

## FAIRBANKS GOLD MINING, INC. 2003 ANNUAL ACTIVITY REPORT

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#### **1.0 INTRODUCTION**

Fairbanks Gold Mining, Inc., a wholly owned subsidiary of Kinross Gold USA, Inc., has prepared this annual report, to comply with the conditions described in Section 11. b. of Mill Site Permit ADL Nos. 414960 and 414961 for the Fort Knox Mine. The report is being distributed February 19, 2004 to allow time for review prior to the annual meeting scheduled for March 4, 2004. This report contains information for both the Fort Knox and True North Mines.

Section 2 of this report contains a brief synopsis of the activities conducted at Fort Knox and True North during the reporting period and Section 3 describes the activities planned for calendar year 2004. Sections 4 and 5 contain the annual water usage report and the tailing impoundment facility storage capacity evaluation, respectively.

The reclamation plan for Fort Knox was reviewed by the Fort Knox permitting team following the update completed in 2000 to reflect projected operations for the next five years. The Fort Knox Reclamation Plan approval was administratively extended on December 20, 2002 to February 11, 2004. On February 6, 2004 a letter from FGMI to Alaska Division of Mining, Land and Water management requested an administrative extension of the Fort Knox Reclamation Plan until January 1, 2005 to allow for time to address issues raised in the final report of the third party audit.

Golder Associates, Inc. conducted a third party environmental audit in 2003 with personnel onsite from July 28 to July 31, 2003. The team audited Fort Knox and True North Mines and the Twin Creek Haul Road with an additional two days of wetland delineation also being completed in the developed wetlands and water reservoir. A final report has been prepared and was submitted to FGMI, ADNR, and ADEC on March 1, 2004.

Operation of the True North Mine has been consistent with the approved plan of operations with minor changes noted in the pertinent sections of this report

The number of exempt and nonexempt personnel at Fairbanks Gold Mining increased in 2003. At year-end 2003, FGMI employed 400 workers (an increase of 2.6% from 2002).

The milling and mining operations at the Fort Knox Mine continue to operate 24-hours a day, 365 days a year. The True North mining operation and transporting of ore to Fort Knox operates 24-hours a day, 365 days per year. Operation of the Fort Knox Mine has been consistent with the approved Plan of Operation and projected activities as reported at the 2002 annual meeting with minor changes noted in pertinent sections of this report. Total gold production (gold equivalent) for calendar year 2003 was 391,834 ounces.

### 2.0 SUMMARY OF 2003 ACTIVITIES

#### 2.1 PUBLIC SAFETY, TWIN CREEK ROAD, AND ACCESS ROAD

In 2001 FGMI constructed the new Twin Creek Road that provides access to the Fort Knox and True North Mines as shown on Figure 1. An overpass was constructed on the Steese Highway, in lieu of an intersection, and traffic patterns established to improve public safety (Figure 2). The new section of the Twin Creek Road, constructed from the new Steese Highway overpass to the Fish Creek road, is used as the primary means of access to the Fort Knox Mine. At the Fish Creek road and Barnes Creek road intersection ore haul trucks diverge from other traffic traveling to Fort Knox and utilize the Barnes Creek road to haul ore to the Crusher.

FGMI uses the newly constructed access road to the True North Mine that begins at the Steese Highway overpass and goes west, on the north side of Pedro Dome, to the mine. The new access road is also called the Twin Creek Road, as shown on Figure 1. FGMI developed a *Fugitive Emissions of Particulate Matter Control Plan* in June 2002 that was subsequently approved by ADEC. The plan describes the measures FGMI will take to control fugitive emissions of particulate matter. In 2002, the high float surface was overlain on approximately 8,100 feet of the Twin Creek Road in the vicinity of the Steese Highway overpass to minimize the amount of dust generated by ore haul trucks. During the warmer months calcium chloride was applied to the road surface as a dust suppressant on the Fish Creek, Barnes Creek, and Twin Creek roads. Additionally, water was applied to the road sa needed to control fugitive dust. During freezing conditions snow is pulled onto the road to control the generation of fugitive dust.

A dust control trial is planned for the summer of 2004 on the Twin Creek Haul Road. This trial will test various chemical dust suppressants over short sections of the Twin Creek haul road. The goal of this study is to find a dust suppressant product that is both long lasting and cost effective.

The annual True North residential noise monitoring was performed by Nortech, a qualified thirdparty contractor at two Cleary Summit residences from January 27-28, 2003. The monitoring was performed to determine compliance with the residential noise standards identified in Stipulation #33 of the Alaska Department of Natural Resources right-of-way permit for the Twin Creek road. Nortech's findings were that the noise associated with the ore haul trucks on the True North Haul Road was in compliance with the daytime and nighttime sound level descriptors identified in the permit and work plan.

Additional road safety markers, road signs, and trails signs were installed at the Steese Highway interchange and the Twin Creek and Barnes Creek roads. FGMI maintained markers and signs along the access and ore haul roads, with the exception of the portion of the Fish Creek road that was returned to state control in 2001. Passing on the Twin Creek Road was limited to the public sections and designated passing zones only.

The Gilmore and Alpha C trails remain open to recreational users. As stated in previous reports, portions of the Gilmore Trail in the vicinity of the Fort Knox west pit area may be closed for short periods of time during blasting to ensure public safety. The replacement trail, at True North, historically used for winter access for snowmobile runs has been maintained along with the associated road crossing.

The Barnes Creek Road continues onto the Fort Knox Mine at the Millsite Permit boundary and appropriate signs have been maintained notifying the public of the limited access. The remaining portion of the Barnes Creek Road is currently used by FGMI to transport ore from the True North Mine to the Fort Knox Mine.

The portion of Fish Creek Road east of the intersection with the Fort Knox Road has a limited use gate for contractor and claim holder access to lower Fish Creek. Use of the old Fish Creek Road by contractors minimizes traffic on the pipeline service road and the chances of damaging the reclaim and freshwater pipelines.

