Project Description

Pilot Mill
Flotation Project

Vic Claims,
Mount Nansen,
Yukon

November 10, 2012

Contents

1.0 Project Overview

Aurchem has a 100% interest in 389 quartz mineral claims and 7 mineral leases covering approximately 7,543 hectares (18,640 acres) in the Yukon Territories of Canada, 65km west of the town of Carmacks. The Mount Nansen Property is in the southern portion of the Tintina Gold belt which extends from Donlin Creek in Alaska, through the Fairbanks District, the Pogo Deposit, and across the Yukon border where it incorporates such major producing deposits as the Brewery Creek Mine and Dublin Gulch.

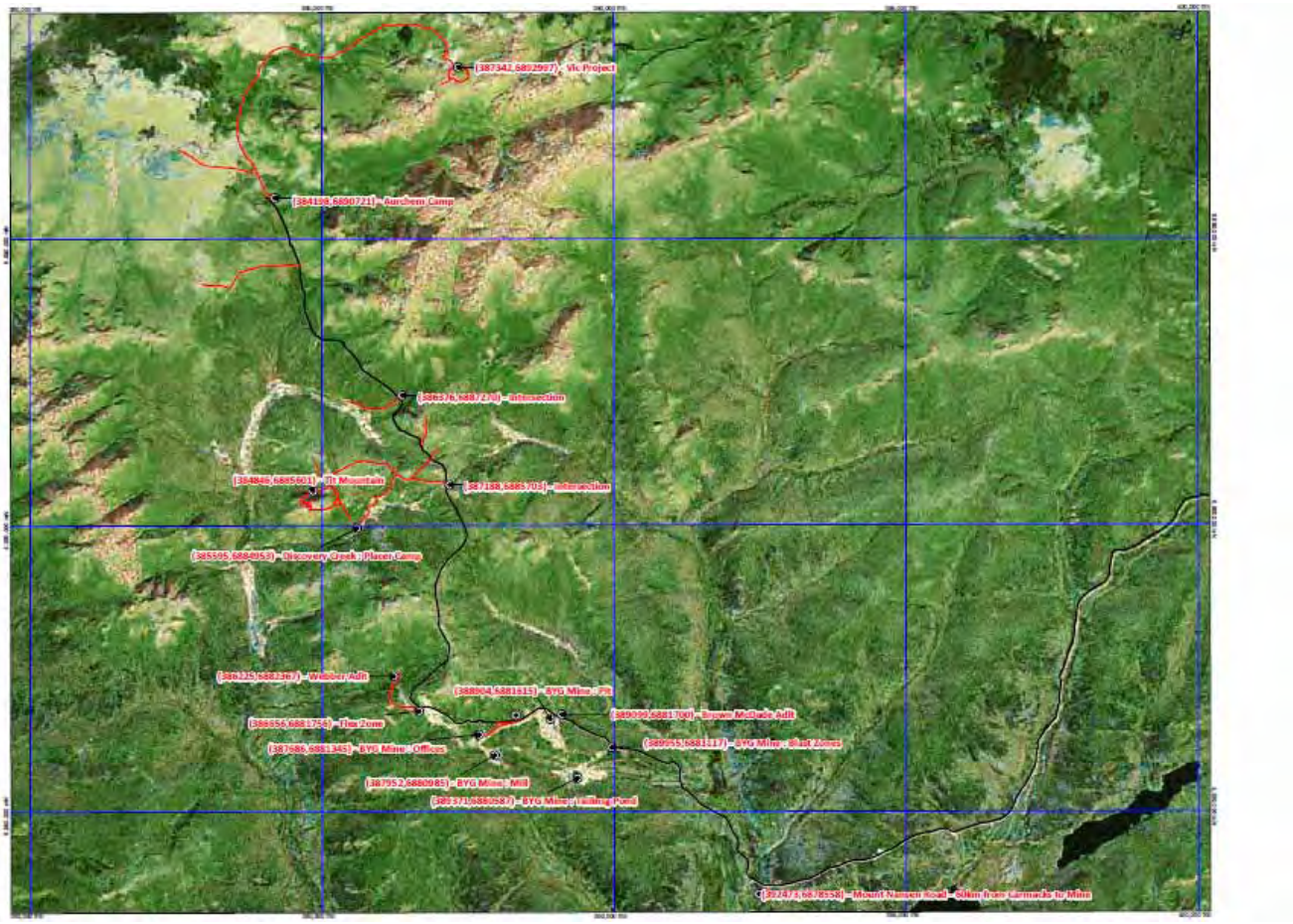

Figure 1. Location of Vic Property in relation to BYG mine near Carmacks

Located approximately 65km west of Carmacks and 180km northwest of Whitehorse in the Yukon Territory [latitude: 62° 07′ N, longitude: 137° 08′ W within the Mount Nansen range, the property lies approximately 15km north of the former operating BYG Natural Resources mine and facility (see Figure 1). The property is easily accessible from Carmacks by an all weather gravel road maintained up to the mine site by the Government of Yukon Highways and Public Works Department and within the property a network of roads and trails provides access to all of the workings and showings on the claims. The Klondike Highway connects Whitehorse to Carmacks and other points north and east.

