile when necessary. During storm events, turbid water from the Gettysburg Pit Collection Pond (DP-455) may also be pumped to the 1B Leach Stockpile for filtering.

In addition to the leach stockpiles, DP-363 also covers the East Side Seepage Collection System, which includes the following components (Table 2):

- 1) Interceptor wells (1A wells) and two gravity flow interceptor trenches (1AGFT) located at the toe of the 1A Leach Stockpile;
- 2) The Oak Grove Trench Unit (OGTU) located in Oak Grove Draw east of Highway 90;
- 3) Interceptor wells and monitoring wells (OG wells) located in nine transects within Oak Grove Draw (Oak Grove Transects 1 – 9);
- 4) 1AS2T-1&2 cutoff/barrier trenches on the west side of Highway 90 and 1AS2T-3 collection structure on the east side; and
- 5) Monitoring wells (BK wells) located in five transects in Brick Kiln Gulch (Brick Kiln Transects 1–5).

PLS that escapes the collection systems at the toe of the 1A Leach Stockpile is collected in the 1A wells and 1AGFTs and is transferred to the 1A PLS Collection Tank. Seepage water from the Upper OG interceptor wells and the OGTU is pumped to the 1A PLS Collection Tank. Seepage water from the adjacent 1C Stockpile (DP-396) is transferred to the 1A PLS Collection Tank. Impacted water from the 1AS2T-1&2 cutoff/barrier trenches is pumped to the 1B PLS Overflow Pond. Fluids from the 1AS2T-3 Collection Trench are gravity-fed to a poly tank and pumped from there to the 1A PLS Collection Tank.

Permit Modification

This Discharge Permit Renewal and Modification hereby incorporates facilities previously covered under DP-383, including the 1B Leach Stockpile and associated collection facilities. Raffinate is applied to the top surface and slopes of the unlined 1B Leach Stockpile with a footprint covering approximately 190 acres. PLS that is collected at the base of the stockpile in several unlined and synthetically lined surface and sub-surface infiltration gallery collection systems is transferred to the 1B PLS Collection Tank for temporary storage, and is then pumped to the Tyrone SX/EW plant for copper recovery. Overflow from the 1B PLS Collection Tank is pumped to the 1B PLS Overflow Pond. Subsurface PLS seepage that bypasses the collection systems is collected in synthetically lined subsurface cut-off trenches (1B North and 1B South). The collected PLS is transferred to the 1B PLS Collection Tank for temporary storage, and then pumped to the SX/EW plant for copper recovery. Limited amounts of storm water are also collected within the 1B Leach Stockpile collection system. Seepage water from the No. 1 Stockpile (DP-896) Above Ground Storage Tank (AST) is pumped to the 1B PLS Collection Tank. A raffinate booster pump for the 1B raffinate delivery system may be added as an in-line booster and would not include any new or changed sumps or tanks. Both the 1A Leach Stockpile and the 1B Leach Stockpile Seepage Collection Systems are herein collectively referred to as the East Side Seepage Collection System.

Location of Discharge

The No. 1A and 1B Leach Stockpiles and the East Side Seepage Collection System are located approximately 12 miles south of Silver City in Sections 23, 24 and 25, T19S, R15W; and Sections 19, 28, 29, 30, 33 & 34, T19S, R14W, Grant County, New Mexico.

Quantity, Quality, and Flow Characteristics of the Discharge

The 1A and 1B 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 approximately 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 1A and 1B Leach Stockpiles collectively is 16,488,000 gallons per day (gpd), or 11,450 gallons per minute (gpm).

Characteristics of Groundwater

The facilities covered by this Discharge Permit are located adjacent to an actively dewatered area of the Tyrone Mine. Depth to ground water ranges from 10 to 30 feet in the alluvial aquifer and 200 to 500 feet in the regional aquifer. The total dissolved solids concentration is approximately 280 milligrams per liter.

