



Fort Knox

**ANNUAL ACTIVITY REPORT
for
REPORTING YEAR 2018**



February 2019

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1. INTRODUCTION

Fairbanks Gold Mining, Inc. (FGMI), a wholly owned subsidiary of Kinross Gold Corporation, has prepared this annual report to comply with the conditions described in Section 11.b. of the Amended and Restated Millsite Lease ADL Nos. 414960 and 414961 and the ADEC Waste Management Permit 2014DB0002 Modification #2 for the Fort Knox Mine.

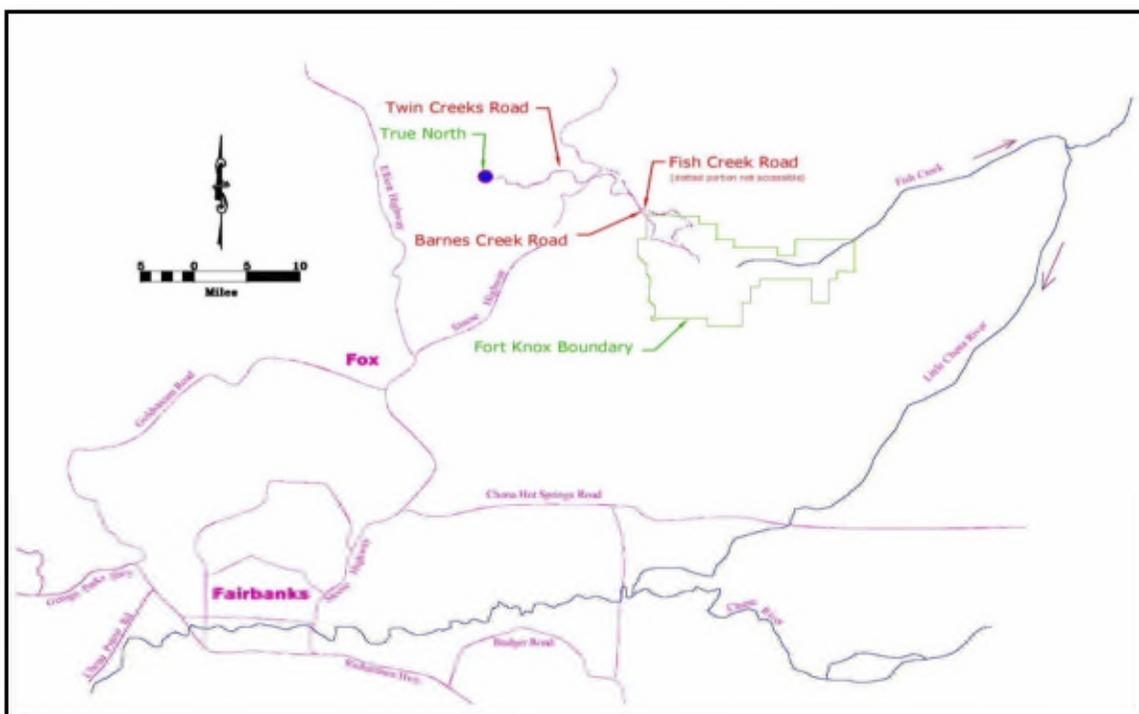
The Kinross Fort Knox mine includes the open pit mine, mill, tailings storage facility, water storage reservoir and the Walter Creek Heap Leach facility. Major reclamation activities at the True North Mine were completed in 2012. Post-closure monitoring and maintenance activities continue at True North. These facilities are located within the Fairbanks North Star Borough, approximately 25 highway miles northeast of Fairbanks, Alaska (Figure 1).



The milling and mining operations at Fort Knox continue to operate 24 hours a day, 365 days a year. As of the end of 2018, FGMI employed 613 people. Fort Knox produced 255,569 gold equivalent ounces in 2018.

This report describes the permitting, mining, milling, heap leach and reclamation activities during calendar year 2018 and planned activities for 2019.

Figure 1. Facility Locations



2. SUMMARY OF ACTIVITIES

In 2018, Fort Knox had a range of activities underway in the areas of production, construction, and permitting. In summary, these activities included:

- Completed construction of Stages 8, 9, and 10 of the Walter Creek Heap Leach Facility;
- Began construction of the Barnes Creek Heap Leach Facility;
- Completed 3rd party audit specified by the Waste Management Permit 2014DB002 Modification #2;
- Phase 9 pit expansion minor modification approval;
- Phase 10 pit expansion approval;
- Onsite land farming continued at the Yellow Pup Waste Rock Dump for the 2013 Fuel Island decommissioning material from 2015;
- Mining of Phases 7 & 8 ore continued with the start of the East Wall portion of Phase 8;
- Construction of the relocated powder magazine facility;
- Received approval for partial realignment of RST644 and RST 1931 associated with 709-acre Parcel G property;
- Constructed partial realignment trail of RST644 and RST1931;
- Received approval for reroute of the Power Line Trail;
- Received approval for the Fish Creek East Waste Rock Dump;
- Received approval for the expansion of the Barnes Creek Waste Rock Dump;
- Received approval for the expansion of the Yellow Pup Waste Rock Dump;
- Received approval for the In-Pit Waste Rock Dump;
- Received partial approval and began construction of the TSF Phase 1 Causeway
- Walter Creek Heap Leach maximum allowable leaching rate approval from 16,000 gpm, 20,000 gpm, and;
- True North reclamation completed in August 2012 and is under post-closure monitoring.



In 2019, the major activities planned include:

- Continue mining of Phases 7 & 8 including the East Wall portion of Phase 8;
- Continue construction of the Barnes Creek Heap Leach Facility;
- Begin layback mining activities of the Phase 9 pit expansion;
- Obtain full approval and complete construction of the TSF Phase 1 Causeway;
- Relocation of the access road and pipeline associated with the TSF Phase 1 Causeway construction;
- Placement of additional fill and well extension of the Walter Creek Heap Leach interface well area associated with the TSF Phase 1 Causeway construction;
- Relocation of the first reverse osmosis wastewater treatment system;
- Obtain approval and construction for a third reverse osmosis wastewater treatment system;
- Obtain approval for relocation of the 2015 fuel island and its construction;
- Submit Reclamation and Closure Plan renewal application and obtain its approval;
- Submit Plan of Operations renewal application and obtain its approval;
- Submit Waste Management Permit renewal application and obtain its approval, and;

- Obtain approval for including the 709-acre parcel G to the mine lease.

3. PERMITTING ACTIVITIES

The following is a list of the approved plans and permits issued to FGMI in 2018:

- In January, ADNR issued approval of the Phase 9 pit expansion;
- In January, ADNR issued approval to expand the Fish Creek Waste Rock Dump;
- In January, ADNR issued approval to expand the Barnes Creek Waste Rock Dump;
- In January, ADNR issued approval to expand the Yellow Pup Waste Rock Dump;
- In January, ADNR issued approval for the In-Pit Waste Rock Dump;
- In January, ADNR issued approval of the Reclamation and Closure Plan Amendment 2;
- In April, ADNR issued seasonal burning permit F96283;
- In April, ADEC issued APDES Permit AK0053643 renewal, effective June 1, 2018;
- In May, Alaska Department of Revenue issued the annual Mining License;
- In May, Bureau of Alcohol, Tobacco, Firearms, and Explosives issued Federal explosive license/permit;
- In May, Department of Revenue issued Mining License 100051;
- In May, Department of Revenue issued Melba Creek Mining License 99110
- In June, ANDR issued Administrative Reroute of RST644 and RST1931;
- In June, ADEC issued Waste Management Permit Modification #2;
- In June, ADNR issued approval for additional 10.57 acres to the Phase 9 pit expansion;
- In September, ANDR issued Certificate to Operate the TSF Dam (AK00212);
- In September, ADNR issued Certificate to Modify the TSF Dam (AK00212) for the construction of Phase 1 Causeway;
- In October, Department of Labor issued Business License BL1011245;
- In November, Corps of Engineers issued wetlands fill permit of 0.097-acre associated with the Phase 10 pit expansion;
- In November, ADNR issued Certificate to Modify the TSF Dam (AK00212) for construction of the Fish Creek East Waste Rock Dump;
- In December, ADNR issued Certificate to Operate the Walter Creek Heap Leach Dam (AK00310);
- In December, ADNR issued approval for land disturbance of 63.5 acres associated with the TSF Phase 1 Causeway, and;
- In December, ANDR issued approval for the Phase 10 pit expansion.