Aurchem will operate a small 50t/day floatation mill on its Vic property (Figure 1). The mill is portable and the entire camp, mill and crushing operation is temporary/seasonal. All infrastructure related to the mining activities on site will be removed from site each season, and re-established the next operating season. The mill can be trucked to site, and left on a flat deck during operations.

The project activities include ore obtained from an open vein, processing ore, camp construction for up to 10 people (RV units and pit privies), use of up to 500 m3/day of water for milling purposes, use and upgrades on existing roads, storage of water in settling ponds, storage of fuel on site and discharge of a waste to ground. The estimated mine life is approximately 5 years, but could be extended should ore grades warrant. Aurchem would like to secure a 25 year Quartz Mining Licence.

2.0 The Site

The Vic claims, and project site location, is located above tree line at approximately 6,000 feet altitude. The project area is comprised primarily of exposed rock and willows and small low lying bush. There are two water bodies located close the project area, they are Iron creek and the Klaza creek. Moose and Grizzly Bears have been spotted at the project location, but sporadically and in small numbers.

Aurchem`s claims are presented in Figure 2. below. The red quartz claims are Aurchem`s claims, and the Vic Claims are located within that zone. None of the project claims fall within the Little Salmon Carmacks traditional territory, although Aurchem does have claims within LSCFN traditional territory, they are not active at this time.