General

Tyrone's Discharge Plan for DP-363 consists of the Discharge Permit Renewal applications for DP-383 submitted on August 12, 2009 and for DP-363 submitted on December 17, 2010. In addition, the Discharge Plan includes applicable information and materials submitted as part of the original discharge plan for DP-363 approved on February 11, 1985 and renewed on January 25, 1990 and January 25, 1995, modified on September 25, 1998, renewed and modified on November 16, 2000, and renewed on October 31, 2006. This Discharge Plan also includes applicable information and materials submitted as part of the original discharge plan for DP-383 approved on December 17, 1985, renewed on June 3, 1991, October 23, 1996 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 modifications may include, but are 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 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 1A and 1B 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 1A and 1B 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 1A and 1B Leach Stockpiles is not subject to any of the exemptions of 20.6.2.3105 NMAC.
4. Discharges from the 1A and 1B Leach Stockpiles have caused contamination of ground water in excess of the water quality standards of 20.6.2.3103 NMAC.
5. Tyrone is required to abate ground water contamination pursuant to 20.6.2.3107.A(11) and 3109.E(1) NMAC.

III. PERMIT CONDITIONS

Tyrone shall comply with the following conditions, which are enforceable by NMED.

OPERATIONS

1. Tyrone shall conduct the operational requirements set forth below, including investigations, in accordance with the WQCC Regulations at Sections 20.6.2.3106.C and 3107 NMAC to ensure compliance with 20.6.1 and 20.6.2 NMAC.

Discharge Authorization

2. Tyrone is authorized to manage the following permitted discharges. [20.6.2.3106 NMAC][20.6.2.3109 NMAC]
 - a. Tyrone is authorized to discharge a maximum of 16,488,000 gpd (11,450 gpm) of acidic leach solution (raffinate) to the 1A and 1B Leach Stockpiles for the purpose of extracting copper.
 - b. Tyrone is authorized to discharge PLS to the 1A and 1B PLS Collection Tanks and Overflow Ponds as a part of the leaching process.

- c. Tyrone is authorized to collect acidic seepage and impacted ground water from extraction wells and trenches that are part of the East Side Seepage Collection System, and discharge the water into the 1A and 1B PLS Collection Tanks and 1A and 1B PLS Overflow Ponds.
- d. Tyrone is authorized to collect storm water during storm events from the 5750 extraction well on the 6B Leach Stockpile (DP-455) and discharge the water to an infiltration trench on the 1B Leach Stockpile when necessary.

Stockpile Limits

3. The 1A and 1B Leach Stockpiles shall not exceed the land surface areas of 148 and 190 acres respectively. 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-363. [20.6.2.3106 and 3107 NMAC].

San Vicente Mill Tailings

4. During reclamation of the east outcrops of the 1A and 1B Leach Stockpiles, Tyrone is authorized to incorporate a maximum of 60,000 cubic yards of tailings and tailing contaminated soils from the historic San Vicente Creek Mill into the 1B Leach Stockpile. The tailings and tailing contaminated soils shall be mixed with the stockpile material and covered with a minimum of three feet of approved cover material. Tyrone shall close the 1A and 1B Leach Stockpiles in accordance with the approved Supplemental Discharge Permit for Closure DP-1341. [20.6.2.3106 and 3107 NMAC]

Pipelines

5. Upon discontinuing the operation of a pipeline, all PLS or process water within each pipeline shall be released to an authorized discharge location or otherwise properly contained, transferred or disposed of in a manner that does not result in discharges to non-authorized areas. After emptying, each pipeline shall be rinsed or sectioned and thoroughly drained to ensure residual contaminants are removed. Discharges of PLS and process water from pipelines in non-authorized areas must be reported under 20.6.2.1203 NMAC. All changes in pipeline operations that result in discharge of pipeline fluids in non-authorized areas must be reported semi-annually in accordance with Conditions 17 and 18 below. [20.6.2.3109 NMAC]