#### 2.2 MINE OPERATIONS

Fort Knox operations continued to mine waste rock and ore from the open pit at an average mining rate of 83,830 tons per day. Material mined was hauled to the crusher for mill feed, low-grade stockpile, waste rock dumps, and the tailings storage facility embankment, depending upon grade, weather, and operational needs. Table 1 includes a summary of the tons mined at Fort Knox from January 1, 1996 through December 31, 2003.

|      | Fort Kn    | TABLE 1<br>lox Annual Mining | g Rates      |              |
|------|------------|------------------------------|--------------|--------------|
|      | Ore (tons) | Low Grade<br>(tons)          | Waste (tons) | Total (tons) |
| 1996 | 956,700    | 364,150                      | 15,363,100   | 16,683,950   |
| 1997 | 12,566,250 | 4,883,700                    | 14,929,950   | 32,379,900   |
| 1998 | 13,829,100 | 5,272,350                    | 14,192,500   | 33,293,950   |
| 1999 | 14,103,735 | 4,090,040                    | 12,156,110   | 30,349,885   |
| 2000 | 15,512,200 | 2,200,000                    | 17,894,600   | 35,606,800   |
| 2001 | 12,091,812 | 1,244,345                    | 12,621,743   | 25,957,900   |
| 2002 | 11,730,200 | 856,000                      | 11,997,300   | 24,583,500   |
| 2003 | 11,077,250 | 2,091,190                    | 17,429,500   | 30,597,940   |

The True North Mine commenced operation at the end of January 2001 with the first blast occurring on February 9, 2001. The mining rate for 2003 averaged 34,814 tons per day. Mined material was hauled to the Fort Knox Mine crusher for mill feed, low-grade stockpile, and waste rock dumps depending upon grade, weather, and operational needs. Routine hauling of ore to Fort Knox began on April 13, 2001. FGMI owned and contract ore haul trucks transported 3,574,000 tons of ore to Fort Knox at a rate of 9,792 tons per day during 2003. The ongoing compliance noise testing demonstrated the ore haul trucks operate below the 82-dBa limit. Table 2 includes a summary of the tons mined at True North from February 22, 2001 through December 31, 2003.

|      | True Nor   | TABLE 2th Annual Mining | Rates        |              |
|------|------------|-------------------------|--------------|--------------|
|      | Ore (tons) | Low Grade               | Waste (tons) | Total (tons) |
|      |            | (tons)                  |              |              |
| 2001 | 2,377,386  | 808,510                 | 5,262,504    | 8,448,400    |
| 2002 | 3,371,800  | 1,077,400               | 7,011,800    | 11,461,000   |
| 2003 | 2,847,100  | 0                       | 9,860,000    | 12,707,100   |

Doubek Hydrologic Consultants was retained to complete an evaluation of the Fort Knox dewatering program. Current and future dewatering practices were evaluated to determine the most cost effective way to meet life of mine dewatering requirements. Four additional dewatering wells and 15 new piezometers were constructed during the year. The annual average dewatering rate was approximately 519 gallons per minute for 2003.

An additional water source was identified at True North and a Temporary water use authorization for Little Eldorado Creek Pond was issued by DNR in 2003. The water was used to control fugitive dust at True North and on the Twin Creek road.

#### 2.3 MILL OPERATIONS

Mill operations continued as described in the Plan of Operations with the exception of the planned changes noted below. Table 3 includes a summary of the tonnage milled from November 1996 through December 31, 2003. Some low-grade ore from Fort Knox was processed during calendar year 2003.

As described in the True North Plan of Operations, FGMI began milling ore from the True North Mine in March 2001. FGMI constructed a new thickener in 2002 that increased recovery by maintaining a higher temperature in the leach circuit and reducing reagent usage since less cyanide must be detoxified and subsequently added to the leach and CIP tanks. FGMI anticipates lower levels of ammonia, nitrates, sulfate, copper, and TDS in the decant and interstitial water within the tailing mass. The detoxification circuit operation is being modified to optimize processing of the new thickener underflow slurry. Otherwise, reagent use and storage were consistent with that described in the original Project Description portion of the Plan of Operations.

|      | T OF TRIOX THINKIN THINKS TRACS |  |
|------|---------------------------------|--|
| Year | Production (Tons)               |  |
| 1996 | 769,728                         |  |
| 1997 | 12,163,151                      |  |
| 1998 | 13,741,610                      |  |
| 1999 | 13,819,007                      |  |
| 2000 | 14,994,918                      |  |
| 2001 | 15,662,774                      |  |
| 2002 | 15,259,150                      |  |
| 2003 | 15,084,682                      |  |

| TABLE 3                     |     |
|-----------------------------|-----|
| Fort Knox Annual Milling Ra | tes |

Mill operations continued to focus on operational improvements to increase throughput and recovery. Mill availability was excellent for calendar year 2003. The negative impact to

recovery from processing blended True North and Fort Knox ores has been reduced through the use of lead nitrate. Approximately 45,000 tons of material meeting specifications for railroad ballast was produced and sold to Brown's Hill Quarry in 2003. The economics of rejecting SAG mill oversize material have been evaluated and it was determined that rejecting material is not an economically beneficial alternative for increasing mill throughput. The possibility of selling SAG mill reject material would positively affect the economic assessment and may be an option for the future. The increase in mill throughput seen through rejecting material can be realized by not returning the oversize material to the SAG mill. An engineering evaluation of grinding circuit was commenced to determine the viability of transferring the crushed reject material directly to the ball mills.

Studies to extend the life of wear items in the mill continued in 2003 with positive results. A second and larger 300 TPH Knelson concentrator was put into service to improve the recovery of coarse gold particles. The original Knelson 180 TPH machine will be replaced with a new 300 TPH machine in 2004.

#### 2.4 TAILING STORAGE FACILITY (TSF)

No material was placed in either the downstream or upstream random fill of the tailing impoundment embankment during 2003. As of December 31, 2003, 11,036,800 tons of downstream random fill had been placed in the embankment raise that extends the downstream slope to the ultimate footprint for embankment construction. The downstream random fill has been constructed to the 1,431-foot elevation. The downstream construction is being completed, as material and equipment are available. The embankment construction completed in 2002 raised the seal zone in the embankment to the 1,428-foot elevation with a six-foot frost protection cap placed to the 1,434-foot elevation. The next lift on the embankment is scheduled to be complete during the construction season in 2004.

Tailings deposition methods and operation of the impoundment are consistent with those described in the initial Plan of Operations, with the exception of the Fish Creek Dump that was approved by ADNR as an amendment to the Plan of Operations on November 10, 2000. The upper portion of the tailing impoundment in the Fish Creek drainage is currently being used to store waste rock mined from the Fort Knox open pit. Tailing deposition for 2003 utilized the Yellow Pup drainage deposition area from January thru June and the TSF main operating pool area the remainder of 2003. For 2004 tailing deposition will continue in the main TSF pond until May when it will switch to the Yellow Pup drainage for the summer months. In October the deposition will occur in the Pearl Creek Drainage during 2005. Tailing and water management is reviewed on a weekly basis by mine personnel. The operators of the impoundment complete daily inspections of the facilities associated with the tailing impoundment.