The following is a list of the planned permitting activities for FGMI in 2019:

- Reclamation and Closure Plan renewal application and obtain its approval;
- Plan of Operations renewal application and obtain its approval;
- Waste Management Permit renewal application and obtain its approval;
- Obtain approval for a third reverse osmosis wastewater treatment system;
- Obtain approval for relocation of the 2015 fuel island, and;
- Obtain approval for relocation of the first reverse osmosis wastewater treatment system.

4. LAND STATUS

The Fort Knox Mine and facilities encompass approximately 8,691 acres, of which there are no federal lands. The project area includes the Amended and Restated Millsite Lease (ADL 414960, 414961), The Fort Knox Upland Mining Lease, entered into with the Alaska Mental Health Trust Land Authority (ADL 535408), State of Alaska Upland Mining Lease (ADL 233238), and private lands. The Amended and Restated Millsite Lease contains approximately 6,525 acres of State of Alaska land.

5. SAFETY

PEOPLE

Putting people first is a Kinross core value, supporting a belief that we must never, under any circumstances, compromise on safety. Health and Safety is our number one priority – among employees, contractors, suppliers and the communities in which we operate. Kinross is committed to applying industry standards, best management practices, responsible science and meeting regulatory requirements.



The Kinross Fort Knox mine is subject to all the Kinross corporate and Kinross Fort Knox health and safety policies. These policies commit Kinross employees and contractors to be accountable for safe project execution, commissioning and eventual operation. The policies are designed to prevent harm to people, processes and property and provide the minimum standard to which the project will be executed.

Since early infrastructure work was completed twenty years ago, all major health and safety procedures have been developed, are in practice and have matured to the world class safety culture we have today.

As the mine is advanced, the risk profile and appropriate mitigation plans are continually developed to a higher level of detail and, in many cases, implemented in the same detail as other projects of the past. Hazard identification and risk assessments are undertaken at all of our projects milestones to ensure that risks are managed at the earliest possible stage.

In 2018, Kinross Fort Knox had the best safety performance ever recorded. Some of the milestones achieved were the administrative group going two million person-hours without a reportable event. Additionally, mine operations, ore processing groups, administration, and mobile equipment maintenance department went a full year without having a reportable event.



All employees within the Fort Knox Team; whether Exempt or Non-Exempt, are a part of the safety culture. Behavioral based safety programs such as SOS (See It, Own It, Solve It) and employee direct engagements using the DuPont STOP audit process allows us to be aware of our own safe behavior along with our coworkers. Fort Knox's own internal Living Our Values Awards (Gold Pan Awards) during the Holiday Season helps us remember our core values while also recognizing outstanding employees. A few other safety programs used mine wide include Field Level Risk Assessment (FLRA), Job Hazard Analysis (JHA) and Permit to Work (PTW). PTW programs include confined space entry, hot work, working at heights, trenching and excavation, and ground penetration. Additionally, as a corporation, the Kinross mines have implemented RISKMaps Critical Risk Management Program in 2018.

INTERNATIONAL CYANIDE MANAGEMENT CODE

Kinross Fort Knox is a signatory company of the International Cyanide Management Code for the Manufacture, Transport, and Use of Cyanide in the Production of Gold (Code). The Code's development occurred in the early 2000s and implemented in 2005 for safe and responsible management of cyanide by an international multi-stakeholder committee under the auspices of the United Nations Environment Program (UNEP) and is administered by the International Cyanide Management Institute (ICMI). As a signatory company, Fort Knox is required to meet the Code's Principles and Standards of Practice criteria, which is verified by strict independent third-party auditing. Fort Knox achieved Code certification in February 2008, received recertification in September 2011, February 2015, and most recently August 2018. Fort Knox certification summary audit reports may be found at <http://www.cyanidecode.org>.

MINE ACCESS

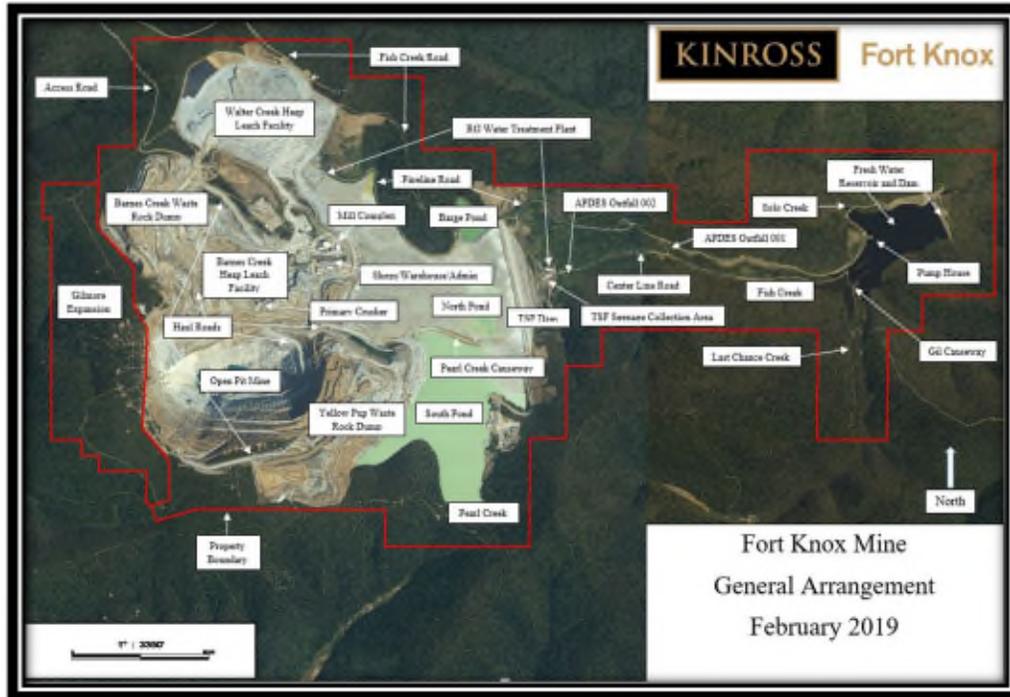


FGMI continues to maintain the mine access roads from the Steese Highway to Fort Knox and True North (Figure 1). The road surface is graded to insure a smooth running surface and proper drainage. During the winter months, the Fort Knox road is kept free of snow and is sanded as necessary to maintain safe operating conditions. The True North road is plowed for snow as needed during the winter months since access to the site is not routinely required. In the summer months, FGMI uses calcium chloride and water for dust

suppressants on the Fort Knox access and mine-site roads (Figure 2). These measures have limited the amount of fugitive dust on these roads.

FGMI Security continues to patrol the mine site and access roads to ensure the safety of our employees, contractors, guests, and the public. Access is limited based on need and function. Safety training is tailored in a similar manner.