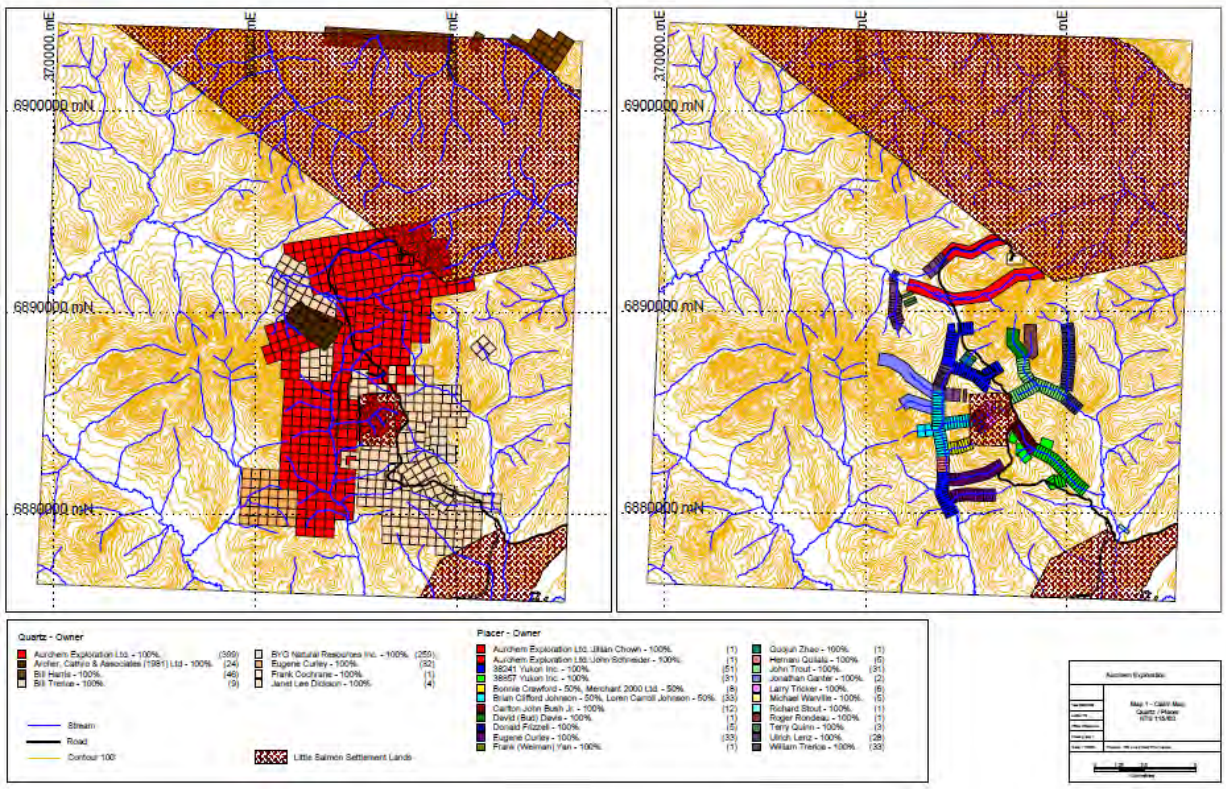

Figure 2. Claim map

The site has undergone exploration for about 20 years. There are open veins on site that Aurchem plans to mine. Many of the previous open trenches and veins have been reclaimed.

Figure3. Natural revegetation of trenching on site

Figure 4. Reclamation of trench on site

The site is accessible via road, but only between May – September. There are no buildings or structures on site. For the past several years, there has been little activity on site. In 2004-06, Aurchem did conduct an extensive drilling program, but since then there has been little activity.

3.0 Operations and Reclamation Plan

3.1Operations Plan

Aurchem plans to mill approximately 50t/d ore and to take a 10,000 tonne bulk sample over a five year period. Estimated volumes of ore that will be milled each year are 5000t.

Over the life of the project 20,000 tonnes of solid waste rock will be deposited as a slurry of approximately 80% solids and will at the end of the project be replaced into the excavations for reclamation. All tailings will be tested for ML prior to deposition into the excavations. All concentrate will be shipped off site. Aurchem will be using 3-5 above ground swimming pools to store tailings from its milling process. Each pool has a capacity of approximately 8200 US gal (approx. 32,000L). Tailings will be deposited into these pools. There is enough capacity in these pools to contain tailings for one season of milling. Once the operating season ends, tailings will be tested chemically for disposal back into the open trenches on site, should results indicate they are benign. Tailings will only be disposed of at the end of the operating season. If they do not meet discharge limits, they will be reprocessed. Should water or tailings from our tailings ponds not meet discharge standards (after it has settled), tailings water will be sent back through the floatation circuit in an attempt to float any residual heavy metals and solids out of the water. The concentrate will then be collected, sampled and sent to an outside lab

for analysis to ensure it meets CSR standards. It will either be disposed of in the trenches on site or, if it does not meet CSR standards, will be hauled off site to a certified contaminated waste disposal facility.

Figure 5, below, provides a schematic of the Mill and Flotation process, plus an updated Water Balance. This figure is also appended to this report for further reference.