A study will be completed in 2004 to evaluate life of mine tailing transportation alternatives, since the gravity feed line is nearing its useful life.

Arsenic, Antimony, Selenium and Lead concentrations were analyzed in the Tailing Storage Facility decant water and the seepage reclaim water in 2003. Diagrams of both TSF decant water and seepage water analysis for years 2001-2003 are illustrated in Attachment C.

The decant water results indicate that with the introduction of True North Ore into the mill tailings in 2001 there was a increase in arsenic, antimony, and selenium concentrations.

Antimony and arsenic concentrations in the decant water showed the largest changes. Selenium concentrations also increased with True North Ore processing but have been relatively stable thru 2003. Lead concentrations have generally been below detectable limits. Fluctuations in the arsenic and antimony concentrations are attributed to the type of True North Ore being processed.

The concentrations of arsenic, antimony, and selenium are well below acute exposure limits established for avian wildlife. The availability of numerous bodies of water in the TSF area minimizes the chronic risk of exposure of these elements to avian wildlife.

Decant water concentrations of arsenic, antimony and selenium are projected to decrease significantly once True North ore processing is complete.

Tailing Impoundment seepage water concentrations show little fluctuation in concentrations of arsenic and lead. Both lead and arsenic levels have been below detectable limits. Antimony and selenium increased in concentrations in response to processing of True North ore. The seepage water is pumped back into the tailing impoundment for reuse.

The interceptor well system continued to function as designed, maintaining a continuous cone of depression across the Fish Creek valley and assuring the tailing impoundment operates as a zero discharge facility. Chemical and physical rehabilitation of wells IW-3, IW-6, MW-1, and MW-3 were completed to remove mineral and biological fouling of the well screens in 2003.

#### 2.5 WATER SUPPLY RESERVOIR

The water level within the reservoir reached a level that accommodated flow through the spillway on May 10, 2002. Water continued to flow over the spillway through the end of 2002 and continued until March 26, 2003. No water flowed again in the spillway until April 23, 2003 and continued to flow thru the remainder of 2003. Water supply reservoir seepage flow day lighting below the seepage collection system in 2003 ranged from 1.06 to 1.82 cfs with a geometric mean of 1.33, well below maximum modeled seepage flows.

The water storage reservoir monitoring and sampling program continues as described in the Fort Knox Monitoring Plan. Piezometer readings are recorded quarterly. No enhanced monitoring due to earthquakes was required in 2003. Weekly water elevations and continuous pumping rates for the reservoir were recorded. Total gallons pumped for calendar year 2003 are reported in the water usage section of this report.

The Alaska Department of Natural Resources Division of Habitat and Permitting completed another year of studying populations and growth rates for the Arctic grayling and Burbot in the WSR. Some of their conclusions include: The WSR continues to provide habitat for Arctic grayling estimated at 6,503 fish in 2002. Further documented out migration of Arctic grayling continues with these fish having the potential to enter the Chena River fishery. Burbot populations are estimated at 1,103 (summer 2003). Wildlife use of the WSR and developed wetlands observed by Ott and Morris has increased since WSR construction and concurrent reclamation. Increased waterfowl and shorebird use has been seen in both the open water areas and in the wetlands. Birds of prey, primarily bald eagle use has increased possibly due to the presence of large concentrations of spawning Arctic grayling available in early spring during nesting. Horned grebes and Pacific loons are frequently observed. Mink and river otters use both the WSR and the stilling basin below the dam.

#### 2.7 <u>RECLAMATION</u>

In July of 2002 tailing test plots were established in an area covering approximately 2,800 square feet on the Barnes Creek waste dump. A grass seed mix, recommended by the Alaska Plant Materials Center (APMC) was applied at varying rates. Willow sprigs, 36 in all, were scattered randomly through out the plots.

The summer of 2002 showed some grass growth, though fairly sparse, with both the grass and willow sprigs suffering from periodic drought stress. The summer of 2003, however showed good grass establishment with approximately two thirds of the willows surviving the winter as well. Quantitative measurements were taken using the Transect Intercept Method: a one meter stick was laid in a representative area of each test plot and the number of grass blades in contact with the stick were counted. As expected, the highest rates of seed and fertilizer created the greatest grass density. Results are summarized in the graph below.



Grass growth was more responsive to fertilizer application than seeding rate. The micro-contours of the tailing surface also affected grass growth. Low areas in heavy equipment tracks where water collected during rain showers showed much higher grass growth than raised areas. This illustrates the importance of a roughened surface for grass establishment.

Further quantitative data from the tailing revegetation test plots will be collected in summer of 2004.

Concurrent reclamation activities continued with a total of 19 acres reclaimed at the Ryan Lode Mine during calendar year 2003. Table 4 summarizes the reclamation activities FGMI completed during calendar year 2003.

| Reclamation Activities Completed During 2005 |                         |       |                |
|--|-------------------------|-------|----------------|
| Area   | Activity                | Acres | Pounds of Seed |
| Ryan Lode EF Pad                             | Seeding and Fertilizing | 5     | 55             |
| Ryan Lode Borrow Site &                      | Seeding and Fertilizing | 14    | 154            |
| Safety Berms                                 |                         |       |                |
| Total  |                         | 19    | 209            |

TABLE 4Reclamation Activities Completed During 2003

The seed mix was comprised of 50% Arctared Red Fescue, 20% Tundra Glaucous Bluegrass, 20% Gruening Alpine Bluegrass, and 10% Tufted Hairgrass. The desired application rate for the seeding was 11 pounds per acre.

Although reclaimed areas at Fort Knox have not required additional growth media, Fort Knox Mine personnel continue to stockpile material and perform interim reclamation where practicable to maintain viability of the material as growth media. Table 5 contains the volumes of topsoil stockpiled at Fort Knox for future use as growth media.

| Fort Knox Growth Mec    | lia Stockpile Quantities |
|-------------------------|--------------------------|
| Stockpile Area          | Cubic Yards              |
| Yellow Pup Dump         | 302,100                  |
| TSF South Abutment      | 291,445                  |
| Pit Perimeter           | 68,778                   |
| Water Storage Reservoir | 1,749,719                |
| TSF North Abutment      | 3,186,440                |
| Total                   | 5,598,482                |

 TABLE 5

 Fort Knox Growth Media Stockpile Quantities

The current stockpiled material is adequate to cover the projected five-year disturbance of 2,418 acres (1,303 acres for the tailing impoundment, including the embankment and Fish Creek Dump, along with 1,115 acres for the remainder of the site) with 1.44 feet of topsoil.