Figure 2. Local Roads and Mine Facilities



Recreational Trails

During the initial Millsite Lease application process a series of public meetings were held to identify trail systems that would potentially be affected by mining activities. In 2011, Fort Knox initiated meetings with ADNR Trails and Easement Section to start the process of rerouting trails for future use. Meetings with ADNR continued in 2013. A formal application was submitted to the Trails and Easement Section with an alternate route in 2013. As part of this process, a public notice and comment period occurred in 2014. In 2015, ADNR executed the entry authorization for the approved Administrative Reroute of RST 644 Cleary Summit to Gilmore Dome Trail.

In 2018, FGMI submitted an Application to Relocate Portions of RST644 and RST1931 trails to ADNR, Land. ADNR approved the application and construction was completed (Figure 3).

Figure 3. RSTs 644 and 1931 Partial Relocations



6. MINE OPERATIONS

PIT PRODUCTION

In 2018, FGMI mined 71.8 million tons of ore and waste from the Fort Knox pit with an average production rate of 196.9 thousand tons per day (Table 1).

Table 1. Fort Knox Annual Mining Rates

Year	Mill Ore (Million Tons)	Transition Grade Ore (Million Tons)	Leach Grade Ore (Million Tons)	Waste (Million Tons)	Total (Million Tons)
1996	.96	.36	0	15.36	16.68
1997	12.57	4.88	0	14.93	32.38
1998	13.83	5.27	0	14.19	33.29
1999	14.10	4.09	0	12.16	30.35
2000	15.51	2.20	0	17.89	35.60
2001	12.09	1.24	0	12.62	25.95
2002	11.73	.86	0	12.00	24.59
2003	11.08	2.09	0	17.43	30.60
2004	10.80	6.80	0	24.09	41.69
2005	13.23	5.86	0	44.16	63.25
2006	12.39	3.68	0	35.00	51.07
2007	11.71	10.31	0	23.92	45.94
2008	12.78	3.82	13.3	16.40	46.30
2009	11.96	4.11	12.70	20.03	48.80
2010	11.95	1.35	8.52	20.59	42.41
2011	3.96	.13	4.76	25.70	34.55
2012	10.42	3.19	14.98	34.53	63.12
2013	9.38	4.88	9.59	39.43	63.28
2014	6.83	4.94	4.64	32.83	49.24
2015	10.94	3.35	10.80	35.77	60.86
2016	10.93	7.38	16.69	30.24	65.24
2017	8.95	4.77	15.33	31.40	60.45
2018	5.89	5.76	15.51	44.69	71.85
Total	243.99	91.32	126.82	575.36	1,037.49

Mining operations continue 24-hours a day, 365-days per year at the Fort Knox mine. Ore and waste are mined using standard drilling and blasting techniques with shovel and haul truck fleets to move the material. Blast holes are sampled and assayed for production grade control purposes and material is hauled to the rock dumps, primary crusher, heap leach, or low-grade stockpiles depending on grade.

In 2015, mining within the Fort Knox open pit occurred in Phase 7 and Phase 8 (Figure 4). Phase 7 stripping commenced in the 4th quarter of 2008. Stripping for phase 7 continued into 2012 before sustained ore was achieved. Phase 7 is now incorporated into Phases 8, 9, and 10 mining areas.

Mining activities continued in 2017 for the final pit layback area known as Phase 8. This phase of the pit delivered ore to the mill and the leach pad beginning in 2015 and will continue until mining activities end in 2021.

Mining in Phase 9 is anticipated to commence in the second half of 2019. Ore from this phase is expected to be delivered to the mill and heap leach pad from the first bench and will continue until the phase is mined out in 2024.

Phase 10 mining is anticipated to commence in late 2021 and will continue until mining activities end in 2027.

Figure 4: Fort Knox Pit Phases



DEWATERING

As of the end of 2018, the dewatering system is comprised of 38 pit dewatering wells and three Fish Creek wells (located north and out of the pit in the Barnes Creek/Fish Creek drainage). Through the course of 2018, nine new wells were added; two on the east wall (DW18-464 and DW18-474), one on the north wall (DW18-453), five in Gilmore on the west wall (DW18-471, 463, 477, 457, and 476), and one in the pit bottom (DW18-475).

The average pumping rate from the dewatering system in 2018 was 2,743 gpm, which was 31% higher than 2017. Approximately 70% of dewatering flow was pumped to the tailings impoundment. Approximately 12% was pumped directly from the Fish Creek wells to the Mill. Approximately 18% was discharged to the freshwater reservoir. Total Fish Creek production for the year was 957,034,000 gallons. Pit production was 484,671,000 gallons. Fish Creek flow to the Mill was 165,303,000 gallons.

Select piezometers are monitored weekly for changes in water levels and all piezometers are monitored quarterly.



Since the Tailings Storage Facility (TSF) design did not have capacity to contain all water until the end of mine life, an Alaska Pollutant Discharge Elimination System (APDES) permit application was submitted to the Alaska Department of Environmental Conservation (ADEC), Division of Water in early 2012. ADEC granted FGMI an APDES permit in August 2012 and effective October 2012 to discharge non-process and non-contact groundwater extracted from pit dewatering wells into the Old Fish Creek Channel (Outfall 001) from which it flows to the

freshwater reservoir. Since receiving the APDES permit and until March 3, 2015, there was no discharge of dewatering well water. Discharge of dewatering well groundwater that did not require treatment began on March 4, 2015. The APDES permit was reissued by the ADEC on April 30, 2018, became effective June 1, 2018, and expires on May 31, 2023. The reissued permit authorizes discharge to two outfalls (Outfall 001 and Outfall 002).

On June 24, 2016, the reverse osmosis water treatment system for the dewatering well groundwater that requires treatment before discharge to Outfall 001 became operational. Discharge monitoring at Outfall 001 demonstrated compliance with all permit effluent limits throughout 2018.

The second reverse osmosis water treatment system for the TSF seepage and intercept water was constructed in and underwent commissioning activities in 2018. No discharge from this system to Outfall 002 occurred throughout 2018.

The total dewatering well groundwater (treated and non-treated) discharged to Outfall 001 was 806 acre feet in 2018.

7. MILL OPERATIONS

Mill feed is first crushed to minus 6 inches in the primary gyratory crusher located near the Fort Knox pit and then conveyed to a coarse-ore stockpile located near the mill. The crushed material is conveyed to a semi-autogenous (SAG) mill. The SAG mill operates in open circuit and feeds two ball mills. The ball mills operate in closed circuit through cyclone packs. The cyclone packs regulate the size of material that is allowed to move beyond the grinding circuit. A gravity gold recovery circuit operates in conjunction with the grinding circuit. It consists of three Knelson concentrators.

Correctly sized material flows into a high rate thickener and then into leach tanks where cyanide is used to dissolve the gold. Activated carbon is used in the carbon-in-pulp circuit to absorb the gold from the cyanide solution. Carbon particles loaded with gold are removed from the slurry by

carbon screens and are transferred to the gold recovery circuit. In this circuit, the gold is stripped from the carbon using a strong alkaline cyanide solution in conjunction with high temperature and high pressure. The gold is recovered from this solution by electro-winning, where it is plated onto a cathode. The gold is removed from the cathode mechanically and melted into doré bars for shipment to an offsite refinery for final processing.

Some hard ore of a critical size is rejected from the SAG mill in order to increase throughput. This material is crushed and stockpiled for use on the Walter Creek Heap Leach Facility. Mill tailings are discharged into the TSF below the mill. Table 2 displays a summary of the tonnage milled from November 1996 through December 31, 2018.

The mill continues to focus on operational improvements to increase throughput, recovery, efficiency and reliability.

