CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MONITORING AND REPORTING PROGRAM NO. R6V-2010-0031
WDID NO. 6B159708001

FOR

GOLDEN QUEEN MINING COMPANY, INC.
SOLEDAD MOUNTAIN PROJECT

Kern County

I. SITE MONITORING

The Discharger shall conduct weekly inspections of the operation to ascertain potential water quality problems. The inspections shall include observation of all drainage conveyances, waste management unit containment features, and other features constructed for water quality protection. If an adverse condition is discovered, the Discharger shall record the date of the inspection, problem discovered, and corrective measures taken.

The Discharger shall submit a Quarterly Report to the Water Board with a summary of the inspections performed and the following additional information:

A. The volume of NaCN solution applied to the Facility.

B. The quantity of ore (tons) placed on the heap leach pads during each of the previous three (3) months.

C. The total (cumulative) quantity of ore (tons) on the heap leach pads.

D. The quantity of waste rock (tons) placed in the waste rock disposal areas during each of the previous three (3) months.

E. The freeboard (vertical distance from the lowest point of a berm to the water surface in a pond) of the surface impoundments, as recorded on a weekly basis. If a surface impoundment is empty, that shall be noted in the report.

The Discharger shall maintain and retain written records onsite for a minimum of three (3) years. This period of retention shall be extended during the course of any unresolved litigation regarding a discharge or when requested by the Water Board.

II. ORE AND WASTE ROCK MONITORING

The Discharger shall perform additional geochemical testing and ongoing monitoring of the ore and waste rock exposed during mining to further assess any potential for ARD at the Facility. Representative samples of newly exposed ore and waste rock from each rock type will be collected from blast hole cuttings and analyzed for Acid Base Accounting, Mineralogy and Waste Extraction Test (WET) procedures, and the findings submitted to the Water Board in the Annual Report. A detailed sampling and analysis protocol will be prepared for this program with appropriate quality assurance/quality control (QA/QC) and data verification included in the protocol. The plan will specify when samples need to be collected (e.g., during specific phases of mining, and at specific depths within a pits), and specifications for the number of samples to be collected. This plan will be prepared prior to the start of mining and will be updated as mining progresses.

III. LEAK DETECTION AND COLLECTION SYSTEM (LDCS) MONITORING

A. Monitoring Points and Frequency

The LDCS sumps installed in the heap leach pads and beneath the surface impoundments shall be monitored weekly and the findings submitted to the Water Board in the Quarterly Report. Attachment MRP-1 of this Monitoring and Reporting Program shows the locations of the monitoring points (LDCS sumps LD-1 through LD-5). The Discharger shall sample and analyze any liquid collected in the LDCS sumps, and shall notify the Water Board within seven (7) days if liquid is detected in a previously dry LDCS sump or if a progressive increase of the flow rates into the LDCS sumps is detected.

B. Leak Rates

The factors set by the Water Board and used to calculate the Action Leak Rate (ALR) and the Rapid and Large Leak Rate (RLL) for the Phase 1 heap leach pad and the surface impoundments are as follows:

1. ALR = 20 gallons per acre per day (gpad)

2. RLL = 1,739 gpad

The following table summarizes the calculated flow rates into the LDCS sumps, using the above ALR and RLL factors, for the Phase 1 heap leach pad and the surface impoundments.

ACTION LEAKAGE RATES (ALR) AND RAPID AND LARGE LEAK RATES (RLL)			
LDCS Sump	**LDCS Area[1] (acres)**	**ALR (gallons per day)**	**RLL (gallons per day)**
LD-1 (Stage 1)	0.7	14.6	1,269.5
LD-2 (Stage 2)	1.8	36.6	3,182.4
LD-3 (Stage 3)	2.1	41.4	3,599.7
LD-4 (Overflow Pond)	6.5	130	11,304
LD-5 (Pump Box)	0.1	2	174

[1] The "LDCS Area" for LD-1, LD-2, and LD-3 is the double-lined area, with an intermediate geonet collection layer between two synthetic liners, located at the toe of the heap leach pad where solution flows converge and at the surface impoundments. The "LDCS Area" for LD-4 and LD-5 are the respective area of secondary containment beneath the primary containment system for the Overflow Pond and Pump Box, respectively.

The LDCS sumps have been sized to remove liquid at or above these rates. LDCS sumps for the Phase 2 heap leach pad shall be identified and ALR and RLL values established for those sumps prior to discharging waste at the Phase 2 heap leach pad.