East Side Seepage Collection System

6. Within 180 days of the issuance of this Discharge Permit, Tyrone shall submit to NMED an assessment report of the East Side Seepage Collection System. The report shall determine the effectiveness of the current system by evaluating current water levels and pumping rates within Oak Grove Draw and Brick Kiln Gulch. The report shall also evaluate to the extent possible, the effects of reclaiming the No. 1 Leach Stockpile and the Burro Mountain Tailings have made, if any, on the amount of contaminated ground water that continues to

exist in the drainages downstream of the No. 1 Leach Stockpile. The report shall also evaluate the feasibility of installing a permanent system to capture seepage downgradient of Transect 6. [20.6.2.3109 NMAC]

Monitoring Well Installation

7. Within 90 days of issuance of this Discharge Permit, Tyrone shall install a regional monitoring well east of the 1B Leach Stockpile in the vicinity of abandoned monitoring well MB-36. The location of the new well shall be approved by NMED prior to installation. The monitoring well shall be constructed according to *NMED Monitoring Well Construction and Abandonment Guidelines* or an alternate method approved by NMED. Construction and lithologic logs shall be submitted to NMED within 30 days of well completion. [20.6.2.3107 NMAC]

Monitoring Well Abandonment

8. Tyrone shall provide NMED at least 30 days notification of the anticipated destruction or removal of any monitoring wells required under DP-363. In the event a well ceases to be functional as a monitoring well due to blockage, lowering of the water table (becomes a dry well), or destruction or damage requiring well abandonment, Tyrone shall notify NMED as soon as possible. The notification shall include a description of monitoring well abandonment procedures and propose a replacement well location for NMED approval. Monitoring well abandonment shall be performed in accordance with *NMED Monitoring Well Construction and Abandonment Guidelines* or alternate method approved by NMED. [20.6.2.3107 NMAC]

MONITORING, REPORTING AND OTHER REQUIREMENTS

9. Tyrone shall conduct the following monitoring, reporting, and other requirements set forth in Conditions 10 through 18 below. A summary of monitoring requirements is attached to this Permit as Table 1. A monitoring schedule is attached as Table 2. [20.6.2.3107 NMAC].

Monitoring Well Sampling

10. Alluvial Monitoring and Interceptor Wells - Tyrone shall sample alluvial monitoring and interceptor wells 1A-8, 1A-9, 1A-14, 1A-17A, 1A-18A, 1B-1, 1B-2, BK-2, BK-4, BK-6, BK-8, BK-10, OG-11, OG-14, OG-17, OG-20, OG-21, OG-23, OG-25, OG-40, OG-46 and any new monitoring wells required during the term of this discharge permit as follows. [20.6.2.3107 NMAC]
 - a. Depth to the water table and water level elevations shall be measured quarterly to nearest hundredth of a foot (.01 ft.) amsl.
 - b. Samples shall be collected from each well quarterly and analyzed for the water parameters listed in Condition 15a below.

- c. Samples shall be collected from each well semi-annually and analyzed for the water parameters listed in Conditions 15b and 15c below.
- d. In the event a well is dry or does not contain enough water for an adequate sample, Tyrone shall sample an alternate well, if available, as listed in Table 2.

Analytical results and water level elevations shall be reported as required in Conditions 17 and 18 below.

11. Regional Monitoring Wells - Tyrone shall sample regional monitoring wells 363-2005-01, 363-2005-02, 363-2005-04, 363-2006-01, 383-2005-02, 383-2008-01, MB-4, MB-8, MB-12, MB-27, MB-28, MB-31, MB-35, MB-41 and MB-43 as follows. [20.6.2.3107 NMAC]

- a. Depth to the water table and water level elevations shall be measured quarterly to nearest hundredth of a foot (.01 ft.) amsl.
- b. Samples shall be collected from each well quarterly and analyzed for the water parameters listed in Conditions 15a, 15b and 15c below.

Analytical results and water level elevations shall be reported as required in Conditions 17 and 18 below.