True North Mine personnel continue to strip and stockpile topsoil material. Interim reclamation activities have been conducted where practicable to maintain viability of the material as growth media. Table 6 contains the volumes of topsoil stockpiled at True North for future use as growth media.

|                                    | Blockplic Qualities |
|------------------------------------|---------------------|
| Stockpile Area                     | Cubic Yards         |
| Shop Growth Media Stockpile        | 720,000             |
| Louis Creek Growth Media Stockpile | 25,000              |
| East Pit Growth Media Stockpile    | 53,000              |
| North Dump Growth Media Stockpile  | 145,000             |
| Shop Assorted Road Berms           | 51,000              |
| Shop Dump Berms                    | 163,000             |
| Zeppelin Dump Berms                | 122,000             |
| Total                              | 1,279,000           |

TABLE 6 True North Growth Media Stocknile Quantities

The current stockpiled material is adequate to cover 420 acres with 1.9 feet of growth media.

A map of the True North current disturbance has been included in the figures section of this report. The acres of disturbance are included in Table 7.

| tui bance |
|-----------|
| Acres     |
| 155       |
| 56        |
| 24        |
| 67        |
| 253       |
| 53        |
| 29        |
| 637       |
|           |

TABLE 7 **True North Acres of Disturbance** 

<sup>1</sup> The acres associated with the Zeppelin pit will not require topsoil during final reclamation.
 <sup>2</sup> The acres associated with the North Shepard pit will not require topsoil during reclamation.

 $^{3}$  50% of the acres associated with the Hindenburg pit are assumed to require topsoil.

<sup>4</sup> The East Pit will be partially backfilled and may require topsoil for the reclamation of the dump.

### 3.0 PROJECTED ACTIVITIES FOR FISCAL YEAR 2004

#### 3.1 KEY ISSUES AND PERMITTING ACTIVITES

Fort Knox will continue to optimize the crushing, milling, grinding, and gold recovery circuits to process Fort Knox and True North ores. The overall operation of these facilities will be consistent with those described in the *Project Description for the Fort Knox Mine* (updated December, 1995 and July 1997) and the revised True North Project Description, with the exception of the new thickener. Further optimization of the milling circuit to increase the overall efficiency while processing True North ore will be evaluated. The tailing impoundment raise planned for 2004 will be constructed within the limits of the current design and will not require permit modifications.

Permits scheduled for renewal in 2004 include the Fort Knox Reclamation Plan, the ADEC Solid Waste Disposal Permits for Tailing Disposal the Solid Waste Disposal Permit for Construction and Demolition Debris Landfills, the Dam Operation Certificates for the Tailing Storage Facility and the Water Storage Reservoir, and the Corps of Engineers 404 Permit for Fish Creek.

As part of the process to update the dam operating certificates FGMI will have a dam safety inspection conducted for both the water reservoir and tailing impoundment this summer. Also included in this project will be the updating of the Operation and Maintenance Manuals along with the Emergency Action Plan that will be submitted to DNR.

Updating of environmental management plans for the Fort Knox and True North Mine is ongoing. As personnel or facilities change, the appropriate plans are modified to reflect the new personnel and operating procedures. Affected environmental management plans and plans of operation will be updated as necessary. The right of way survey for the Twin Creek Haul road has been submitted to ADNR for review.

#### 3.2 <u>PUBLIC SAFETY, TWIN CREEK ROAD, AND ACCESS ROAD</u>

Public safety improvements on the Twin Creek road and Steese Highway overpass continue to be a top priority for FGMI. FGMI will continue to implement improvements that increase the safety for people using the road and overpass.

#### 3.3 <u>MINE OPERATIONS</u>

Table 8 contains the revised planned mining tons for calendar year 2004 at both the Fort Knox and True North Mines. Effective March 2004 mining operations at True North will be suspended for 3-7 months. The True North truck fleet is needed to move material for the tailing storage facility embankment raise scheduled for 2004. This schedule change will push final ore haulage from the True North Mine to the Fort Knox Mill into calendar year 2005.

| Planned Mining Tons for Calendar Year 2004 |            |           |            |            |
|--|------------|-----------|------------|------------|
|  | Ore        | Low Grade | Waste_     | Total      |
| Fort Knox                                  | 10,150,000 | 4,450,000 | 33,600,000 | 48,200,000 |
| True North                                 | 1,010,000  | 0         | 2,825,000  | 3,835,000  |

TARLE 8

A new Hitachi EX3600 shovel was put into service in 2003 along with four Unit Rig 200 ton haul trucks. This additional equipment will be operated in conjunction with the existing fleet.

Additional mine equipment will be added in 2004 both to replace existing equipment and to add additional mining capacity.

#### **3.4 MILL OPERATIONS**

Mill throughput for the calendar year 2004 is projected to be approximately 14,997,000 tons of ore. Approximately 93% of the ore feed will be from the Fort Knox Mine with the additional 7% being transported from the True North Mine. Low-grade ore will be used to supplement ore feed to the mill as needed.

#### **3.5 TAILING STORAGE FACILITY (TSF)**

Fort Knox mine personnel will haul material to the downstream random fill zone during 2004. Construction of the seal zone in the embankment is currently complete to the 1,428 elevation and will require an additional raise during the 2004 construction season.

For 2004 tailing deposition will continue to be in the main pond and Yellow Pup drainage. Tailing deposition is scheduled to occur in the Pearl Creek Drainage during 2005. Tailing deposition will focus on maximizing water recovery along with managing the operating pool within the impoundment to accommodate re-circulation of process water.

A new electronic well monitoring system has been installed and will be further refined in 2004, in the main seepage sump, six interceptor wells, three monitor wells and seven angle hole piezometers. Every two seconds, 24 hours a day, depth to water readings are transmitted to the mill DCS and daily maximum, minimum and average depth to water measurements will be available. This electronic monitoring system enables 24-hour, seven day a week monitoring of well operations.

Wells MW-1 and MW-3 will be utilized as needed to assure that a continuous cone of depression exists across the valley down gradient of the tailing impoundment.

#### 3.6 WATER SUPPLY RESERVOIR

Operation of the water supply reservoir will continue as described in the Plan of Operations. The Fish study being conducted by the Alaska Department of Natural Resources Division of Habitat Management & Permitting will continue with spring monitoring of population and growth rates along with water quality monitoring. Additional modifications to the reservoir and wetlands may be proposed if study results suggest that improved habitat or spawning areas can be developed.