Table 2. Fort Knox Annual Milling Rates

Year	Mill Production (Million Tons)
1996	0.77
1997	12.16
1998	13.74
1999	13.82
2000	14.99
2001	15.66
2002	15.26
2003	15.08
2004	14.59
2005	14.38
2006	14.84
2007	14.02
2008	15.11
2009	14.14
2010	14.56
2011	14.88
2012	14.55
2013	13.96
2014	14.92
2015	14.82
2016	14.57
2017	13.75
2018	13.00
Total	317.57

The projected mill throughput for 2019 is approximately 11.89 million tons.

8. HEAP LEACH

The Walter Creek Valley Heap Leach Facility (WCHLF) was brought into production in 2009. On October 13, 2009, ADNR issued a Certificate of Approval to operate the heap leach dam. On October 14, 2009, FGMI began filling the in-heap storage pond. In November 2009, FGMI had the first gold pour from heap leach production. In 2018, approximately 17.98 million tons of ore were placed on the heap leach. Since the loading of heap leach ore began in 2009, a total of approximately 233 million tons have been placed on the heap leach, and 1,080,445 ounces of gold have been produced.



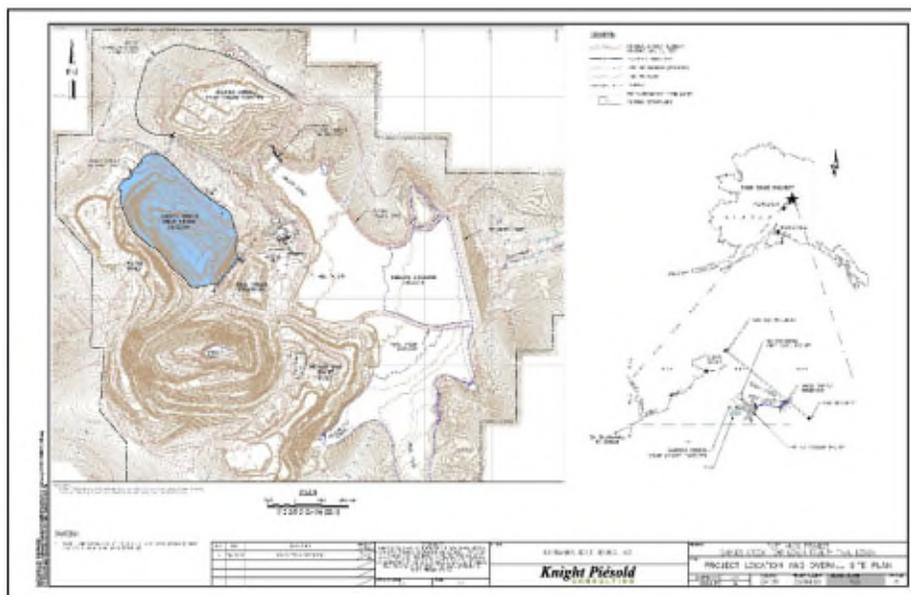
In 2011, construction of Stage 3 of the heap leach pad began and its construction completed in 2013. The

Stage 4 construction of the heap leach pad began in 2012 and was completed in 2014. The Stage 5 construction began in 2012 with clearing and grubbing, and construction was completed in 2015. The Booster Pump Station was constructed in 2015. Stage 6 clearing and grubbing occurred in 2015 and construction continued and was completed in 2017. Stage 7 construction began and was completed in 2017. Construction of Stages 8, 9, and 10 were completed in 2018. Projected heap leach ore placement for 2019 is 22.07 million tons.

The Barnes Creek Heap Leach Facility (BCHLF) received approval for construction in 2017. Construction in 2018 consisted of foundation preparation for the secondary liner to be deployed in 2019. The work completed included, underdrain exaction and backfill, rough surface grading, over-excavation and removal of unsuitable material (primarily organics).



Figure 5. Barnes Creek Heap Leach Facility



9. TAILINGS STORAGE FACILITY (TSF)

The TSF consists of deposited tailings, decant pond, dam, seepage interception system, and the seepage monitoring system. The tailings depositional area is within the Fish Creek drainage and includes portions of the Walter Creek, Pearl Creek, and Yellow Pup drainages.

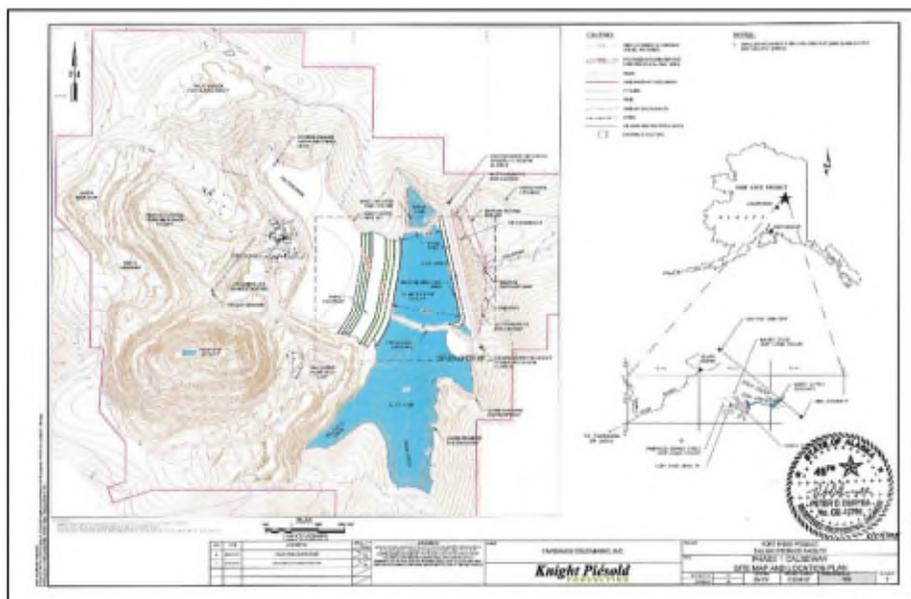
The TSF has three distinct ponds: the barge pond, north pond, and south pond where the decant water pools. These ponds are located within the tailings deposition area upstream of the TSF dam. The barge pond is approximately 18 acres. The north pond fluctuates in size but covers an area that generally ranges from 300 to 400 acres. The south pond will fluctuate slightly, but should remain close to 245 acres. A bathymetric survey conducted in September 2018 showed the barge pond, north pond, and south pond contain approximately 14,118 acre-feet of water. The increase in the pond's volume is attributed to the area's abnormal rainfall throughout 2014 - 2018. Water management activities continue to be evaluated and implemented [i.e., storm water control, dewatering well groundwater discharge (APDES Permit No. AK0053643)] to reduce the additional volume created by the abnormal precipitation events.

The TSF dam is approximately 4,600 feet long and has a crest height of 377 feet. It impounds all of the tailings generated by the mill. The TSF and the mill form a closed system for process water. Water used in the mill is pumped from the decant pond, and this process water is returned to the decant pond in the tailings slurry after the slurry has been processed to comply with cyanide threshold levels in accordance with the mine's Waste Management Permit.

Construction of the TSF berm located upstream of the TSF dam was approved and completed in 2018. Placement of tailings between the dam and berm will be completed the summer of 2019. The berm was constructed to provide additional long-term dam stability.

Construction of the Phase I Causeway was approved to elevation 1,633 fmsl. Construction began in 2018 and will continue in 2019 with the intent of attaining approval to add tailings on a stage-by-stage basis starting in the spring of 2019 (Figure 6).