Collection and Storage Facilities

12. Seepage Interceptor Trenches - Tyrone shall conduct semi-annual monitoring of the 1A gravity flow trenches (1AGFT-1 & 1AGFT-2), the 1B interceptor trenches (1B North & 1B South), Oak Grove Trench Unit (OGTU-1), and the 1AS2T-1Cutoff/Barrier Trench. These facilities shall be sampled as required in Tables 1 and 2. Samples shall be analyzed for parameters listed in Condition 15a, 15b & 15c. . Analytical results shall be reported as required in Conditions 17 and 18 below. [20.6.2.3107 NMAC]

13. PLS Tanks, PLS Overflow Ponds and Stormwater Ponds – Tyrone shall conduct annual monitoring of the 1A and 1B PLS Collection Tanks, 1A and 1B PLS Overflow Ponds, and the 1A and 1B Storm Water Collection Ponds. These facilities shall be sampled as required in Tables 1 and 2. Samples shall be analyzed for parameters listed in Condition 15b and 15c. Analytical results shall be reported as required in Conditions 17 and 18 below. [20.6.2.3107 NMAC]

Discharge Volumes

14. Tyrone shall measure the following discharge volumes using appropriate metering devices and/or calculation methods. Discharge volumes and dates shall be reported semi-annually as required in Conditions 17 and 18 below. [20.6.2.3107 NMAC]

- a. Daily volumes of raffinate (gpd) discharged to the 1A and 1B Leach Stockpiles.
- b. Daily volumes of PLS (gpd) pumped from the 1B PLS Collection Tank to the SX/EW Plant.

- c. Monthly average pumping rate of seepage water pumped from the Upper Oak Grove interceptor wells and Upper Oak Grove interceptor/barrier trenches to the 1A PLS Collection Tank.
- d. Monthly average rate of PLS transferred from the No. 1 and No. 2 Gravity Flow Trenches (1AGFT-1 & 1AGFT-2) to the 1A PLS Collection Tank.
- e. Monthly average pumping rate of impacted ground water pumped from the Oak Grove transect interceptor wells to the 1A PLS Collection Tank.
- f. Monthly average pumping rate of PLS from the 1B North and 1B South interceptor trenches to the 1B PLS Collection Tank.
- g. Monthly average pumping rate of seepage water from the 1AS2T-1 Cutoff/Barrier Trench to the 1B PLS Collection Tank.

Analysis

15. Tyrone shall analyze samples of ground water and process water for the specific parameters listed below. Samples of process water from the collection ponds and tanks shall be analyzed for total and dissolved concentrations of the metal parameters and general chemistry parameters listed below and shall exclude field parameters. Samples of groundwater from monitoring wells shall be analyzed for dissolved concentrations of the metal parameters and general chemistry parameters listed below. [20.6.2.3107 NMAC]
- a. Field parameters (to be performed in the field): temperature, pH and electrical conductivity.
 - b. General chemistry parameters: calcium, sulfate, magnesium, alkalinity-carbonate, bicarbonate, fluoride, sodium, potassium and total dissolved solids.
 - c. Metal parameters: aluminum, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel and zinc.

Methodology

16. Unless otherwise approved in writing by NMED, Tyrone shall conduct sampling and analysis in accordance with the most recent editions of the following documents. [20.6.2.3107 NMAC]
- a. American Public Health Association, *Standard Methods for Examination of Water and Wastewater*.
 - b. U.S. Environmental Protection Agency, *Methods for Chemical Analysis of Water and Waste*.

- c. U.S. Geological Survey, *Techniques for Water Resource Investigations of the U.S. Geological Survey*.
- d. American Society for Testing and Materials, *Annual Book of ASTM Standards, Part 31, Water*.
- e. U.S. Geological Survey, et al., *National Handbook of Recommended Methods for Water Data Acquisition*.
- f. Surface water monitoring must also be conducted according to test procedures approved under Title 40 CFR Part 136.