C. Action/Response Plan

If liquids are detected in LDCS sumps, the Discharger shall respond as set out in the Action/Response plans below:

ACTION/RESPONSE LEVELS – LDCS FOR HEAP LEACH PADS	
Flow	**Action/Response**
<20 gpad	No action required. Record weekly flow rate and submit recorded flow rates with the next Quarterly Report.
>20 gpad <1,739 gpad	Notify the Water Board immediately. Record daily flow rate and watch for trends. Submit recorded flow rates with next regularly scheduled Quarterly Report.

ACTION/RESPONSE LEVELS – LDCS FOR HEAP LEACH PADS	
Flow	**Action/Response**
>1,739 gpad	Notify the Water Board immediately. Cease stockpiling ore within the cell where the release is occurring, proceed with rinsing and neutralization of partially leached ore on the affected portion of the leach pad or remove partially leached ore to another cell and inspect and repair the liner.

ACTION/RESPONSE LEVELS – LDCS FOR SURFACE IMPOUNDMENTS	
Flow	**Action/Response**
<20 gpad	No action required. Record weekly flow rate and submit recorded flow rates with the next Quarterly Report.
>20 gpad <1,739 gpad	Notify the Water Board immediately. Record daily flow rate and watch for trends. Submit recorded flow rates with next regularly scheduled Quarterly Report.
>1,739 gpad	Notify the Water Board immediately. Remove process solutions. Inspect and repair liner.

IV. VADOSE ZONE MONITORING

A. Monitoring Points and Frequency

Lysimeters shall be monitored monthly and the results reported to the Water Board in the Quarterly Report. Lysimeters shall be maintained at least annually to ensure proper operation. The locations of the vadose zone monitoring points (lysimeters VM-1 through VM-10) are shown in Attachment MRP-1 of this Monitoring and Reporting Program.

B. Monitoring Parameters

The Discharger shall analyze liquid collected in the lysimeters for WAD cyanide and total cyanide and shall notify the Water Board immediately if cyanide is detected. The Discharger shall notify the Water Board within seven (7) days if liquid is detected in a lysimeter that was previously dry.

V. GROUNDWATER MONITORING

A. Monitoring Points and Frequency

Five groundwater characterization wells (MW-1 through MW-5) are currently installed. The locations of these wells are shown on Attachments MRP 1 and MRP-2 of this Monitoring and Reporting Program.

Well MW-1 will be abandoned in accordance with State regulations prior to construction of Cell 3 of the Phase 1 heap leach pad. Wells MW-2 through MW-5 will be groundwater monitoring points during operation and closure of the Facility. With the potential for a Phase 2 pad at some future date, additional groundwater characterization wells will be drilled near the proposed Phase 2 pad area. These future characterization wells will become monitoring points during operation and closure of the Phase 2 pad.

Groundwater levels shall be measured and samples collected quarterly from monitoring wells MW-2, MW-3, and MW-5 and from all other future monitoring wells. Well MW-4 has been historically dry and it is not expected to yield water for sampling. Since MW-4 is located near the ore processing facilities, the hydrogeology of this area will be further investigated to the evaluate if additional monitoring well(s) is/are necessary to determine depth to groundwater, if present, and provide water quality information. Water quality sampling and analysis shall be completed in accordance with the Quality Assurance/Quality Control Plan. Results shall be submitted to the Water Board in the Quarterly Report.

B. Monitoring Parameters

Groundwater levels shall be reported as depth to groundwater in feet below natural ground level and in feet above mean sea level (MSL). Quarterly groundwater monitoring samples shall, at minimum, be analyzed for the parameters set out in the table below:

GROUNDWATER MONITORING PARAMETERS	
Parameter	**Units**
pH	pH Units
Electrical Conductivity	µmhos/cm
Total Dissolved Solids	mg/L
WAD Cyanide	mg/L
Total Cyanide	mg/L

GROUNDWATER MONITORING PARAMETERS	
Parameter	**Units**
Arsenic	mg/L

Once every three (3) years, beginning in 2011, additional groundwater analyses for the following constituents shall be completed and the information submitted to the Water Board in the Annual Report:

Volatile Organics-EPA Test Method 8260 or equivalent method
Semi-Volatile Organics-EPA Test Method 8270 or equivalent method
CAM-17 Metals

VI. CONSTITUENTS OF CONCERN (COCs)

COCs are defined as "waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in a waste management unit." The COCs established for the Facility are pH, total dissolved solids, total cyanide, WAD cyanide, and arsenic.

VII. CONCENTRATION LIMITS

Concentration limits for groundwater COCs at the Facility are the background concentrations and the concentration limits for the groundwater detection monitoring program.

The following table provides the current concentration limits for each groundwater monitoring well based on sample results from fourth quarter 2007 through third quarter 2009.