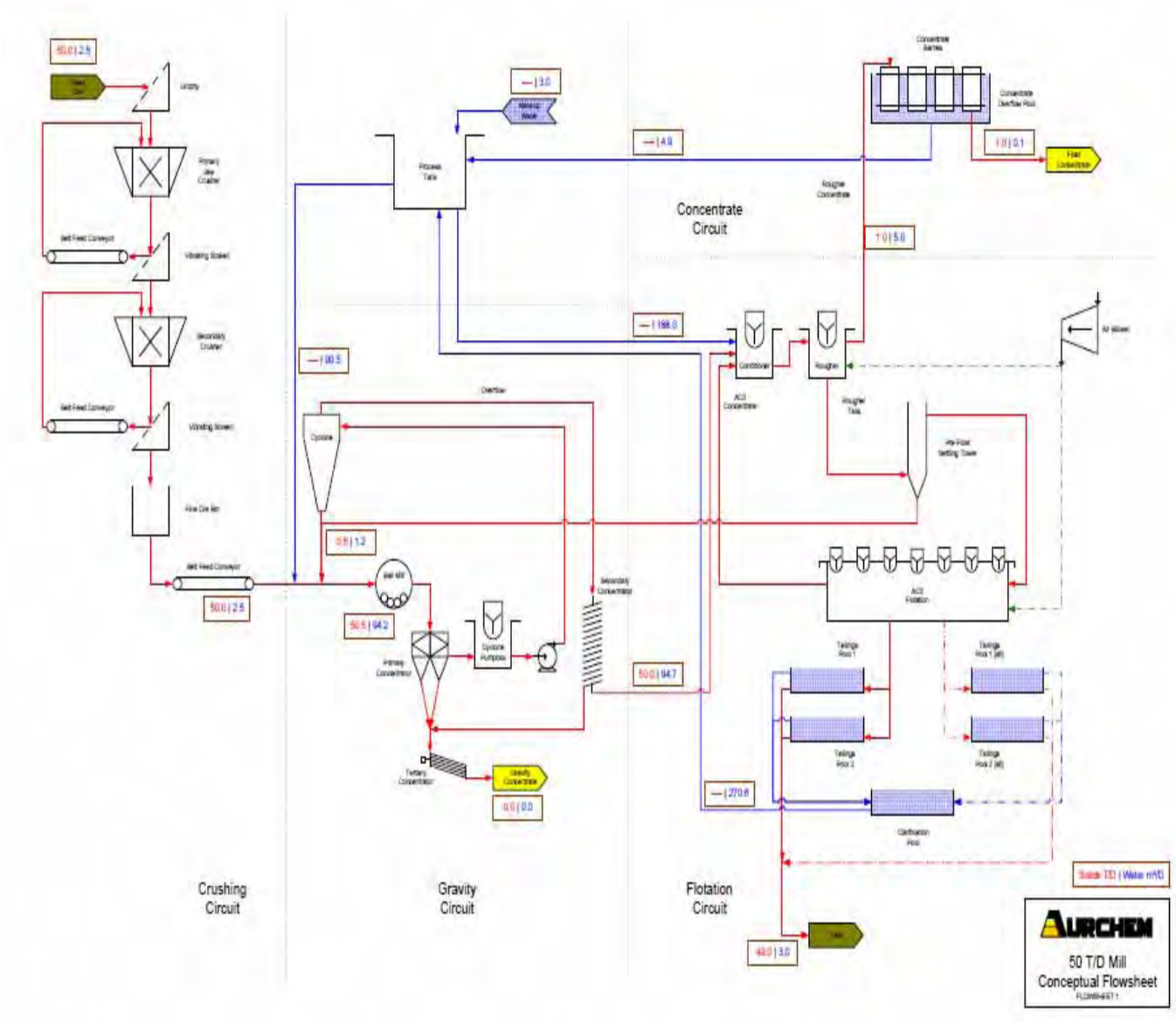

Figure 5. Conceptual Mill and Flotation process

As per the mill process diagram (above, Figure 5), tailings are released into a series of lined pools. Water is decanted from the pools and sent to the clarifier pool, where it is re-used. There are many areas within the mill and floatation process whereby water is reclaimed. This system does not lose water, and recycles 100 %. There is no need for addition of water, but we have included it in our Water Use Licence application as a contingency. We do not anticipate large volumes of tailings, as the floatation circuit is capable of operating at 97-98 % recovery. Because this is a "pilot" project, the mill and floatation circuit

needs to be operational before data such as effluent characteristics can be attained.

3.1.1 Process Overview

The pilot mill project is based around a gravitational flotation model that uses no leaching. The flow sheet (above, Figure 5) has three distinct circuits; crushing, gravity and flotation. The mill will be completely portable with no permanent structures.

3.1.2 Water Supply

The mill will require an initial seasonal charge of water of approximately 500m^3 to operate the 3- 5 settling ponds and the mill itself. Water will be pumped from open trenches on site that collect melt waters, as well Aurchem has identified Iron Creek as a back-up water source if there is insufficient water from trenches for start-up.

3.1.3 Crushing Circuit

The ore will be feed through a primary and secondary jaw crushing circuit with recycle(closed circuit) and will exit at roughly 10mm.

3.1.4 Gravity Circuit

The gravity circuit includes a ball mill and 3 gravity concentrators (spiral, table and Knelson). The final gravity concentrate will contain nominal water and will be shipped off site for further processing. The ore will be exiting the ball mill at roughly 60 micron.

3.1.5 Flotation Circuit

The flotation circuit consists of 4 high efficiency proprietary flotation cells that will use a minimal amount of reagents and energy to achieve 95% gold recovery. The concentrate will be captured (settled) into barrels and will be shipped off site at approximately 60% solids taking with it about 2m3/d water. All of the remaining process slurry will be sent to tailings ponds for settling, clarification and re-use. The settling circuit is twinned and will be alternated after approximately 50% storage capacity is reached. The unused tailings stream will settle for 5 days then stored in a tailings ponds. The water from this circuit will be re-cycled.