Reporting

17. Tyrone shall submit to NMED semi-annual monitoring reports containing information collected during the preceding six months from July 1st to December 31st by February 28th and from January 1st to June 30th by August 31st of each year. [20.6.2.3107 NMAC]
18. Semi-annual monitoring reports shall include results of all semi-annual monitoring tasks described in Conditions 10 through 14 above. Tyrone shall submit the semi-annual reports (both paper and electronic copies) that include but are not limited to the information summarized below. [20.6.2.3107 NMAC]
 - a. A summary of all activities related to the discharges during the preceding six months. Examples include Section 20.6.2.1203 NMAC reportable spills, general operations, operational failures, discharge volumes, changes in daily flow rates, maintenance, repairs, well installation and abandonment, facility construction, water quality and water level trends, and precipitation patterns.
 - b. A water quality and water level table that summarizes the analytical results of required monitoring. A map showing well locations in the area encompassing the 1A and 1B Leach Stockpiles and the East Side Seepage Collection System in Oak Grove Draw and Brick Kiln Gulch. The format shall include a single table in paper and electronic formats (EXCEL spreadsheet). Water quality data shall include only those parameters analyzed and water levels measured shown in columns. Single sampling events for each monitoring site shall be shown in rows with the site name in the far left column followed by the sampling date in the second column. Tabulated electrical conductivity shall include the measured field values and corrected values to 25° Celsius. Values exceeding standards shall be bolded. Any parameter not analyzed for a particular site shall be shown as “NA”, any site not sampled shall be shown as “NS” with an associated reason, and any site not measured for water levels shall be shown as “NM” with an associated reason. Copies of signed laboratory analyses sheets shall be maintained at the site and made available to NMED staff upon request.
 - c. Tyrone shall provide an annual update to the existing Chino-Tyrone-Cobre Access database that includes all available water quality data to date collected pursuant to this discharge permit. The update shall be provided via FTP site or other means for transfer of data in conjunction with the semi-annual report due no later than February 28th of each

year.

- d. Electronic copies of the signed laboratory analysis sheets shall be provided annually.
- e. Discharge volumes of raffinate to the 1A and 1B Leach Stockpiles and discharge volumes of PLS and seepage from the East Side Seepage Collection System as specified in Condition 14 of this discharge permit.
- f. Regional aquifer and alluvial aquifer potentiometric maps incorporating semi-annual water level data from the monitoring wells.

ABATEMENT

- 19. Ground water standards have been exceeded within and beyond the area covered under this Discharge Permit. Tyrone has been required to submit to NMED for approval a proposed abatement plan pursuant to Supplemental Discharge Permit for Closure, DP-1341. The abatement plan shall be conducted in two stages. Stage one of the abatement plan shall include an investigation of all known areas of ground water and surface water contamination within the area covered by DP-363 for the 1A and 1B Leach Stockpiles, the East Side Seepage Collection System, and associated facilities and shall define the extent and magnitude of ground water contamination in accordance with Sections 20.6.2.3109.E.1 or 20.6.2.4000 NMAC through 4115 NMAC. Stage two of the abatement plan shall address the selection of an abatement option to abate ground water contamination and shall include an analysis of abatement alternatives pursuant to 20.6.2.4106.E NMAC. Pursuant to 20.6.2.3109E (1), NMED may require additional abatement activities under this Discharge Permit Renewal. [20.6.2.4000 through 4115 NMAC]

CONTINGENCY PLANS

Ground Water and Surface Water Exceedances

- 20. In the event that monitoring indicates ground water or surface water standards are exceeded, or the extent or magnitude of existing ground water contamination is significantly increasing, Tyrone shall collect confirmatory samples within 15 days to confirm the initial sampling results. Within 30 days of the confirmation of ground water or surface water contamination or significant increases in existing contamination, Tyrone shall submit to NMED for approval an abatement plan required in Condition 19, which includes a site investigation to define the source, nature and extent of contamination; a proposed abatement option, and a schedule for its implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 4103, 4106, 4107, 4108 and 4112 NMAC. An abatement plan required under this condition may be incorporated into the abatement plan required in Condition 19 of this Discharge Permit or the site-wide abatement plan required pursuant to the Supplemental Discharge Permit for Closure, DP-1341. [20.6.2.3107.A (10) NMAC]

Operational Failures

21. In the event of a pipeline break, pump failure, pond overflow or other system failure associated with any facility covered under DP-363, to the extent practicable, all discharge water shall be contained, pumped and transferred to areas of the facility that impose minimal impacts to ground water quality. Failed components shall be repaired or replaced as soon as possible and no later than 72 hours from the time of failure unless Tyrone obtains written consent and a new timetable from NMED. [20.6.2.3107A (10) NMAC]
22. If NMED or Tyrone identifies any other failure or potential failure of this Discharge Permit or system not specifically noted above, NMED may require Tyrone to develop for NMED approval a contingency plan and schedule to address such a failure. [20.6.2.3107 A (10) NMAC]