COC	MW-1	MW-2	MW-3	MW-4	MW-5
pH	(1)	9.24	10.26	(2)	8.29
Total Dissolved Solids	(1)	264	280	(2)	574
Total Cyanide	(1)	0.01 U	0.01 U	(2)	0.01 U
WAD Cyanide	(1)	0.01 U	0.01 U	(2)	0.01 U
Arsenic (dissolved)	(1)	0.18	0.108	(2)	0.022

Notes:
Units are in mg/L except for pH that is in standard units
U = parameter not detected; detection limit is listed
1. Well is to be abandoned
2. Well has been historically dry

VIII. POINT OF COMPLIANCE (POC)

The POC for each WMU consists of each compliance monitoring point, including the LDCS and vadose zone monitoring points for each Waste Management Unit (WMU).

IX. DATA EVALUATION METHODS

A. Statistical Data Analysis

The concentration limits, set out in Section VII above, were developed by the Discharger using appropriate statistical methods (calculation of the 95% upper tolerance limit [UTL]) applied to characterization data for groundwater COCs associated with MW-2, MW-3, and MW-5. The Discharger is required by this Monitoring and Reporting Program to develop concentration limits using appropriate statistical methods (calculations of the 95% upper UTL) for MW-2, MW-3, and MW-5 prior to initiating waste discharges at the Facility, and any other future groundwater monitoring points. Upon approval of these additional concentration limits by the Water Board, the Discharger may then propose different statistical methods and/or concentration limits provided that such statistical methods and/or concentration limits can be used to determine statistically significant evidence of a release from the Facility.

The approved concentration limits shall be used to indicate whether or not a "measurably significant" release may have occurred. Upon commencement of operations, the Discharger shall collect monitoring data, and if a COC is detected above the concentration limits, then the value will be flagged for retest and a re-analysis shall be performed.

When sufficient monitoring data (eight consecutive quarters) become available, the Discharger shall consider alternate tests (e.g., t-test, Mann-Whitney test, Wilcoxon Rank Sum test, etc.) to compare the two data populations under consideration, namely, the background (pre-mining) data set versus the data sets from the operational periods. Specifically, as monitoring data is collected during the operational period and once more than seven data points are available for each COC, these statistical tests shall be used to determine if the operational data sets are significantly different (based upon a statistical tests as listed above) from the background data set. Until such time, the approved concentration limits shall be used as the upper limit to identify a potential "measurably significant" release.

B. Nonstatistical Data Analysis

The Discharger shall initiate evaluation monitoring without statistical verification if there is significant physical evidence of a release. Such evidence can include exceeding the ALR(s), time series plots, vegetation loss or unusual soil discoloration. The Discharger shall comment on any such observations in the Annual Report.

C. Verification Procedures

1. The Discharger may immediately initiate verification procedures as set out below whenever there is a determination by the Discharger or the Water Board that there is evidence of a release. Evidence of a release consists of the detection of the presence of a COC at a concentration that exceeds the concentration limits set forth in Section VII above. If the Discharger decides not to initiate verification procedures, the Discharger shall submit a technical report as described below under the heading "Technical Report without Verification Procedures."

2. The verification procedures shall only be performed for the COCs that have shown evidence of a release, and only for those monitoring points at which a release is indicated.

3. In order to verify a release, the Discharger shall either conduct a composite retest using data from the initial sampling event and all data obtained from the resampling event, or shall conduct a discrete retest in which only data from the resampling event shall be analyzed.

4. The Discharger shall report the results of the verification procedure and all concentration data collected for use in the retest to the Water Board by certified mail and within seven days (7) of the last laboratory analysis.

5. The Discharger shall determine, within 45 days after completing the verification procedures, whether or not there is statistically significant evidence of a release from the Facility. If there is verification of a release, the Discharger shall immediately notify the Water Board by certified mail. The Water Board may make an independent finding that there is statistically significant evidence of a release from the Facility.

6. If either the Discharger or the Water Board verify evidence of a release, the Discharger shall submit, within 90 days of a determination that there is or was a release, a technical report pursuant to section 13267(b) of the California Water Code. In the report, the Discharger shall propose either an Evaluation Monitoring Program or demonstrate to the satisfaction of the

Water Board that there is a source other than the Facility that caused evidence of a release.

D. Technical Report without Verification Procedures

If the Discharger decides not to initiate verification procedures after evidence of a release has been determined, the Discharger shall submit a technical report to the Water Board pursuant to section 13267(b) of the California Water Code. In the report the Discharger shall propose either an Evaluation Monitoring Program or demonstrate to the satisfaction of the Water Board that there is a source other than the Facility that caused evidence of a release.

X. MONITORING RECORDS

Records of all monitoring information and copies of all reports required by this Order shall be retained for a period of at least three (3) years from the date of the samples, observation measurement, or report.