Figure 6. TSF Phase 1 Causeway



TAILINGS DEPOSITION

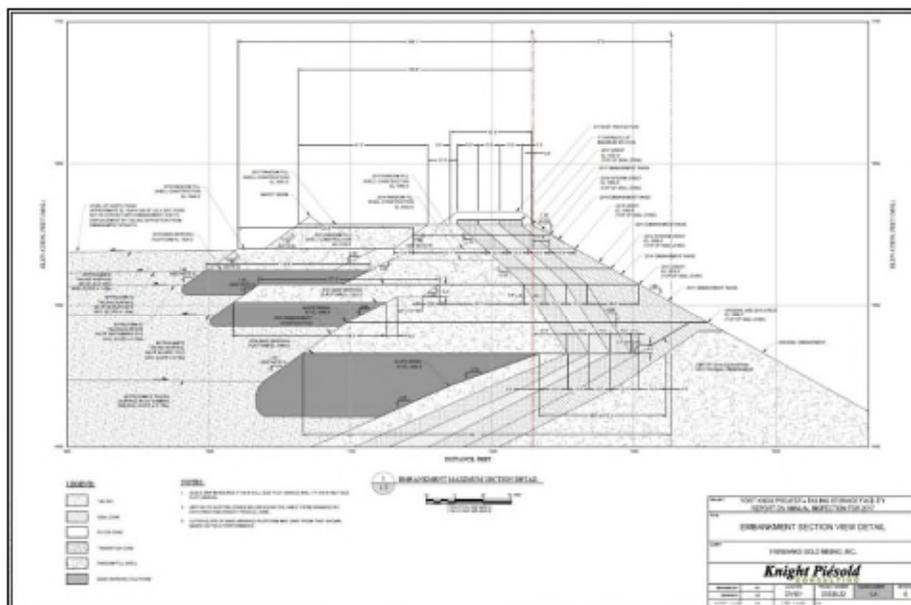
During the 2011 through 2017 construction seasons, tailings were deposited along the dam face by spigoting. The main tailings line ran along the upstream dam face at the 1,557 fmsl elevation of the engineered random fill. The tailings flowed into 8-inch spigot pipes evenly spaced along the dam face. The spigot lines were extended towards the tailings surface at an elevation of 1,547 fmsl. The purpose of the spigoting is to develop a beach 300 to 500 feet in width against the upstream face of the dam. The beach will improve the dam's Factor of Safety and enhance its long term stability.

TSF DAM RAISE

Construction of a 52-foot raise of the TSF dam began in 2011 by raising the dam 27 feet. The raising of the dam 52 feet was necessary for increases in planned production with the addition of Phase 7 and would have exceeded the capacity of the TSF without the 52-foot raise. The dam raise is a modified centerline construction as depicted in Figure 7.

Construction of the 52-foot dam raise required three years. A 27-foot raise was completed during 2011, an 11-foot raise was completed in 2014, and the remaining 14 feet was completed in 2015. The base working platform for the 25-foot raise was constructed during 2013. The dam was constructed to its design height of elevation 1,540 fmsl in 2015. A 17-foot raise to elevation 1,557 fmsl was approved by ADNR in 2016 for a two-year construction process. The first 10-foot raise was completed in 2016 and the second and final 7-foot raise was completed in 2017.

Figure 7. TSF Modified Centerline Design



TSF INTERCEPTOR SYSTEM

The TSF dam is designed as a flow through dam. The primary flow path is within the upstream random fill shell and filter zone into the fractured bedrock foundation and beneath the seal zone to the downstream toe. The secondary flow path is within the tails from hydraulic head pressures and tailing consolidation into the fractured bedrock.

The seepage is captured by the pump back system and the interceptor system. The pump-back system includes a pump-back sump together with a pumping and piping system designed to return the seepage to the TSF. The interceptor system is a series of interceptor wells developed downstream of the dam (Figure 8).

Most of the seepage passing beneath the dam feeds into a large lined sump. The interceptor system collects the remaining water and is pumped to the sump. All the water from the sump is pumped back to the barge pond at an average rate of 2,039 gpm for 2018.

The interceptor well system continues to function as designed, maintaining a continuous cone of depression across the Fish Creek valley. The interceptor wells operate continuously with individual pumping rates ranging from approximately 5 gpm to 119 gpm (Table 3). These wells form a hydraulic barrier preventing any seepage from migrating further downstream and assuring the TSF operates as a zero discharge facility.

In 2016 Fort Knox contracted with a third party to:

- Perform an aquifer test at the interception system;
- Optimize the existing interception system;
- Determine effective pumping rates for each well;
- Assess seepage capture performance, and;

- Evaluate redundancy in seepage collection and suggest wells to be shut off.

Results from Optimization Tests performed by the third party company concluded IW-5; MW-1 and MW-3 could be shut off. This occurred in the last quarter of 2016.

In 2017 seven monitoring wells with sampling pumps were installed between the interceptor wells and the compliance monitoring wells. The purpose of these wells is to monitor the water quality. These wells were constructed with the option to be converted to interceptor wells (Figure 9).

During 2018, IW-4 was losing pumping capacity and the flow meter failed. The well completely collapsed during Quarter 3 and was no longer usable. The replacement well (IW-16) was constructed in December with the same well horizon and within 100 feet of IW-4. It was brought online in January 2019; initial performance indicates the water is from the same aquifer.

A line of groundwater compliance monitoring wells MW-5, MW-6, and MW-7 located immediately downstream of the interception system and pre-compliance wells are monitored to insure that no process water is escaping the system and moving downstream (Figures 8 and 9).

Figure 8. Operating Interceptor System

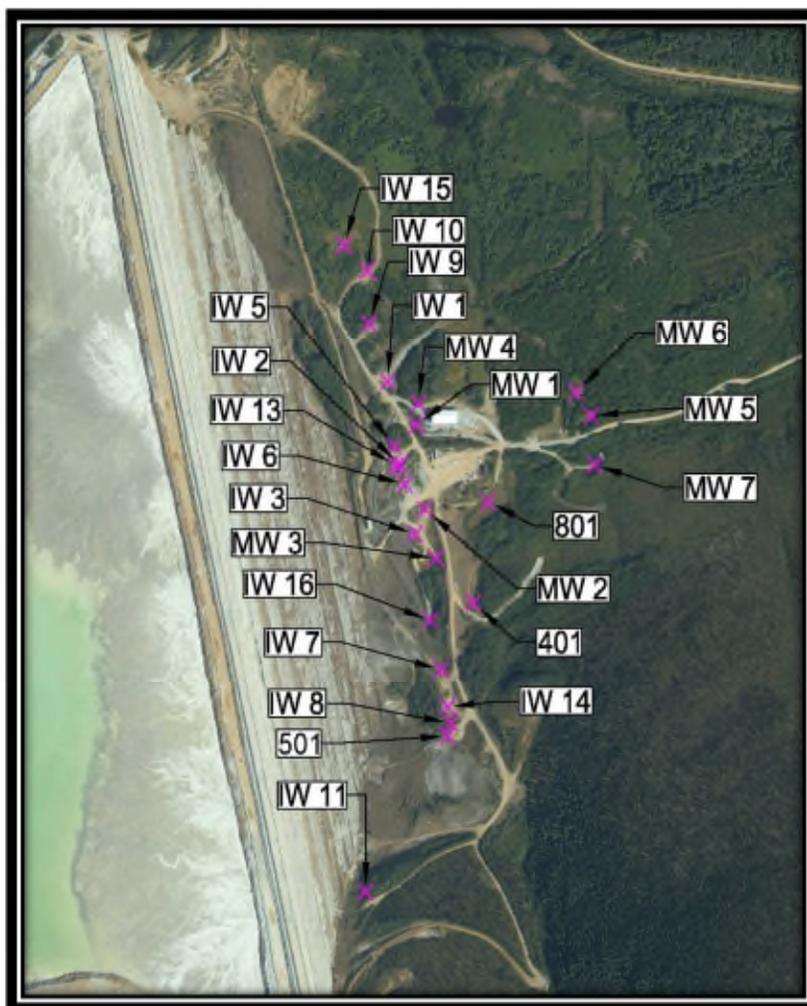


Figure 9. PMW Wells



Table 3. TSF Interceptor System Pumping Rates

Well ID	Approximate Average Pumping Rate (gpm)	Well Depth (ft)
IW-1	77	320
IW-2	12	329
IW-3	28	310
IW-4	0	330
IW-6	19	380
IW-7	10	197
IW-8	167	184
IW-11	18	296
IW-13	75	480
IW-14	34	405
Well 401	4	36
Toe Drain (501)	60	n/a
Total	504	