#### 3.7 <u>PIPELINE SERVICE ROAD AND FRESH WATER SUPPLY LINE</u>

The pipeline service road and fresh water supply line will continue to function as described in the Plan of Operations, with no significant modifications planned for 2004.

#### 3.8 <u>RECLAMATION</u>

The reclamation plan for the Fort Knox Mine is currently being revised to reflect the next five years of operation. FGMI is addressing agency comments previously received along with issues raised in the third party audit. Additionally, FGMI is preparing a closure plan to address chemical stabilization and water treatment needs at closure of the Fort Knox Mine. Current bonding levels at Fort Knox will be maintained until the revised reclamation plan is approved. The ADNR reclamation bond is in the amount of \$2,153,539.00, the post reclamation and maintenance fund bond in the amount of \$734,536.00, and ADEC tailing storage facility bond in the amount of \$9,262,340.00. Reclamation at Fort Knox for 2004 will focus primarily on evaluating areas where vegetation has been slow to re-establish, borrow areas, and concurrent reclamation on the Fish Creek Dump provided the dump advances to the ultimate footprint with a lift above the ultimate tailing elevation.

Reclamation activities at the True North Mine will focus on reseeding areas along the Twin Creek Road where re-vegetation efforts require enhancement and establishing reclamation test plots. Stripping of topsoil will continue at True North in the areas of pit and dump advancement to assure adequate volumes of growth media exist for final site reclamation. Current bonds in place for the True North Mine include the reclamation bond in the amount of \$2,456,874.00 and the right-of-way bond in the amount of \$80,000.00.

### 4.0 MINE WATER USAGE FOR FISCAL YEAR 2003

Table 9 contains the water usage for the Fort Knox Mine for calendar year 2003. Water usage from the WSR was considerably lower than in previous years due to the unusually high amount of summer precipitation. The water usage for the tailing storage facility reflects the amount of surface water runoff into the impoundment only.

|                      | vater Usage Record for Calenda |                  |
|----------------------|--------------------------------|------------------|
| Appropriation Number | Location                       | Acre Feet Pumped |
| LAS 13986            | Water Supply Reservoir         | 406              |
| LAS 13987            | Interceptor Well Field         | 449              |
| LAS 13988            | Tailing Storage Facility       | 2,170            |
| LAS 21760            | Dewatering & Domestic Wells    | 838              |

TABLE 9Fort Knox Water Usage Record for Calendar Year 2003

The spreadsheet used to calculate the acre-feet pumped, including totalizer readings has been included in Attachment A. Water usage from the WSR for fiscal year 2004 is expected to be equivalent to the 2003 usage due to volume of water currently in the impoundment. Some pumping from the WSR to the tailing impoundment may occur in the fall of 2004.

No water was pumped from the well at True North. Temporary Water Use Authorization TWUP A2001-96 authorizes pumping of the water from the True North well. 4,321,370 gallons of water were pumped from Little Eldorado Creek. Temporary water use permit TWUP F2002-14 authorizes taking water from the surface water source.

### 5.0 TAILING STORAGE FACILITY CAPACITY EVALUATION

Sufficient capacity exists in the tailing impoundment to allow for operating pool, three feet of freeboard, storm event and snow melt capacity, and tailing storage through September of 2004 when an additional embankment raise will be completed. Construction of the random fill lifts on the embankment will be completed, as material and equipment are available. A comparison of design capacity verses actual tons milled shows that FGMI tailings are depositing at a density greater than the expected 75 pounds per cubic foot. The filling curve for the impoundment and a comparison to actual tons placed in the impoundment along with the capacity calculations through September 2004 have been included in Attachment B.

# FIGURES





RUE NORTH MINES

**FIGURE 2** 



## **ATTACHMENT A Fort Knox Mine Annual Water Usage**

## Fort Knox Mine Calendar Year 2003 Annual Water Usage

| Water Reservoir     |        |             |            |           |             |           |
|---------------------|--------|-------------|------------|-----------|-------------|-----------|
| Pumphouse (to mill) |        | Totalizer   | Gallons    | Acre Feet |             |           |
|                     | Dec-02 | 827,440,066 |            |           |             |           |
|                     | Jan-03 | 836,069,052 | 8,628,986  | 26.5      |             |           |
|                     | Feb-03 | 843,517,269 | 7,448,217  | 22.9      |             |           |
|                     | Mar-03 | 852,117,022 | 8,599,753  | 26.4      |             |           |
|                     | Apr-03 | 860,650,984 | 8,533,962  | 26.2      |             |           |
| 1                   | May-03 | 869,605,386 | 8,954,402  | 27.5      |             |           |
|                     | Jun-03 | 879,148,238 | 9,542,852  | 29.3      |             |           |
|                     | Jul-03 | 891,138,236 | 11,989,998 | 36.8      |             |           |
|                     | Aug-03 | 904,737,642 | 13,599,406 | 41.7      |             |           |
| 5                   | Sep-03 | 917,765,358 | 13,027,716 | 40.0      |             |           |
|                     | Oct-03 | 931,287,330 | 13,521,972 | 41.5      |             |           |
| 1                   | Nov-03 | 944,307,030 | 13,019,700 | 40.0      | Total       | Total     |
| 1                   | Dec-03 | 957,788,310 | 13,481,280 | 41.4      | Gallons     | Acre-Feet |
|                     |        |             |            |           | 130.348.244 | 400       |

| Water Reservoir             |             |         |           |           |      |
|-----------------------------|-------------|---------|-----------|-----------|------|
| Pumphouse (to tailing pond) | Totalizer   | Gallons | Acre Feet |           |      |
| Dec-02                      | 600,593,473 |         |           |           |      |
| Jan-03                      | 600,593,473 | 0       | 0.0       |           |      |
| Feb-03                      | 600,593,473 | 0       | 0.0       |           |      |
| Mar-03                      | 600,593,473 | 0       | 0.0       |           |      |
| Apr-03                      | 601,169,306 | 575,833 | 1.8       |           |      |
| May-03                      | 601,495,418 | 326,112 | 1.0       |           |      |
| Jun-03                      | 601,495,418 | 0       | 0.0       |           |      |
| Jul-03                      | 601,779,920 | 284,502 | 0.9       |           |      |
| Aug-03                      | 601,779,920 | 0       | 0.0       |           |      |
| Sep-03                      | 602,400,351 | 620,431 | 1.9       |           |      |
| Oct-03                      | 602,400,351 | 0       | 0.0       |           |      |
| Nov-03                      | 602,400,351 | 0       | 0.0       | Total     |      |
| Dec-03                      | 602,400,351 | 0       | 0.0       | Gallons   | Acre |
|                             |             |         |           | 1.806.878 |      |