Spill Reporting

23. In the event of a discharge that is not authorized by this Discharge Permit, Tyrone shall initiate the notification and corrective actions as required in 20.6.2.1203 NMAC. Tyrone shall take immediate corrective action to contain and remove or mitigate the damage caused by the discharge. Within 24 hours of discovery of the discharge, Tyrone shall verbally notify NMED and provide the information outlined in 20.6.2.1203.A.1 NMAC. Within seven days of discovering the discharge, Tyrone shall submit a written report to NMED verifying the oral notification and providing any additional information or changes. Tyrone shall submit a corrective action report within 15 days after the discovery of the discharge. [20.6.2.1203 NMAC]

CLOSURE

24. Tyrone shall maintain a closure plan for the 1A and 1B Leach Stockpiles, East Side Seepage Collection System, 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 Supplemental Discharge Permit for Closure (DP-1341) based on the results of the feasibility study required in 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]

FINANCIAL ASSURANCE

25. Tyrone shall maintain financial assurance pursuant to the Supplemental Discharge Permit for Closure, DP-1341 for the 1A and 1B Leach Stockpiles, East Side Seepage Collection System, and associated facilities to cover the cost of a third party to implement the closure plan described in Condition 24. 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

26. Tyrone shall comply with the following general conditions, which shall be enforceable by NMED. [20.6.2.3104 NMAC]

Record Keeping

27. Tyrone shall maintain at its facility a written record of all data and information on monitoring of ground water, surface water, seepage, and meteorological conditions pursuant to this Discharge Permit including the following information. [20.6.2.3107.A NMAC]

- a. The date, exact time, and exact location of each sample collection or field measurement;
- b. The name and job title of the person who performed each sample collection or field measurement;
- c. The date of the analysis of each sample;
- d. The name and address of the laboratory and the name and job title of the person that performed the analysis of each sample;
- e. The analytical technique or method used to analyze each sample or take each field measurement;
- f. The results of each analysis or field measurement, including the raw data; and,
- g. A description of the quality assurance and quality control procedures used.

28. Such data and information as described in Condition 27, shall also be maintained on all split and duplicate samples, spike and blank samples, and repeat samples. [20.6.2.3107.A NMAC]

29. Tyrone shall maintain a written record of any spills, seeps or leaks of effluent, or process fluids not authorized by this Discharge Permit. [20.6.2.3107.A NMAC]

30. Tyrone shall maintain a written record of the operation, maintenance and repair of all facilities and equipment used to treat, store, or dispose of wastewater; to measure flow rates; to monitor water quality; or, to collect other data required by this Discharge Permit. This record shall include repair, replacement or calibration of any monitoring equipment and repair or replacement of any equipment used in the conveyance of process waters throughout this permit area. [20.6.2.3107.A NMAC]

31. Notwithstanding any company record retention policy to the contrary, until such time as NMED determines that all closure measures have been completed in accordance with the

requirements of this Discharge Permit, Tyrone shall retain copies of all data, records, reports, and other documents generated pursuant to this Discharge Permit. Such record retention period may be increased by NMED at any time upon written notice to Tyrone.
[20.6.2.3107.A NMAC]

32. All such data, records, reports, and other documents generated pursuant to this Discharge Permit, shall be provided to NMED upon request. [20.6.2.3107.A NMAC]

Inspection and Entry

33. Tyrone shall allow the Secretary or an authorized representative of NMED, upon the presentation of credentials, to conduct the following tasks. [20.6.2.3107.D NMAC] [74-6-9.B and E WQA]

- a. Enter at a reasonable time any property or premises owned or controlled by Tyrone or at another location where records are kept under the conditions of this Discharge Permit or any Federal or WQCC regulation.
- b. Inspect and copy, at reasonable times, records required to be kept under the conditions of this Discharge Permit or pursuant to State or Federal water quality regulations.
- c. Inspect, at reasonable times, any facility, equipment (including monitoring and control equipment for treatment works), practices or operations regulated or required under this Discharge Permit or under any Federal or WQCC regulations.
- d. Sample or monitor at reasonable times any effluent, water contaminant, or receiving water at any location before or after the discharge for the purpose of assuring compliance with this Discharge Permit or as otherwise authorized by the New Mexico Water Quality Act.

34. Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107 NMAC]

Duty to Provide Information

35. Within a reasonable time after a request from NMED, which time may be specified by NMED, Tyrone shall provide NMED with any relevant information to determine whether cause exists for modifying, terminating, or renewing this Discharge Permit, or to determine whether Tyrone is in compliance with this Discharge Permit. [20.6.2.3107.D NMAC] [74-6-9.B and E WQA]

36. Nothing in this Discharge Permit shall be construed as limiting in any way the information gathering authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107.D NMAC] [74-6-9.B and E WQA]

Spills, Leaks and Other Unauthorized Discharges

37. This Discharge Permit authorizes only those discharges specified herein. Any discharge not authorized by this Discharge Permit or any other Tyrone Discharge Permit is a violation of

the WQCC Regulations at 20.6.2.3104 NMAC. Tyrone must report any such discharge to NMED, and it must take corrective action to contain and remove or mitigate the damage caused by the discharge in accordance with Section 2.6.2.1203 NMAC and, if applicable, Condition 22. [20.6.2.1203 NMAC]

Modifications and Amendments

38. Tyrone shall notify NMED of any changes to its leachate or process water collection or disposal system, including any changes in the leachate or process water flow rate or the volume of leachate or process water storage, or of any other changes to its mining operations or processes that would result in any significant change in the discharge of water contaminants. Tyrone shall obtain NMED approval, as a modification to this Discharge Permit pursuant to Section 20.6.2.3109.E, F, or G NMAC, prior to any increase in the quantity leachate or process water discharged, or any increase in the concentration of water contaminants discharged, above those levels approved in this Discharge Permit. [20.6.2.3107 NMAC]

Enforcement

39. Any violation of the requirements and conditions of this Discharge Permit, including any failure or refusal to allow NMED to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject Tyrone to an enforcement action. Pursuant to WQA § 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, suspending or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to the WQA §§ 74-6-10(C) and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA § 74-6-5, the WQCC regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation standard, or order adopted pursuant to such other provision. For certain violations specified in the WQA § 74-6-10.2, criminal penalties may also apply. [74-6 WQA]

Compliance with Other Laws

40. 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

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

Right to Appeal

42. 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

43. 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 NMED a copy of the notification and proof that such notification has been received by the proposed transferee. [20.6.2.3111 NMAC]

Term

44. The effective date of this Discharge Permit is the date it is issued and signed by the Chief of the Groundwater Quality Bureau. The term of this Discharge Permit is five (5) years, and the Permit will automatically expire five (5) years from the date it is issued. 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 _____, 2012

Jerry Schoeppner, Chief
Ground Water Quality Bureau
New Mexico Environment Department

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

Table 1: Summary of Monitoring Requirements.