TSF DECANT AND SEEPAGE METALS CONCENTRATIONS

Antimony, arsenic, lead, and selenium concentrations continue to be analyzed in the TSF decant and seepage reclaim (Figures 10, 11, 12, and 13). These metal concentrations increased significantly as a result of introducing True North ore into the mill tailings beginning in 2001 and ending in 2004. Since 2004, the metals have trended down and remained low with the exception of lead. Lead nitrate was used in the milling process in 2008 and 2009 causing the lead concentrations in the decant water to elevate during this period.

Figure 10. Average Quarterly Antimony Concentrations in Seepage Reclaim & Decant

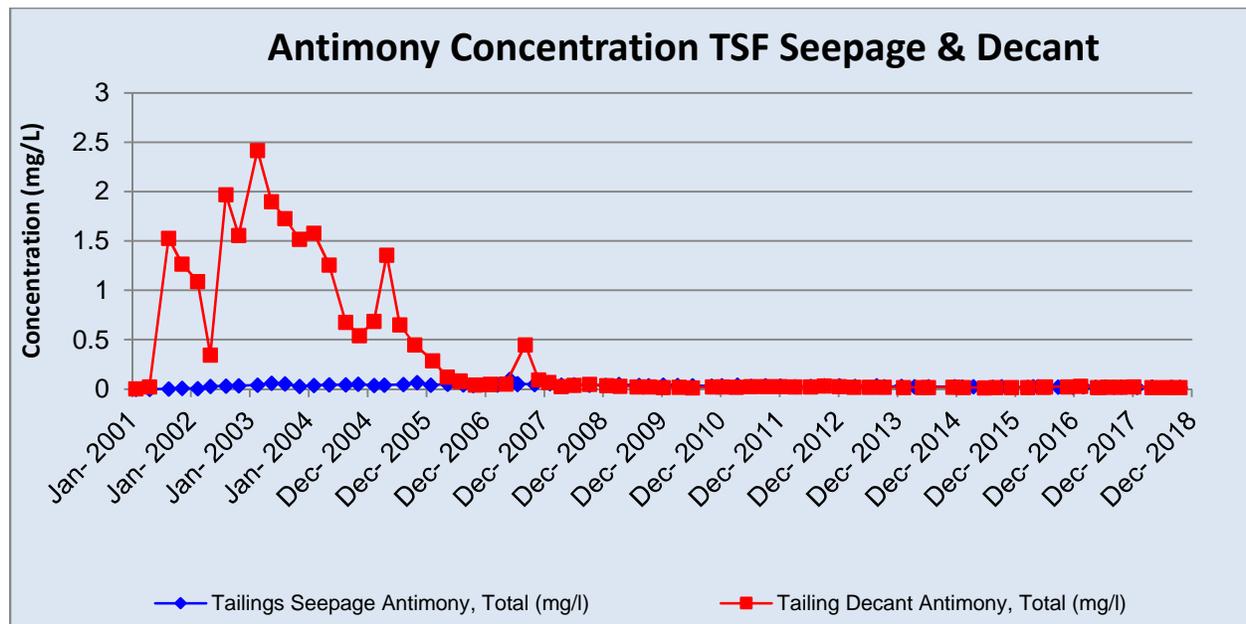


Figure 11. Average Quarterly Arsenic Concentrations in Seepage Reclaim & Decant

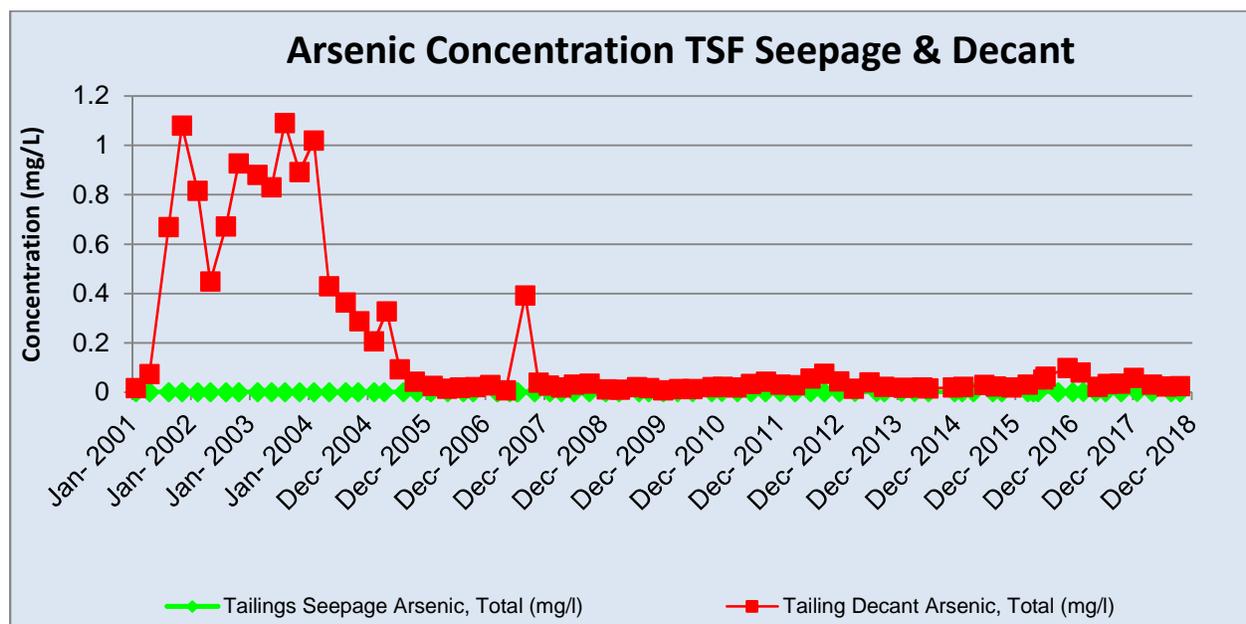


Figure 12. Average Quarterly Lead Concentrations in Seepage Reclaim & Decant

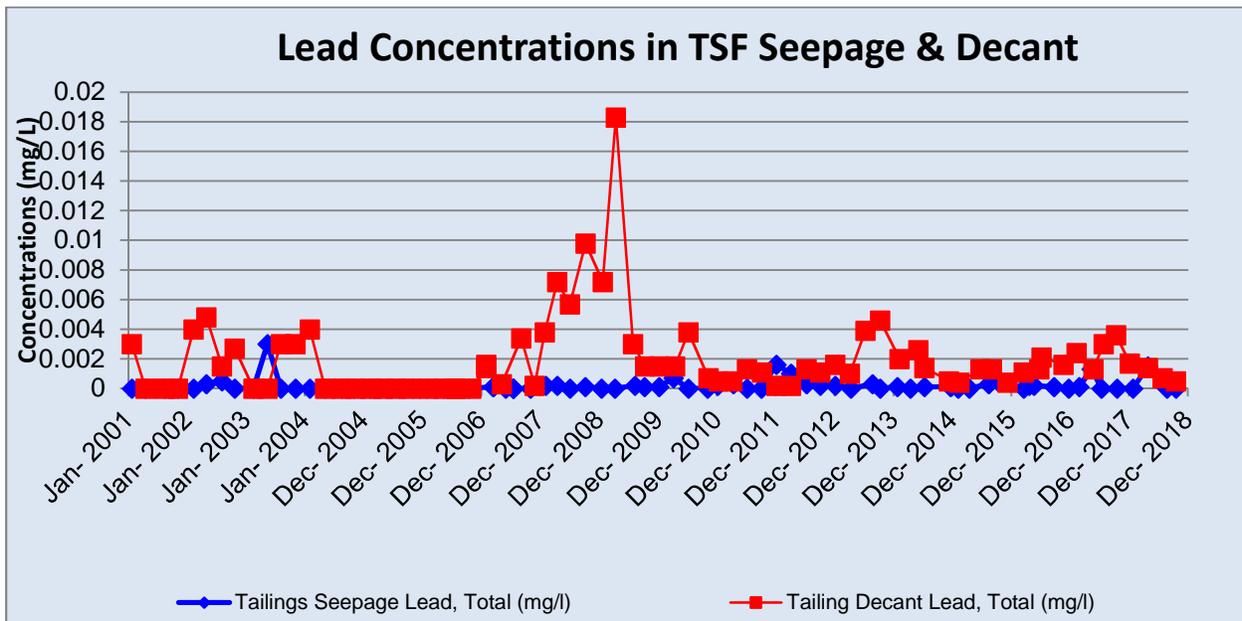
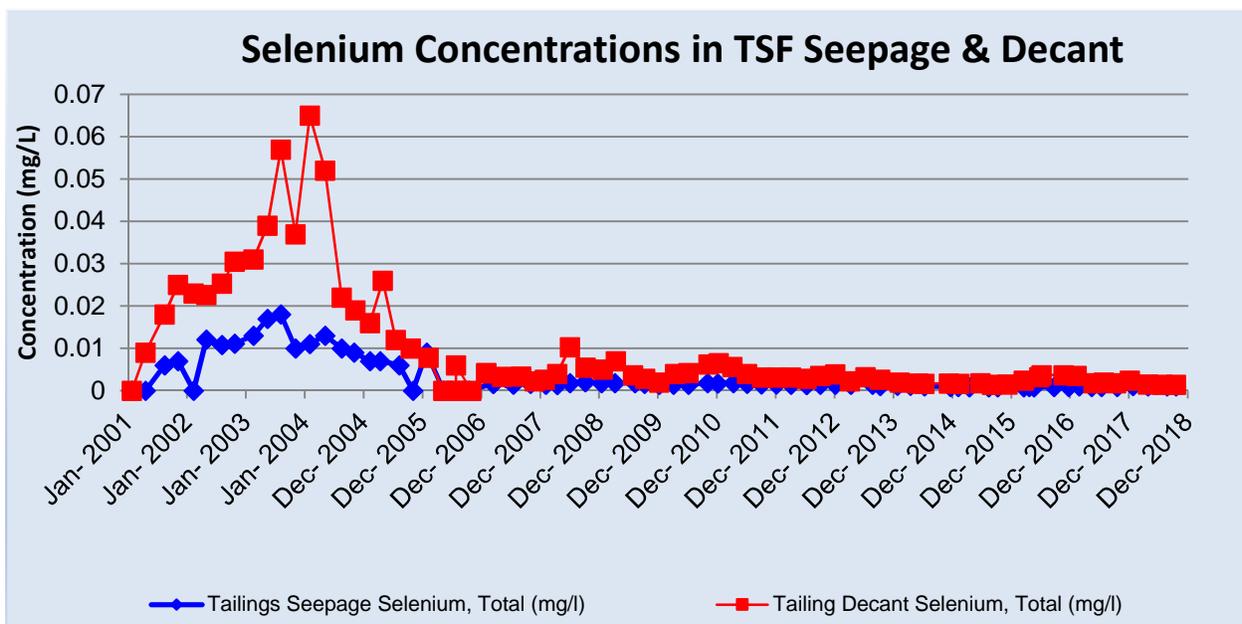


Figure 13. Average Quarterly Selenium Concentrations in Seepage Reclaim & Decant



10. FRESH WATER SUPPLY RESERVOIR and WETLANDS

The Alaska Department of Fish and Game (ADF&G) continues with their work on the water supply reservoir (WSR) and associated wetlands. In the 2018 annual technical report prepared by ADF&G summarizing their work on the WSR and wetlands, certain conclusions were stated:



- Populations of Arctic grayling and burbot have been established in the WSR.
- The post-mining goal for the Arctic grayling population was set at 800 to 1,600 fish greater than 200 mm in length, and the spring 2017 population estimate for Arctic grayling was 7,141 fish greater than 200 mm in length, which is an increase from the estimated 2016 population.
- A goal for burbot population was not previously set, but a small population of fish larger than 400mm is present.
- Active management of beaver

populations within the developed wetlands appears to maintain a critical component to Arctic grayling population within the developed wetlands and WSR appears to remain a critical component to the productive capacity of the wetland complex for Arctic grayling.

11. RECLAMATION

FORT KNOX