| Interceptor Wells IW-1-6 |        | **IW-1 Totalizer | IW-1 Gallons | IW-2 Totalizer | IW-2 Gallons | IW-3 Totalizer | IW-3 Gallons | IW-4 Totalizer * | IW-4 Gallons | IW-5 Totalizer | IW-5 Gallons | IW-6 Totalizer | IW-6 Gallons |
|--------------------------|--------|------------------|--------------|----------------|--------------|----------------|--------------|------------------|--------------|----------------|--------------|----------------|--------------|
|                          | Dec-02 | 87,373,100       |              | 9,562,216      |              | 19,825,601     |              | 23,791,505       |              | 10,102,935     |              | 3,143,991      |              |
|                          | Jan-03 | 89,761,800       | 2,388,700    | 9,853,970      | 291,754      | 20,871,430     | 1,045,829    | 24,639,500       | 621,501      | 15,084,620     | 4,981,685    | 4,231,395      | 1,087,404    |
|                          | Feb-03 | 91,876,000       | 2,114,200    | 10,078,640     | 224,670      | 21,731,900     | 860,470      | 25,388,360       | 508,895      | 20,592,850     | 5,508,230    | 5,189,290      | 957,895      |
|                          | Mar-03 | 94,118,800       | 2,242,800    | 10,331,928     | 253,288      | 22,546,031     | 814,131      | 26,181,753       | 588,633      | 26,920,322     | 6,327,472    | 6,195,331      | 1,006,041    |
|                          | Apr-03 | 96,189,200       | 2,070,400    | 10,578,822     | 246,894      | 23,364,211     | 818,180      | 26,911,332       | 515,639      | 32,994,911     | 6,074,589    | 7,154,563      | 959,232      |
|                          | May-03 | 98,321,200       | 2,132,000    | 10,830,240     | 349,600      | 24,066,210     | 517,600      | 27,675,150       | 474,528      | 39,204,030     | 6,209,119    | 8,184,910      | 1,030,347    |
|                          | Jun-03 | 262,800          | 1,941,600    | 11,080,890     | 250,650      | 24,867,560     | 801,350      | 28,386,209       | 441,219      | 44,929,434     | 5,725,404    | 9,229,110      | 1,044,200    |
|                          | Jul-03 | 2,250,500        | 1,987,700    | 11,335,400     | 254,510      | 25,582,200     | 714,640      | 29,225,700       | 547,361      | 51,162,400     | 6,232,966    | 9,955,400      | 726,290      |
|                          | Aug-03 | 4,312,700        | 2,062,200    | 11,613,940     | 278,540      | 26,694,359     | 1,112,159    | 30,117,064       | 547,153      | 57,379,717     | 6,217,317    | 10,929,693     | 974,293      |
|                          | Sep-03 | 6,114,600        | 1,801,900    | 11,858,801     | 244,861      | 27,356,461     | 662,102      | 31,029,406       | 605,779      | 63,016,883     | 5,637,166    | 11,833,401     | 903,708      |
|                          | Oct-03 | 8,051,600        | 1,937,000    | 12,135,440     | 276,639      | 28,160,720     | 804,259      | 31,997,540       | 611,014      | 69,243,310     | 6,226,427    | 13,366,200     | 1,532,799    |
|                          | Nov-03 | 10,159,800       | 2,108,200    | 12,348,800     | 213,360      | 28,834,900     | 674,180      | 32,733,500       | 390,360      | 75,207,100     | 5,963,790    | 14,824,400     | 1,458,200    |
|                          | Dec-03 | 12,537,000       | 2,377,200    | 12,653,225     | 304,425      | 29,502,500     | 667,600      | 33,795,360       | 704,740      | 81,419,270     | 6,212,170    | 16,350,910     | 1,526,510    |
| 1                        | otal   |                  | 25,163,900   |                | 3,189,191    |                | 9,492,500    |                  | 6,556,822    |                | 71,316,335   |                | 13,206,919   |

\* IW-4 gallons pumped adjusted for water from MW-3 pumped through the IW-4 totalizer. \*\* IW-1 Totalizer rolled over in June