3.1.6 Tailings

The tailings of the project will be removed from the settling ponds at approximately 80% solids and will be sent back to open trenches on site and burried or removed from site should it not meet environmental quality criteria. None of the tests on the ore nor host rock have indicated any potential for ARD (please see Waste Rock Management Plan and Environmental Surveillance plan for 2005 ARD test results and sample locations). Once the operating season ends, tailings will be tested chemically for disposal back into the open trenches on site, should results indicate they are benign. Tailings will only be disposed of at the end of the operating season. If they do not meet discharge limits, they will be

reprocessed. Should water or tailings from our tailings ponds not meet discharge standards (after it has settled), tailings water will be sent back through the floatation circuit in an attempt to float any residual heavy metals and solids out of the water. The concentrate will then be collected, sampled and sent to an outside lab for analysis to ensure it meets CSR standards. It will either be disposed of in the trenches on site or, if it does not meet CSR standards, will be hauled off site to a certified contaminated waste disposal facility.

3.1.7 Reagents

The maximum projected rate of usage of the 3 reagents is as follows:

AP208 (Aerofloat 208) – 200g/t of solids (10mg/L)

PAX (Aero 350 Xanthate) – 200g/t of solids (10mg/L)

MIBC – 40 g/t (2mg/L)

By the nature of the flotation process almost all of these flotation reagents (95%+) leave the process with the concentrate. The percent of the chemicals that remain are 100% soluble and will be recycled and not settle out with the tails except for trace amounts. In a worst case scenario, with the initial concentration of approx 40 ppm of water (based on a percent solids of 20% - although probable operating conditions will be 5% or a concentration of 10 mg/L) even if as much as 2% remains in the tails this leaves a concentration of <1 ppm. Aurchem has proposed to the Yukon Water Board that weekly tests be conducted on the tails and water in the tailings ponds in order to ensure that the tails and water are suitable for discharge back into the open trenches on site.

3.1.8 Excavation

Excavation will be accomplished by mechanical means, either a front-end loader or excavator.
The excavator or loader will load a truck which will bring ore to the crusher. The distance between ore body and mill is minimal, as the mill is portable and will be located near the mining area. Haul distances are short, the project expects to use off-road haul trucks, probably of approximately 35 ton capacity, which will be loaded at the excavation site and will dump into a stockpile at the processing plant.

3.1.9 Closures

The Project expects to cease operating seasonally as winter begins and re-start operations in the Spring. Temporary or seasonal closures will require that the portable mill and tailings ponds be removed from site. Camp facilities are easily removed as they are portable RV units. Heavy equipment, if not in use for an extended period of time, will be removed from site. Please refer to Aurchem`s Temporary Closure Plan (Appendix B) for further details.

3.1.10 Fuel & Oil

Aurchem expects to operate several pieces of heavy equipment (1 excavator/ 1 loader) and

1 off-road haul trucks plus crew trucks (2) which will require refueling on-site. Therefore, Aurchem expects to install and maintain two 1,000 gallon fuel storage tank on site. The tanks will be double walled and meet all current regulatory requirements. The Project expects to re-fill the tanks every 1-2 weeks during operations. Aurchem will also store small amounts of lubricating oil and grease for on-site equipment maintenance operations. Used oil and grease will be disposed of in accordance with current regulatory requirements. Storage and disposal of these materials are further described in the spill response plan and waste management plan.

3.1.11 Waste

Aurchem does not anticipate the use/storage of special waste. However, in the event this occurs, Aurchem will transport special waste (anti-freeze, used diesel, used batteries, etc) in the following manner:

• No special wastes will be transported by Aurchem other than within the site location

• All special wastes transported off-site will be in accordance with applicable transport laws, to a facility permitted in the Yukon or other jurisdiction to receive them, by a carrier permitted in the Yukon or another jurisdiction to receive and transport special wastes. If the facility is in the Yukon, both the facility and the carrier must be permitted in the Yukon.

• All special wastes will be transported and transferred in such a manner as to prevent their release into the environment.

• All vehicles carrying any special waste will be secured to prevent access to unauthorized personnel

Used antifreeze will be stored in good quality containers that are leak-free and have tight closures to prevent spills, stored on a wooden pallet in a bermed area, and periodically shipped to a disposal facility.

Small quantities of miscellaneous waste solvents and lubricants will be generated through routine maintenance and repair of equipment. Solvents are liquid substances that can dissolve other substances and can be recycled (e.g., paint thinners and strippers, varsols, degreasing fluids, mineral spirits and petroleum distillates). Most of these liquids are flammable and toxic.

Solvents and lubricants will be collected and stored in appropriate drums for regular shipment to a licensed recycle or disposal facility. Containers will be covered to protect them from precipitation and will be kept apart from other waste products. When transporting solvents, the container will be labelled according to the Transportation of Dangerous Goods Regulations (SOR/2008-34).