Annual Sampling Frequency	Annual Reporting Frequency	Number of Sites	Sampling Description
4	2	17	Field parameters, general chemistry and metals quarterly in two new and 15 existing regional monitoring wells.
4	2	21	Field parameters quarterly in 21 alluvial monitoring wells.
2	2	21	Field parameters, general chemistry and metal parameters semi-annually in 21 alluvial monitoring wells.
1	1	6	General chemistry and metals annually in two PLS collection tanks, two overflow ponds and two storm water ponds.
2	2	6	Field parameters, General chemistry and metals semi-annually in six seepage interceptor trenches.
365	2	2	Daily raffinate discharge rates to the 1A and 1B Leach Stockpiles.
365	2	1	Daily PLS discharge rate from the 1B PLS Collection Tank to the SX/EW Plant.
12	2	2	Monthly pumping rate of seepage water pumped from the upper Oak Grove interceptor wells and the OGTU-1 to the 1A PLS Collection Tank.
12	2	2	Monthly pumping rate of PLS from the No. 1 and No. 2 Gravity Flow Trenches to the 1A PLS Collection Tank.
12	2	4	Monthly pumping rate of impacted ground water from the Oak Grove transect interceptor wells to the 1A PLS Collection Tank.
12	2	2	Monthly pumping rates of PLS from the 1B North and 1B South Interceptor Trenches to the 1B PLS Collection Tank.
12	2	1	Monthly pumping rate of seepage water from the 1AS2T-1 Cutoff/Barrier Trench to the 1B PLS Collection Tank.
1	1	NA	Update Annually Chino-Tyrone-Cobre Access Database.
2	2	2	Semi-annual regional aquifer and alluvial aquifer potentiometric maps.

Table 2: Monitoring Schedule for Monitoring Wells, Trenches, Ponds and Tanks.

Alluvial Monitoring Wells					
Primary	Secondary	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1A-8		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
1A-9		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
1A-14	1A-30	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
1A-17A		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
1A-18A	1A-12	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
1B-1		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
1B-2		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
BK-2	BK-1, BK-3	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
BK-4	BK-5	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
BK-6		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
BK-8		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
BK-10	BK-9	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-11	OG-12	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-14		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-17	OG-18, OG-22	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-20	OG-19	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-21		Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-23	OG-24	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-25	OG-29	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-40	OG-57	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3
OG-46	OG-58	Group 1	Group 1, 2 & 3	Group 1	Group 1, 2 & 3

Regional Monitoring Wells				
Well ID	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
363-2005-01	Group 1, 2 & 3			
363-2005-02	Group 1, 2 & 3			
363-2005-04	Group 1, 2 & 3			
363-2006-01	Group 1, 2 & 3			
383-2005-02	Group 1, 2 & 3			
383-2008-01	Group 1, 2 & 3			
MB-4	Group 1, 2 & 3			
MB-8	Group 1, 2 & 3			
MB-12	Group 1, 2 & 3			
MB-27	Group 1, 2 & 3			
MB-28	Group 1, 2 & 3			
MB-31	Group 1, 2 & 3			
MB-35	Group 1, 2 & 3			
MB-41	Group 1, 2 & 3			
MB-43	Group 1, 2 & 3			

Collection Tanks, Ponds & Trenches				
Site ID	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
OGTU-1*		Group 1, 2 & 3		Group 1, 2 & 3
1AGFT-1		Group 1, 2 & 3		Group 1, 2 & 3
1AGFT-2		Group 1, 2 & 3		Group 1, 2 & 3
1AS2T-1**		Group 1, 2 & 3		Group 1, 2 & 3
1B North		Group 1, 2 & 3		Group 1, 2 & 3
1B South		Group 1, 2 & 3		Group 1, 2 & 3
1A PLS Collection Tank			Group 2 & 3	
1B PLS Collection Tank			Group 2 & 3	
1A PLS Overflow Pond			Group 2 & 3	
1B PLS Overflow Pond			Group 2 & 3	
1A Storm Water Pond			Group 2 & 3	
1B Storm Water Pond			Group 2 & 3	

MB = Regional Monitoring Well

1A-# = Alluvial Interceptor & Monitoring Well

OGTU = Interceptor/Barrier Trench

OG = Interceptor Wells or Monitoring Wells

1AGFT = Gravity Flow Trench

1AS2T-1 & 2 = Cutoff/Barrier Trench

1B North and 1B south = Interceptor Trenches

*The monitoring at this site includes seepage from OGTU-2 and OGTU-3.

** The monitoring at this site includes seepage from 1AS2T-2.

Group 1: Field parameters (to be performed in the field): water level, temperature, pH and electrical conductivity.

Group 2: General chemistry parameters: calcium, sulfate, magnesium, chloride, carbonate and bicarbonate, fluoride, sodium, potassium and total dissolved solids.

Group 3: Metal parameters: aluminum, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel and zinc.