| Maxian Malla MM 4.2  |  | MINI & Tetelines   | MM 4 College   | MMA O Totolinon   | MMA 0 College                     | MMALO Tetelines                     | MMA 2 Collors   |                                  |               |
|----------------------|--|--|--|---|-----------------------------------|-------------------------------------|---|----------------------------------|---------------|
| Monitor Wells MW-1-3 | D 00   |  | WW-1 Gallons   | WW-2 Totalizer  | WW-2 Gallons                      | WW-3 Totalizer                      | WW-3 Gallons  |                                  |               |
|                      | Dec-02   | 73,024,700   | 045 000  | 5,952,110   |                                   | 4,823,181                           | 000.404   |                                  |               |
|                      | Jan-03   | 73,840,300   | 815,600  | 5,952,110   | 0                                 | 5,049,675                           | 226,494   |                                  |               |
|                      | Feb-03   | 74,815,800   | 975,500  | 5,952,110   | 0                                 | 5,289,640                           | 239,965   |                                  |               |
|                      | Mar-03   | 76,378,100   | 1,562,300  | 5,952,110   | 0                                 | 5,494,400                           | 204,760   |                                  |               |
|                      | Apr-03   | 77,389,200   | 1,011,100  | 5,952,110   | 0                                 | 5,708,340                           | 213,940   |                                  |               |
|                      | May-03   | 79,140,500   | 1,751,300  | 5,952,110   | 0                                 | 5,997,630                           | 289,290   |                                  |               |
|                      | Jun-03   | 80,654,300   | 1,513,800  | 5,952,110   | 0                                 | 6,267,470                           | 269,840   |                                  |               |
|                      | Jul-03   | 82,209,900   | 1,555,600  | 5,952,110   | 0                                 | 6,559,600                           | 292,130   |                                  |               |
|                      | Aug-03   | 83,545,700   | 1,335,800  | 5,952,110   | 0                                 | 6,903,811                           | 344,211   |                                  |               |
|                      | Sep-03   | 84,519,200   | 973,500  | 5,952,110   | 0                                 | 7,210,374                           | 306,563   |                                  |               |
|                      | Oct-03   | 6,313,620  | 627,050  | 5,952,110   | 0                                 | 7,567,494                           | 357,120   |                                  |               |
|                      | Nov-03   | 7,223,300  | 909,680  | 5,952,110   | 0                                 | 7,913,094                           | 345,600   | Total                            | Acre-Feet     |
|                      | Dec-03   | 8,105,230  | 881,930  | 5,952,110   | 0                                 | 8,270,214                           | 357,120   | Gallons                          | Monitor Wells |
|                      | Total  |  | 13,913,160   |   | 0                                 |                                     | 3,447,033   | 17,360,193                       | 53            |
|                      |  |  |  |   |                                   |                                     |   |                                  |               |
| Barge to Mill        |  | Totalizer  | Gallons  | Acre-Feet   |                                   | _                                   | Surface Water   |                                  |               |
|                      | Dec-02   | 1,640,460,000  |  |   |                                   |                                     |   |                                  |               |
|                      | Jan-03   | 2 052 776 000  | 412 316 000  | 4 005 4   |                                   |                                     |   |                                  |               |
|                      |  | 2,002,110,000  | 412,510,000  | 1,205.4   |                                   |                                     | 36.0  |                                  |               |
|                      | Feb-03   | 2,421,253,000  | 368,477,000  | 1,205.4   |                                   |                                     | 36.0<br>101.1   |                                  |               |
|                      | Feb-03<br>Mar-03   | 2,421,253,000<br>2,844,550,000   | 368,477,000<br>423,297,000   | 1,205.4<br>1,130.8<br>1,299.1   |                                   |                                     | 36.0<br>101.1<br>12.5   |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03   | 2,421,253,000<br>2,844,550,000<br>3,264,800,000  | 368,477,000<br>423,297,000<br>420,250,000  | 1,205.4<br>1,130.8<br>1,299.1<br>1,289.7  |                                   |                                     | 36.0<br>101.1<br>12.5<br>1.0  |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>May-03   | 2,421,253,000<br>2,844,550,000<br>3,264,800,000<br>3,691,040,000   | 368,477,000<br>423,297,000<br>420,250,000<br>426,240,000   | 1,203.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,308.1   |                                   |                                     | 36.0<br>101.1<br>12.5<br>1.0<br>27.8  |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>May-03<br>Jun-03   | 2,421,253,000<br>2,844,550,000<br>3,264,800,000<br>3,691,040,000<br>4,104,550,000  | 368,477,000<br>423,297,000<br>420,250,000<br>426,240,000<br>413,510,000  | 1,203.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,308.1<br>1,269.0  |                                   |                                     | 36.0<br>101.1<br>12.5<br>1.0<br>27.8<br>112.3   |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>May-03<br>Jun-03<br>Jul-03   | 2,421,253,000<br>2,844,550,000<br>3,264,800,000<br>3,691,040,000<br>4,104,550,000<br>4,521,702,000   | 368,477,000<br>423,297,000<br>420,250,000<br>426,240,000<br>413,510,000<br>417,152,000   | 1,205.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,308.1<br>1,269.0<br>1,280.2   |                                   |                                     | 36.0<br>101.1<br>12.5<br>1.0<br>27.8<br>112.3<br>727.1  |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>May-03<br>Jun-03<br>Jul-03<br>Auq-03                               | 2,421,253,000<br>2,844,550,000<br>3,264,800,000<br>3,691,040,000<br>4,104,550,000<br>4,521,702,000<br>4,961,600,000  | 42,510,000<br>368,477,000<br>423,297,000<br>420,250,000<br>426,240,000<br>413,510,000<br>417,152,000<br>439,898,000  | 1,295.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,308.1<br>1,269.0<br>1,280.2<br>1,350.0  |                                   |                                     | 36.0<br>101.1<br>12.5<br>1.0<br>27.8<br>112.3<br>727.1<br>342.3                                     |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>Jun-03<br>Jul-03<br>Aug-03<br>Sep-03                               | 2,421,253,000<br>2,844,550,000<br>3,264,800,000<br>3,691,040,000<br>4,104,550,000<br>4,521,702,000<br>4,961,600,000<br>5,382,060,000                                   | 42,510,000<br>368,477,000<br>423,297,000<br>420,250,000<br>426,240,000<br>413,510,000<br>417,152,000<br>439,898,000<br>420,460,000                               | 1,205.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,308.1<br>1,269.0<br>1,280.2<br>1,350.0<br>1,290.3   |                                   |                                     | 36.0<br>101.1<br>12.5<br>1.0<br>27.8<br>112.3<br>727.1<br>342.3<br>258.1                            |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>Jun-03<br>Jul-03<br>Aug-03<br>Sep-03<br>Oct-03                     | 2,421,253,000<br>2,844,550,000<br>3,691,040,000<br>4,104,550,000<br>4,521,702,000<br>4,521,702,000<br>5,382,060,000<br>5,787,165,000                                   | 412,510,500<br>368,477,000<br>420,250,000<br>426,240,000<br>413,510,000<br>417,152,000<br>439,898,000<br>420,460,000<br>405,105,000                              | 1,203.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,269.0<br>1,280.2<br>1,350.0<br>1,290.3<br>1,243.2   |                                   |                                     | 36.0<br>101.1<br>12.5<br>1.0<br>27.8<br>112.3<br>727.1<br>342.3<br>258.1<br>138.0                   |                                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>Jun-03<br>Jul-03<br>Aug-03<br>Sep-03<br>Oct-03<br>Nov-03           | 2,421,253,000<br>2,844,550,000<br>3,264,800,000<br>4,104,550,000<br>4,104,550,000<br>4,521,702,000<br>4,961,600,000<br>5,787,165,000<br>6,185,391,000                  | 421,216,000<br>423,297,000<br>420,250,000<br>420,250,000<br>413,510,000<br>417,152,000<br>439,898,000<br>420,460,000<br>405,105,000<br>388,226,000               | 1,203.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,308.1<br>1,269.0<br>1,280.2<br>1,350.0<br>1,290.3<br>1,243.2<br>1,222.1                       | Total Gallons                     | Total Acre-Feet                     | 36.0<br>101.1<br>12.5<br>1.0<br>27.8<br>112.3<br>727.1<br>342.3<br>258.1<br>138.0<br>270.2          | Total Acre-Feet                  |               |
|                      | Feb-03<br>Mar-03<br>Apr-03<br>Jun-03<br>Jul-03<br>Aug-03<br>Sep-03<br>Oct-03<br>Nov-03<br>Dec-03 | 2,421,253,000<br>2,844,550,000<br>3,264,800,000<br>3,691,040,000<br>4,104,550,000<br>4,961,600,000<br>5,382,060,000<br>5,382,060,000<br>5,387,165,000<br>6,635,570,000 | 42,247,000<br>423,297,000<br>420,250,000<br>426,240,000<br>413,510,000<br>417,152,000<br>439,898,000<br>420,460,000<br>405,105,000<br>388,226,000<br>450,179,000 | 1,253.4<br>1,130.8<br>1,299.1<br>1,289.7<br>1,269.0<br>1,280.2<br>1,260.0<br>1,280.2<br>1,250.0<br>1,290.3<br>1,243.2<br>1,222.1<br>1,381.6 | Total Gallons<br>Recvcled to Mill | Total Acre-Feet<br>Recycled to Mill | 36.0<br>101.1<br>12.5<br>1.0<br>27.8<br>112.3<br>727.1<br>342.3<br>258.1<br>138.0<br>270.2<br>143.2 | Total Acre-Feet<br>Surface Water |               |