Further details on Aurchem`s storage and handling of waste are located in its Waste Management Plan.

3.2 Reclamation Plan

Aurchem's permanent closure activities will include the following:

3.2.1 Backfilling open trenches and veins

Aurchem has already begun progressive reclamation activities by backfilling trenches and veins no longer in use in our exploration and mining activities. We will continue to backfill and re-grade trenches as we move along in our production phase. Once we are completed all of our mining activity, we will promptly re-fill all trenches with the host rock and re-grade it to prevent water pooling and water erosion issues. We also will attempt to reseed disturbed areas with an approved seed mix, appropriate for reclaiming areas in the Yukon. We have one supplier in town, Arctic Alpine Seed, that has had proven success in the Yukon on reclaimed mine sites.

3.2.2 Reclaiming access roads

There are only a few small roads on the Vic claim itself, plus the main access road to the property starting at the Klaza Creek crossing. Upon closure, Aurchem will consult with the Little Salmon Carmacks First Nation to determine which roads should be completely reclaimed. The LSCFN uses our mine access roads for hunting and recreation. It may not be necessary to completely reclaim the access roads should LSCFN desire to use these roads in the future. Should LSCFN want the roads reclaimed, Aurchem will ensure that the natural runoff features are maintained, culverts (if any) are pulled, and the roads will be allowed to reseed naturally with grasses and willows. Roads will be graded, and left rough to allow for seeds to be captured on road surfaces.

3.2.3 Terrain Disturbances

Rutting or cuts made by equipment will be filled in and allowed to re-seed naturally. Upon final closure of the site, sumps, along with other terrain disturbances, will be backfilled and re-contoured and seeded.

3.2.4 Water Quality and Water Management

During final closure, Aurchem will collect monthly water quality samples (May-September) from four stations (identified on map 4 included in our Temporary Closure Plan- Appended to this report, updated maps are included in Aurchem's Environmental Surveillance Plan) for a period of 2 years following closure. Samples will be analyzed for dissolved and total metals and TSS. Any water management structures, including berms and culverts, will be removed to allow for natural movement of water. Care will be taken not to release sediment into receiving waters during these activities, therefore, work will be conducted during low flow periods.

3.2.5 Site Contamination

To date, there have been no issues relating to fuel storage or spills on site. Aurchem will continue to monitor fuel and chemical storage on site to ensure there are no released to the environment.

3.2.6 Acid Rock Drainage

ARD

This pilot project is designed to test a shallow high grade ore body and is not planning to excavate more than 20m depth. Historically, no deep samples were tested as they fall out of this projects scope. In

2005, ARD samples were sent to the lab for ABA and ARD multi-element analysis. The samples were taken from RC drilling and represent ore, the waste rock interval directly above the ore, and sometimes surface waste rock. The samples were taken in key areas in and above ore. Please see attached detailed sampling map (Map 4a) for exact locations.

Results of the ABA and multi-element analysis are located in the attached document, entitled Aurchem schedule 3. Sample locations were as follows, and are included on the Map 4a, as well results and sample locations are included in our Environmental Surveillance Plan:

RC0506-20 (20 feet- waste sample)
RC0506-35 (35 feet-waste sample)
RC0510-10 (10 feet- waste sample)
RC0510-45 (45 feet-ore sample)
RC0519-10 (10 feet-waste sample)
RC0519-20 (20 feet- ore sample)
RC0519-25 (25 feet- ore sample)
RC0520-110 (110 feet- ore sample)
RC0520-115 (115 feet- ore sample)
RC0523-70 (70 feet- waste sample)
RC0523-80 (80 feet- ore sample)

Currently no ARD risk is shown (see attached results and email from third party consultant included in Appendix D of the Environmental Surveillance Plan).

Additional ARD and ABA testing will occur prior to the commencement of mining activities on site. ARD and ABA samples will be collected from the area of interest, located on the attached map 4a. This area of interest includes our Maverick vein. We will pull 10 samples from this vein, at three depth intervals, in order to include a waste rock and 2 ore samples. Sample location will be 10 meters apart on centre. Samples will be sent to Maxxam analytical for analysis (ABA and ARD). Details of this plan will follow. To date we have not encountered any acid generating ore or waste. However, to mitigate any potential ARD concerns at closure, please see section on Mine Rock Piles.