These records shall include:

A. Site inspection and visual observation records.

B. Flow measurements, analyses or estimates.

C. The analytical techniques or methods used and the results of analyses.

D. Raw data sheets and quality assurance/quality control results.

E. All calibration and maintenance records of instruments used.

F. The date, place, and time of inspections, sampling, visual observations, analyses and/or measurements.

G. Name(s) of the individual(s) who performed the inspections, sampling, visual observations, analyses and/or measurements.

XI. REPORTING REQUIREMENTS

Pursuant to section 13267 of the California Water Code, the Discharger shall submit scheduled and unscheduled reports as set out below:

A. Scheduled Reports

1. Quarterly Report

Beginning on **January 15, 2011**, the Discharger shall submit Quarterly reports, which shall include the information required in Sections I, II, III, IV and V above, to the Water Board by the 15th day of January, April, July, and October of each year. The Discharger shall notify the Water Board before submitting the Quarterly Report if analytical data are missing, and shall make arrangements at that time for amendments and for updating the Quarterly Report.

2. Annual Report

By **January 15th** of each year, the Discharger shall submit an Annual Report to the Water Board, which shall include the following information.

i. The compliance record and the corrective actions taken or planned which may be required to bring the discharge into full compliance with the discharge requirements.

ii. Monitoring data obtained for the previous year in both graphic and tabular form. Format for tabular data should be designed for ease of review. Specifically, the concentration limit for each COC should be listed immediately beside the measured concentration of that COC at each compliance monitoring point, so the values can be compared directly.

iii. A report on the geochemical testing and ongoing monitoring of ore and waste rock exposed during the year to assess the potential for acid rock drainage at the Facility. The report shall also include an indication of the testing and monitoring planned for the current year.

iv. A review of the Preliminary Closure and Post-Closure Maintenance Plan to confirm that it conforms to the existing operations and that the amount of financial assurance remains adequate.

B. Unscheduled Reports

1. Spill Reports

The Discharger shall report by telephone to Water Board staff any seepage, spill, leak, or other breach of the containment system of any

Waste Management Unit immediately after it is discovered. A written report shall be filed with the Water Board within seven (7) days.

If visual inspection and/or laboratory results indicate that the breach of the containment system is or may be a threat to water quality, it will be considered a possible release. In this case, the Monitoring and Reporting Program may need to be adjusted to include long-term monitoring at the affected point to ensure that repairs and cleanup have been effective.

2. Notice of Possible (Unconfirmed) Releases

   If a release is tentatively indicated, the Discharger shall notify the Water Board. The Discharger shall conduct resampling and analysis, as discussed in Section IX above, to confirm (or refute) the tentative release.

3. Report of Confirmed Release

   If an actual release occurs, or if a tentative release is confirmed, the Discharger shall submit a Report of Release. This report should describe the release, which monitoring points are affected, and how the release was discovered/confirmed.

4. Unscheduled Background Update Report

   If a release is confirmed by any means other than comparison to the background monitoring, then the Discharger shall, within 30 days, sample for all COCs at all monitoring points, and submit for laboratory analysis. The Discharger shall submit an Unscheduled Background Update Report providing the results.

5. Evaluation Monitoring Program

   The Discharger shall, within 90 days of discovering (or confirming) a release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements in section 20425, Title 27, California Code of Regulations.

6. Preliminary Engineering Feasibility Study (PEFS) Report: Corrective Action

   The Discharger shall, within 180 days of discovering (or confirming) a release, submit a PEFS Report meeting the requirements in section 20430, Title 27, California Code of Regulations.

C. Violation

If monitoring data indicate violation of waste discharge requirements, the Discharger shall provide information indicating the cause of violations and action taken or planned to bring the discharge into compliance.

D. General Provisions

The Discharger shall comply with the "General Provisions for Monitoring and Reporting" dated September 1, 1994, set out in Attachment MRP-3, which is made part of this Monitoring and Reporting Program.

XII. TIME SCHEDULES FOR SAMPLING PROGRAMS

A. No less than **60 days** prior to initiating waste discharges at the Facility, the Discharger shall submit a detailed Sampling and Analysis Program (SAP) for the Facility. The discharge of waste at the Facility is considered the discharge of ore to the Facility.

B. No less than **60 days** prior to initiating waste discharges at the Facility, the Discharger shall submit a detailed Quality Assurance/Quality Control Plan (QA/QC Plan) for sampling and laboratory analysis. The discharge of waste at the Facility is considered the discharge of ore to the Facility.

Ordered by: Harold J. Singer Dated: July 14, 2010
HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments:
A. MRP-1 Location of Monitoring Points
B. MRP-2 Well Locations
C. MRP-3 General Provisions for Monitoring and Reporting