Reclamation activities in 2018 included the continuation of the 2017 wetland vegetation plot trial. The goal for 2017 was to test the growth of herbaceous plant species on the tailings without growth media amendment. The test bed was 746 sq. ft. and was constructed containing mine tailings taken directly from the TSF. The location of the test bed is near the head of the TSF, thus, weather conditions should mimic those of the TSF. The test bed was constructed over a liner to retain water during precipitation events and mimic wetland conditions adjacent to proposed ponds. The 2018 goal was to monitor the 2017 test plot with no addition of seed or fertilizer. The wetland seed mix continued to grow and thrive in 2018 without additional seeding or fertilizer. Dead vegetation is matting over the soils under 2018's new growth, which leads to a reduction of soil erosion due to runoff or precipitation



Growth media is stockpiled for use in final reclamation and closure. It is estimated that approximately 3.6 million cubic yards (cy) are required for final reclamation. Table 4 summarizes the volumes of growth media stockpiled that exist and are planned. A survey to determine the amount of growth media available will be done after the dam raise and heap leach construction has been completed. A portion of the growth media stockpiled and available borrow sources have been used because of its suitability for use as engineered seal and filter material for the TSF dam and engineered sub-base for the heap leach. Potential borrow sources are being identified for continuing construction activities.

Table 4. Fort Knox Growth Media Stockpile and Borrow Quantities

Site	Volume (cy)
Yellow Pup GM Stockpile	1,276,798
Walter Creek GM Stockpile	2,266,630
Tailings South GM Stockpile	296,100
Tailings North GM Stockpile	3,186,400
Barnes Creek	425,029
Total	7,450,957

TRUE NORTH MINE

Production from the True North Mine was terminated at the end of 2004. In 2009, the decision was made to abandon remaining reserves and to not continue with any additional mining at True North. FGMI submitted updated reclamation plans for True North in May 2012. The reclamation plan approval was issued by ADNR on July 26, 2012.

The True North annual inspection by ADNR performed on October 2, 2012 concluded all major earthwork and reclamation appeared to be complete, and FGMI could continue with post-closure monitoring and maintenance. A summary of reclamation work is shown in Table 5.