3.2.7 Tailings Management

Due to the small size of our milling operation (50t/day) and the high recovery rate of our milling process, we do not anticipate large volumes of tails. Any tails produced will be discharged into the small above ground settling pools. All tails will be removed from the pools and returned to the open trenches on site. Before placement into the trench, a chemical analysis will be conducted on the tails to ensure that they are benign. All benign tails will be buried in the trenches as they are backfilled during progressive reclamation efforts. Tails that show concentrated levels of heavy metals, above the Yukon Contaminated Sites Regulations soil guidelines, will be placed in barrels and shipped to an authorized contaminated soil treatment facility. We do not anticipate that this will be the case, and only provide this as an alternative option should the tails not be suitable for disposal on site.

3.2.8 Mine Rock Piles

Aurchem will operate a small mining operation, and will not be storing large piles of mine rock on site. We do include a mitigative option for potential ARD rock, which is to place on a gravel pad and cover with benign rock at closure, however, this will only happen should ARD results test positive, historically they have not. We will also be implementing the following measures at closure:

1. **Surface Diversion**

Aurchem will be constructing drainage ditches around the WRD to help divert surface water away from the area. These drainage ditches will be installed during operation, and will be maintained after permanent closure.

2. **Soil Covers**

A natural soil cover will be placed on top of the WRD, to encapsulate the area, and reduce water flow through the rock, as natural vegetative regeneration will consume much of the surface water that would enter into the WRD area. By using this technique, a synthetic liner is not required, and Aurchem will be preparing a WRD design as such. The use of a synthetic liner underneath the WRD will only promote sloughing, and movement in the lower levels of the piled rock. We had suggested it earlier, but upon consulting with our design engineer, we feel it is not required, and will only be detrimental to the stability of the WRD.

Please note that Aurchem will be submitting a Waste Rock Management Plan and a Waste Rock Dump Design.

3.2.9 Re-vegetation

Aurchem will re-vegetate all disturbances on site with Arctic Alpine seed mix. As well, natural re-vegetation will take place, and has been quite successful on site in previously disturbed areas. The Arctic Alpine seed mix is capable of re-vegetating non-soil areas (essentially gravel areas with no overburden). It is a suitable seed for our site as we have very little overburden.

3.2.10 Buildings and Mill

The mill to be used on site is portable, and will be transported off site when the mine enters permanent closure. The camp facilities include RV units, which are removed from site each season. All storage buildings will be dismantled and removed from site. All settling pools will be dismantled and removed from site prior to closure.

3.2.11 Fuel Storage Area

The fuel storage area will be monitored regularly during mine operations to ensure that there are no leaks and spills. We do not anticipate any remedial work on site related to fuel storage. Potential spills and leaks will be managed on as needed basis and costs associated with remedial measures of the fuel

storage area are included in daily operating costs. The fuel storage area will be dismantled, all fuel containers and drums removed from site and transported to Whitehorse. Any soils that remain touched by hydrocarbons or other fuel related products will be dug up and removed and transported off site to a certified waste handler (example General Waste Management in Whitehorse).

3.2.12 Equipment

There will be no equipment left on site once the mine is in permanent closure. Currently, there is no equipment stored on site.

3.2.13 Industrial Reagents and Hazardous Products

All explosives and hazardous substances shall be removed from the site or be properly disposed of in accordance with the requirements of the Occupational Health and Safety Regulations of the *Occupational Health and Safety Act*.

3.2.14 Miscellaneous Materials

Aurchem, as part of its progressive reclamation efforts, and Permanent Closure Plan, will remove old core boxes, drill sample bags, and any other miscellaneous items from site. Core boxes and sample bags will be stored at our Whitehorse office. Miscellaneous waste, like empty core boxes and litter will be taken to the nearest municipal landfill. We also have a large water holding tank (steel) on site. It too, and all associated piping, will be removed from site upon closure.

3.2.15 Waste Rock and Overburden Dumps

Upon final closure, we will re-seed the WRD and Overburden Dump, with native host seed, and allow natural re-vegetation to occur. We will use the material in our Overburden Dump to place on the WRD, as a soil cover, to encourage vegetation growth. Natural re-vegetation has proven to be very proliferate and effective on site. We have older trenches on site, 10-20 years old, that have in-filled with willow, buck-brush and grasses and are quite lush (refer to our Temporary Closure Plan for photos).

3.2.16 Ore Stockpiles and Pads

Aurchem does not have any ore stockpiles on site. We only have drill pads, which have already been flattened and re-contoured. Old drill pads will be re-seeded. Overburden from the Overburden Dump will be used to infill the old drill pads, and promote vegetation growth. Overburden placed on the pads will be done so to promote seed growth and capture by leaving in-filled areas rough, and not smoothed by machinery.