| Mine Dewatering |        | Gallons Acre | e-Feet |                 |                 |
|-----------------|--------|--------------|--------|-----------------|-----------------|
|                 | Jan-03 | 24,911,061   | 76.4   |                 |                 |
|                 | Feb-03 | 21,145,596   | 64.9   |                 |                 |
|                 | Mar-03 | 21,989,189   | 67.5   |                 |                 |
|                 | Apr-03 | 21,293,391   | 65.3   |                 |                 |
|                 | May-03 | 21,010,138   | 64.5   |                 |                 |
|                 | Jun-03 | 19,706,576   | 60.5   |                 |                 |
|                 | Jul-03 | 18,574,824   | 57.0   |                 |                 |
|                 | Aug-03 | 20,406,174   | 62.6   |                 |                 |
|                 | Sep-03 | 25,761,727   | 79.1   |                 |                 |
|                 | Oct-03 | 27,472,338   | 84.3   |                 |                 |
|                 | Nov-03 | 24,374,040   | 74.8   | Total Gallons   | Total Acre-Feet |
|                 | Dec-03 | 26,297,870   | 80.7   | Mine Dewatering | Mine Dewatering |
|                 |        |              |        | 272,942,924     | 837.6           |





# ATTACHMENT B Tailing Impoundment Filling Curve and Capacity Evaluation



| TAILING CAPACITY                       | Elevation | Volume        | Conversions:                                 |
|--|-----------|---------------|--|
|  | Feet      | AC/FT         | 43,560 Cu-Ft = 1 Acre-Ft                     |
| Constructed Elevation                  | 1,428     | 92,172        | 2 KP Filling Curve GPM * 1.6118 = AC-FT      |
| Elevation 12/31/03                     | 1,405     | <u>73,959</u> | KP Filling Curve448.8 GPM = 1 CFS            |
| Available Storage Volume               | 23        | 18,213        |  |
| Permit Requirements                    |           | Volume        |  |
|  |           | AC/FT         |  |
| 100-year/24-hour Event                 |           | 380           | Hydrograph Summary (Upper Barnes + Fish Crk) |
| Average Snow Melt                      |           | 670           | Hydrograph Summary (Upper Barnes + Fish Crk) |
| 3-Feet Freeboard                       |           | 2,000         | <u>)</u> Filling Curve                       |
|  |           | 3,050         |  |
| Usable Volume 12/31/03                 |           | 15,163        |  |
| Fill Volume                            | Month     | 9 Months      |  |
| 42,000 TPD for 9 months; 50% solids    | AC/FT     | AC/FT         |  |
| Tailing Solids                         | 782       | 7,038         |  |
| Interstitial Water                     | 557       | 5,013         | Interstitial water at 142 gallons per ton    |
|  |           | 12,051        |  |
| Usable Volume 9/1/04 (with out runoff) |           | 3,112         |  |

| Water Source (Inflows)         | DRY          | DRY          |             | AVERAGE      |       |       |
|--------------------------------|--------------|--------------|-------------|--------------|-------|-------|
|                                | AC/FT        | AC/FT        | AC/FT       | AC/FT        | AC/FT | AC/FT |
|                                | Month        | Year         | Month       | Year         | Month | Year  |
| Ore 5% Moisture                | 45           | 540          | 45          | 540          | 45    | 540   |
| Fresh Water @ 225gpm           | 30           | 360          | 30          | 360          | 30    | 360   |
| Mine Dewatering @ 650 gpm      | 87           | 1,044        | 87          | 1,044        | 87    | 1,044 |
| Average Annual Flow (Run-off)* | 111          | 1,332        | 237         | 2,844        | 437   | 5,244 |
| Total                          | -            | 3,276        |             | 4,788        | -     | 7,188 |
|                                | *Hydrograph  | Summary (U   | Ipper Barne | s + Fish Cre | ek)   |       |
|                                | Average Con  | ditions:     |             |              |       |       |
|                                | Annual Requi | irement:     |             | 5,013        |       |       |
|                                | Estimated An | nual Runoff: |             | 4,788        |       |       |
|                                | Additional R | equirement:  |             | 225          |       |       |

#### Water Transfer Estimate Fresh Water to Tailing Reservoir December 03 to Sep 04 (9 months)

|  | <u>AC/FT</u>                                   |
|--|--|
| Water In Tailing Pool 12/31/03                                   | 3,200  |
| Required Residual Water Pool                                     | (800) (Estimate of Pool Requirement for Barge) |
| Water From Ore (Dec 03-Sep 04)                                   | 405  |
| Fresh WaterTo Mill (Dec 03-Sep 04)                               | 270  |
| Mine Dewatering (Dec 03-Sep 04)                                  | 783  |
| Surface Water Runoff   | 2,133 (Average Runoff for 9 months)            |
| Total Water in Tailing Pool 9/04:                                | 5,991  |
| Water Required (557 AC/FT per Month)<br>Dec. 03 to Sep. 04)      | 5,013 (Interstitial)                           |
| Water To Transfer From Water Res.<br>Winter/Spring 2003 and 2004 | (978) AcFt                                     |

## ATTACHMENT C Tailing Impoundment Seepage and Decant Water Arsenic, Antimony, Selenium, and Lead Concentration Diagrams





FAIRBANKS GOLD MINING, INC. Arsenic, Antimony, Selenium, and Lead Concentrations in Decant Water

