## newgold newsletter

#### 2020 | SUMMER ISSUE



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#### A NOTE FROM THE MAINTENANCE MANAGER



With half of the year still remaining, 2020 has already proven to be one for the record books. As individuals and communities, we have dealt with considerable uncertainty, developed new norms and fostered unconventional ways to communicate and engage with one another. These changes are also reflected in organizations, including here at New Afton. While none of us planned to spend the year working through

a global pandemic, the situation provided an opportunity for our employees to rise to the occasion and truly shine. I am filled with pride to see our team not only navigate this crisis, but elevate because of it.

One aspect of ensuring the health and safety of employees meant limiting visitors and contractors on-site to only those deemed essential. Scheduled shutdowns are an important part of the reliable operation of our equipment. These shutdowns allow us to conduct critical inspections, replace wear parts and make repairs, contributing greatly to the reduction of unscheduled equipment downtime, which could significantly impact our site performance. Shutdowns generally rely heavily on the support of outside contractors. With our comprehensive COVID-19 preventative measures, we permitted only specialty contractors to be on site, meaning our employees had to step up to complete the work. This is just one example of the dedication that our team has shown that has made me so proud to work at New Afton.

This year, a focus of the maintenance department has been the ongoing implementation of autonomous mining technology. This transition is the mission of our automation and development team, which has been working to implement the innovative technology and complex infrastructure required for autonomous equipment. We have successfully operated the Sandvik LH517i Load Haul Dump (LHD) loader fully autonomously, which is a fundamental step towards our vision for what C-zone mining will look like. We continue to improve not only health and safety, but production performance as well.

Looking ahead, our department is also committed to reducing potential impacts and improving health and safety for employees through the reduction of emissions from scoops and haul trucks. We are exploring battery-electric vehicle solutions to reduce source emissions, as well as the installation of diesel particulate filters on equipment to remove the particulate from the exhaust stream.

While this year has been full of obstacles, it has also been a lesson in adaptability. Our employees have exemplified creativity as they pivot to address operational changes, continue to prioritize health and safety and remain committed to the past, present and future of New Afton.

**Shane Kozoriz** Maintenance Manager newg id new afton sustainability newsletter

### **EMERGENCY OPERATIONS CENTRE IN ACTION**

In March, New Afton activated our Emergency Operations Centre (EOC) in a limited capacity to centralize the COVID-19 crisis response. Our site Crisis Management Plan utilizes the Incident Command System (ICS) as a framework for emergency response. The ICS outlines roles, responsibilities and actions for crisis response that can be applied to a variety of settings and is used as a framework for a number of crisis response groups, including the City of Kamloops and the Thompson Nicola Regional District.

Chaired by the Emergency Response Coordinator, New Afton's EOC met daily during the initial stages of the response to bring interdepartmental stakeholders to the table to manage planning, logistics, procurement, communications, questions from employees and more. One of the most important aspects of the EOC is the centralization of resources and internal communications to ensure a crisis response that is comprehensive and considers all aspects of the business, from the health and safety of employees to ministry regulations, communication methods, employee needs and supply chain impacts, among others. As the situation started to stabilize at New Afton, the EOC began meeting weekly and shifted focus from acute crisis response to the implementation of more long term controls, measures and plans to address future or emerging issues related to COVID-19. As a part of this process, the EOC and other employees participated in a COVID-19-related mock scenario to test policies, procedures and plans, while identifying gaps and potential opportunities for improvement. The EOC ensures a consistent response that addresses the needs of all aspects of the operation.





## **NAVIGATING COVID-19 UNCERTAINTY**

New Afton's COVID-19 response continues to evolve as the situation changes both regionally and globally. From mask requirements to staggered office hours, daily pre-shift health assessments, physical distancing, temperature screenings and more, the preventative measures in place on site are intended to ensure the health and safety of our employees, their families and the community.

As it becomes clearer that the impacts of the COVID-19 pandemic will be long-lasting, New Afton is working to develop sustainable and long-term preventative measures as part of our site's COVID-19 Safety Plan, which will support our response and strategy as the situation continues to evolve. These changes include the installation of facilities and equipment, like a portable restroom trailer installed next to our mill (pictured left) to provide employees with additional washrooms and sanitation stations to improve physical distancing protocols and reduce potential for congestion or crowding.

New Afton is committed to exploring effective and innovative tools, methods and procedures to complement and enhance the significant preventative measures already in place. With continued diligence and commitment from leadership and employees across the company, the health and safety of our entire team remains our top priority as we face new challenges posed by the COVID-19 pandemic.