3.2.17 Access and Security

Access will remain to the site post closure. Signs will be posted along the main access roads on the site to identify it is and was an active mining area. There will be no security on site.

3.2.18 Monitoring and Management Activities

There are four water quality stations on site (three of them are hydrology stations). They are Klaza Creek, Iron Creek downstream, Iron Creek upstream, and Iron Creek 300m below the Overburden Dump area (this site is actually a historic trench that leads to Iron Creek, it will eventually be reclaimed). Locations are depicted on the map included in our Temporary Closure Plan (attached). Water quality and hydrology measurements will continue at these stations (May-September) for two years following closure to ensure there are no adverse effects once the mine is no longer operational. As well, during these sampling events, the site will be inspected to ensure that all closure measures are still in place, and maintenance will be performed if required. Please see Aurchem's Environmental Surveillance Plan for further details on Environmental Monitoring on site.

3.2.19 Closure Cost Estimate

Total estimated closure costs are $219, 075.00 (191,500.00 plus 15% contingency). Cost estimates were based on the Yukon Government Highways and Public Works contractor rates, as well as local consultant fee rates. Lab costs are based on rates charged by Maxxam Analytical labs, Burnaby BC. The closure cost estimates are the same as the temporary closure cost estimates, included in our Temporary Closure Plan.

4.0 Regulatory Requirements

Aurchem currently holds a Class 3 Exploration permit (LQ00353)and a Type B Water Use Licence (QZ06-073). Both permits are due to expire December 31, 2012. Under the Type B Water Use Licence, Aurchem is authorized to:

> a) obtain water from existing trenches up to a maximum quantity of 300 m^3/d for the purpose of mill use and settling pools; and
> b) construct an open-pit mine and operate a mill at a maximum rate of 50 tonnes of ore per day to a maximum of 5,000 tonnes of ore per year and a maximum of 20,000 tonnes of ore during the term of the license for the purpose of a quartz mining undertaking; and
> c) construct earthworks and erosion protection, all as described in the Application, and subject to the conditions of this licence.
>
> The Licensee is hereby authorized to deposit a waste as follows:
> a) Waste in the form of discharge water contained within the tailings;

b) during seasonal closure, wastewater from the tailings pools shall be discharged to the existing trenches, all as described in the Application, and subject to the conditions of this licence.

Under Aurchem`s Class 3 Exploration permit, the following is authorized:

a) Number of person days per camp 920 person days
b) Total volume of trenching BULK SAMPLE: 5000 tonnes
c)Upgrading of access roads per up to 0.5km 3m wide
d) Number of persons in a camp at any one up to 10 people time
e)Fuel Storage in a stationary container Fuel delivered to site, area lined and bermed Diesel:1000gal , Gas:1000gal
f) 1 loader 15t, 1 bulldozer 40ton, 1 dumptruck, 1 excavator 27 ton, 2 atv/rtv, 2 pickup truck
g) Use of vehicles on existing roads or trails

Aurchem is currently applying to the Yukon Water Board to renew its Type B WUL, the application number is QZ11-045. As well, an application is being made to Energy Mines and Resources to obtain a Class 4 operating permit. Aurchem has a YESAB Decision Document, 2011-0297

5.0 Resource Definition

Previous exploration of the Vic area was completed by Skyline Exploration in the mid-70's, Kerr Addison (1985-86), and Chesbar Resources (1987-88). Skyline conducted surface sampling, Kerr Addison completed trenching, diamond drilling, float and soil geochem, and a ground magnetic survey. Chesbar followed up on the Kerr Addison drill results with further drilling. Although the results were spotty, the drilling by Kerr Addison / Chesbar in 1986-88 had produced a few good gold intersections that indicated the presence of a high grade mineralized system. Aurchem conducted extensive trenching, reverse circulation and diamond drilling on the Vic claims between 2004 and 2006, and specifically the Maverick Zone during the 2004 & 2005 field seasons (29 ddh/2,755m) producing a preliminary ore resource estimate of 23,720 tonnes at 12.63 g/t Au. The high grade nature of the mineralization is evident in such drill intersections as 2.44m @ 48 g/t Au. Trenching in 2006 produced a sample of mineralized float grading 45.4 g/t Au, located on strike, 180m east of the drilled resource. Reserves estimated at over 81,000 oz at 25.5 g/t Au to 125m depth, open along strike and depth.

Appendix A Additional Maps and Figures

Appendix B Temporary Closure Plan