The reclamation plan prescribed the a seed mix of 50% Arctared Red Fescue, 20% Tundra Glaucous Bluegrass, 20% Gruening Alpine Bluegrass, and 10% Tufted Hairgrass. The seed application rate was approximately 9 lbs/acre. Fertilizer was applied at a rate of 300 lbs/acre with a Nitrogen (N) -Phosphorous (P) - Potassium (K) analysis of 20-20-10. The final application of fertilizer was broadcast on 113 acres in 2014. The vegetation, natural reinvasion and applied is successfully mitigating erosion a precursor to establishing post-mining land use.

ADNR conducted their annual inspection on May 24, 2018. The inspection report concluded that operations appear to be compliant with authorized and permitted activities. North Shepard, Hindenburg, and Zeppelin Dumps continue to settle; however, visible features indicate significantly less settling is occurring than noted in previous years. Grasses and woody species continue to propagate on the True North Mine Site. Animal presence noted through footprints and trails through the vegetation.

In 2019, FGMI will monitor erosion from the Davidson ditch onto the True North Mine site and if necessary, notify ADNR of any mitigation needed, if any. The North Shepard, Zeppelin, and Hindenburg Dumps will continue to be monitored and notify ADNR of any mitigation, if any.

A reroute plan for the True North RS2477 trails was submitted to ADNR for review



and comment. The reroutes were incorporated into the True North Reclamation Plan and were reestablished during reclamation. ADNR (Easement Section) was onsite in August 2014 to view the trails. FGMI will continue to work with ADNR in 2019 to finalize the trail system.

Table 5. Reclamation Work Completed at True North

Area	Graded (acre)	Growth Media Placement (acre)	Scarified (acre)	Seeded and Fertilized (acre)
Dumps				
East Pit Dump	47.5	-	47.5	47.5
Zep and Hindenburg Dump	86.3	-	86.3	86.3
Spruce Creek (within Zep&Hind dump footprint)	10	-	10	10
Mid Shepard Dump	16.28	14.2	14.2	14.2
South Shepard Dump	68.6	-	68.6	68.6
North Shepard Dump	21.3	-	21.3	21.3
East Shepard Dump	4.2	4.2	4.2	8.9
Hindenburg Dump	8.5	-	8.5	8.5
North Central Dump	13.1	-	13.1	13.1
North Louis Dump	17.7	-	17.7	17.7
South Louis Dump	19.2	-	19.2	19.2
Lower AB Dump	13.6	13.6	13.6	13.6
Upper Louis Dump	16.4	-	16.4	16.4
Pits				
Hindenburg Pit	32.4	32.4	32.4	32.4
North Central Pit	12.3	12.3	12.3	12.3
Shepard Pit	38.5	38.5	38.5	38.5
Stockpads				
Upper A Stockpad	5.6	5.6	5.6	5.6
Upper B Stockpad	1.5	1.5	1.5	1.5
Roads				
Louis Road (with-in Louis Dump)	5.7	-	5.7	5.7
ANFO Pad / Explosives Road	16.4	16.4	16.4	16.4
Shop Pad	21.4	-	21.4	21.4
Growth Media				
Shop Pad Growth Media	2.3	-	2.3	2.3
East Pit Growth Media	3	-	3	3
Hindenburg Growth Media	2.2	-	2.2	2.2
Total	483.98	138.7	481.9	486.6

12. FINANCIAL ASSURANCE

As required by ADNR, ADEC and ACOE, the financial assurance amounts were revised and updated to reflect current plans for Fort Knox and True North. The annual adjustment of financial assurance amount approved by the agencies are \$97,496,878.00 for Fort Knox and \$ 625,799.00 for True North. The financial assurance letter of credit (Irrevocable Standby Letter of Credit No. S18572/260177, Amendment No. 10) was issued by the Bank of Nova Scotia on January 21, 2019 and provided to ADNR. Table 6 reflects the financial assurance for Fort Knox and True North.

Table 6. Financial Assurance Amounts

Plan/Permit/Lease #	Amount (\$)
Fort Knox Reclamation and Closure Plan	\$97,496,878.00
True North Reclamation and Closure Plan	\$ 625,799.00
<i>Total</i>	<i>\$98,122,677.00</i>

13. MINE WATER USEAGE (WATER BALANCE)

The Fort Knox water balance tracks water movement throughout the mine-site, including natural processes such as precipitation, evaporation, and seepage as well as mine operation water needs. The water balance that Fort Knox uses was built using GoldSim software. GoldSim is a graphical simulation software that facilitates the construction of complex models allowing FGMI to predict future water conditions.

The Fort Knox water balance focuses on mining and milling activities and is calibrated relative to measured bathymetric data on a quarterly basis. In doing so the confidence in the models predictions increases with each iteration and our mine planning and mine closure design may be continually optimized. Data used in calibration activities includes: tailing pond water levels, tailing pond bathymetry, seepage and interception rates, precipitation and evaporation records, dewatering pumping schedules, production data, mill water flows, tailings deposition schedules, and information on mine process changes.

The water balance is continually updated with the most current information, including natural water inflows/outflows and water use throughout the mine-site. The dynamic nature of the water balance enables FGMI to actively manage water on site, with the goal of minimizing water use and maximizing efficiency. Water uses at Fort Knox are summarized in Table 7.

Table 7. Fort Knox Water Summary for 2018

Use	Land Record	Summary	Volume (acre-ft/year)
Dewatering Wells	LAS 21760	Pit Dewatering to TSF	3,111
	LAS 28158	Pit Dewatering to Discharge	806
		Pit Dewatering to Mill	507
Freshwater Reservoir	LAS 13986	Fresh Water for Milling	0
Interceptor Wells	LAS 13987	Seepage Reclaim	3,138
	LAS 28160		
Tailings Facility	LAS 13988	TSF to Mill/Heap Leach	12,255
	LAS 28161		

14. EXPLORATION

FGMI continues with an exploration program in the pit and in the surrounding area. In 2018, exploration primarily occurred within the Fort Knox Upland Mining Lease and consisted of drilling below the East Wall of the Fort Knox Pit. Minor exploration drilling and reclamation activities occurred on permitted areas outside of the Upland Mining Leases.

In 2019, anticipated activities include continued in-pit exploration drilling and mineral assessment.

15. COMMUNITY AFFAIRS

FORT KNOX EXTERNAL STAKEHOLDER FEEDBACK PROCEDURE



Stakeholder feedback, be it positive or negative, is instrumental in providing Fort Knox with a platform upon which its operational and social performance can be regularly evaluated and modified to meet commitments to leading practice and continuance improvement. The objective of our procedure is to outline Fort Knox’s commitment to demonstrate a transparent and trustworthy approach to issues management and to ensure that stakeholders can effectively communicate with Fort Knox.

External stakeholder feedback should be directed to the External Affairs Manager, Anna Atchison (907-490-2218) who serves as the primary site point of contact, working closely with the General Manager and appropriate department managers.

COMMUNITY COMMITMENT

Fort Knox's commitment to the community in 2018 was demonstrated by its employees donating approximately 2,781 hours of recorded volunteer service to Fairbanks area organizations. These hours included Fort Knox sponsored events, activities supporting local organizations, and employees who volunteer their own personal time to area organizations.



COMMUNITY INVESTMENT

Fort Knox showed further commitment to the Fairbanks community by donating to 85 area non-profit organizations throughout 2018.

COMMUNITY ENGAGEMENT

Mine tours are an important part of our community engagement. In 2018, Fort Knox provided tours to 400 local elementary students, and 270 community tour visitors. The community tours were conducted through a partnership with the Fairbanks Community Food Bank. Miscellaneous tours were also provided to high school and college students.