#### **PUTTING HEALTH AND SAFETY SYSTEMS TO THE TEST** How the certificate of recognition program is implemented at New Afton

As part of ensuring a safe and healthy workplace, New Afton maintains certification with WorkSafeBC through the Certificate of Recognition (COR) program, which encourages employers to create and maintain a robust occupational health and safety management system. The COR program is voluntary and employers are regularly audited to ensure they meet minimum requirements to maintain certification. At New Afton, COR audits are completed on a three-year rotation, with two years of internal audits followed by an external audit with a quality assurance auditor verified by WorkSafeBC.

New Afton's Health and Safety Management System is wellestablished and has contributed to the culture of safety on the mine site, attributed in part to the annual audit process, which helps to identify opportunities for continual improvement. While New Afton ensures COR certification annually, the operation is also subject to health and safety requirements and inspections mandated by provincial regulators.

The audit is comprised of 14 different elements including company health and safety policy, work-place hazard assessment and control, training and communication, inspections, and records and statistics, among others. During both an internal and external audit, all elements are reviewed and scored based on how effectively they are implemented at the site.

Following the audit, the site is provided with an overall score derived from the average of each element. In order to achieve or retain certification, employers must achieve at least 50% in all elements and 80% or above overall. The audit process involves five days of on-site interviews and document review. In some cases, audit teams can interview more than 60 employees within these five days to gain valuable information on the efficacy of the management system. Following that, the internal or external auditor compiles all the data and information within an electronic audit document to submit to WorkSafeBC for review and re-certification. COR audits are just one way New Afton ensures that the health and safety of employees is the number one priority.

NEW AFTON COR AUDIT RESULTS	Overall Score
2018 (External)	94%
2019 (Internal)	97%
2020 (Internal)	92%

## PERFORMANCE BY THE NUMBERS

OUTPUTS (6 months ended June 30)	H1 2020	H1 2019
Over Draceseed (the user of tennes)	2.605	2 602
Ore Processed (thousand tonnes)	2,695	2,693
Tailings Produced (thousand tonnes)	2,635	2,628
Average gold grade of ore (g/tonne)	0.46	0.51
Average copper grade of ore (%)	0.72	0.83
Copper Produced (million pounds)	35.4	41.1
Gold Produced (ounces)	31,903	37,044

#### **ENVIRONMENTAL SCORECARD**

INCIDENTS (6 months ended June 30)	H1 2020	H1 2019
Environmental Non-Compliances	0	1
Externally reported spills	0	0
Number of fines incurred	0	0

The environmental non-compliance from 2019 relates to use of waste rock for construction that did not meet a required neutralization potential threshold.

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#### MINERALIZATION AT NEW AFTON MINE FROM UNDERGROUND TO PORT

With a name like New Gold, one might think that our primary product is gold. However, New Afton is largely a copper mine, with chalcopyrite being the main copper mineral produced. When production began at New Afton in 2012, this brass-yellow mineral with a green hue made up the majority of the ore mined. When it is the primary mineral in ore, processing to extract the chalcopyrite is somewhat straightforward. At New Afton, it is separated and concentrated using flotation, a processing method that alters the surface of the ore and the mineral to either attract or repel water. This allows the desired minerals to float to the surface to be retrieved while the others sink.

However, in the past several years, a more complex mineral composition has been observed in the ore. In addition to chalcopyrite, this "supergene" ore contains a large proportion of bornite, chalcocite, and covellite. Also found in this supergene ore is native copper, or copper metal. Copper is unique in the sense that it is one of only a few metallic elements to occur in native form. Underground, native copper is often observed in sheets or ribbons running through the ore body. In order to separate the valuable native copper from the material that surrounds or is mixed closely with it, more complex processing methods are required. The large native copper flakes are pulled from the crushed ore using an inline pressure jig as part of a gravity circuit, which involves water being pulsed through a separation media that allows only the heavier particles to fall through. As the jig concentrate is produced, it is passed through a sieve and the native copper larger than 2mm is captured as a separate product (pictured), while the bulk of the material smaller than 2mm is combined with the flotation concentrate.

Developing a solution to effectively extract the native copper from the ore proved challenging, as not many mines process native copper through their mills. New Afton examined processing of the native copper done by the original Afton mine and applied the latest technologies for gravity recovery to overcome this challenge. While copper makes up the bulk of our concentrate product, the final export includes roughly 15-20 grams per ton of trace gold most of which is entrained in the copper minerals.

#### **INNOVATIVE IMPROVEMENTS IN TAILINGS MANAGEMENT** CAPITAL PROJECT TO IMPROVE HEALTH AND SAFETY OF TAILINGS STORAGE

Tailings storage is one of the most important parts of the mining process. After the ore has been mined and the metals have been concentrated, the remaining material, or the tailings, must be stored safely and responsibly. While we continue to expand and plan for future growth, New Afton is committed to tailings storage methods that ensure the safety of employees, the community and the natural environment in which we operate. As part of that commitment, New Afton is implementing thickened and amended tailings (TAT) in order to better stabilize the material, reducing both the health and safety risk as well as potentially adverse effects on the environment.

New Afton's TAT project involves a number of new and innovative concepts that contribute to more responsible storage through the placement of non-flowable tailings. To achieve a non-flowable state, the tailings slurry is treated in stages. After being pumped from the mill, the material is thickened by a paste thickener, effectively transforming the easily flowable liquid into a consistency similar to very thick toothpaste. Depending on the time of year and placement methodology, it is possible to achieve a nonflowable state at this stage, however, the tailings can also report to another facility to be further amended with a cement additive, resulting in a non-flowable material once it is deposited.

The second innovation of this new method comes in the location of the stored tailings. As New Afton is a brownfield operation that occupies the site of the old Afton Mine, there are a number of historic facilities from the previous operation, including an inactive open pit. Conventionally, tailings are stored in ponds with dams to hold the material. This requires facilities to be continuously constructed to increase capacity, driving dam elevations up and increasing overall risk. With our new method, the thickened and amended tailings will be deposited into the inactive pit. This not only removes the risk of dam failures or breaches because the pit is below ground, but the cement also greatly reduces the potential for the facility to create dust.

Studies and modeling completed on groundwater movement in the area of the historic open pit show that the pit remains as a groundwater sink even into the closure period. This means that there is no migration of contact water from the pit off of the New Afton site, even hundreds of years into the future. The pit is also located within its own aquifer, although the bedrock permeabilities are so low that they fall below the government definition of an aquifer. After closure, the pit will eventually fill with water and resemble a pond or small lake.

New Afton is also considering the placement of some TAT onto the historic Afton Tailings Storage Facility, located southwest of the pit. The current topography of the facility is such that water can pond on the facility. During placement, the addition of cement will consume water, meaning that there will be minimal seepage from these materials. Seepage collection ponds at the base of the West Dam of the historic facility will collect any seepage water for monitoring and pump-back as required. The placement of TAT is intended to contour the surface of the facility to minimize potential ponding and ensure that during closure, water from this location drains to the historic pit.

But what about the tailings currently being stored in the primary New Afton Tailings Storage Facility and the material already in the Historic Afton Facility? In an effort to further de-risk the storage of that existing material, New Afton has completed trials and engineering and conducted various dewatering activities, including the use of wick drains to draw water out of the tailings. Over the next several years, New Afton will continue to de-water both facilities by building dozens of de-watering wells, contributing to further stabilization of the tailings being stored and reducing the risk of a spill or breach. When the facilities are no longer in use and dewatered, there will be a large, gently sloping surface that, when covered with topsoil, will support biodiversity native to the region.

The TAT capital project will allow for New Afton to responsibly store tailings produced by the C-zone expansion, which are expected to fill approximately 40% of the pit's potential volume, thus leaving room for continued expansion. While elements of New Afton's Thickened and Amended Tailings project have been used in other mining operations internationally, this unique combination of methods is a true example of innovation and New Afton's commitment to safe, responsible mining.



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### **SUPPORTING LOCAL DURING COVID-19**

As businesses, organizations and individuals continue to navigate the distress and uncertainty of the COVID-19 pandemic, New Afton is working to explore ways to give back to the community. With large group gatherings banned, New Afton's Social Committee has turned to innovative ways to provide fun and engaging activities for employees, while continuing contributions to local businesses. In 2019, New Afton hosted two summer barbeques to provide opportunities for employees to get together and socialize outside of work. With gathering out of the question in 2020, the social committee reached out to local businesses to develop a voucher program, offering employees a choice of activities and food baskets instead.

#### "We are very honoured to be doing this for the staff at New Afton."

Andy Van Kuyk, Gourmet Green

These vouchers, when combined with coupons for four free ice cream cones from Scoopz Ice Cream Parlour, gave each of our more than 500 employees something to enjoy throughout the summer. We are proud to be part of Kamloops and are committed to supporting local business as much as possible.

## HUMAN RESOURCES RESPONDS TO COVID-19

The New Afton Human Resources department responded quickly to the COVID-19 pandemic. As preventative measures were rolled out across site, the department supported current employees with resources, communications, guidance and support as many people shifted to new schedules or began working from home.

In March, the Human Resources team paused recruiting. Beginning in May, recruiting restarted for priority positions and was carried out using video conferencing for the interview process. New employees also underwent on-boarding and orientation remotely. Throughout the second quarter of the year, the team successfully recruited seven employees utilizing remote methods as the New Afton team continues to grow.

EMPLOYEE COMPOSITION (6 months ended June 30)		H1 2020	
Total # of Employees on Payroll	536	100%	
Employees from BC	493	92%	
Employees hired from Kamloops region	431	80%	
Employees hired from BC, outside Kamloops	63	12%	
Employees from outside BC	42	8%	
First Nations Employees	115	21%	
First Nations Employees from Tk'emlúps te Secwépemc and Skeetchestn	33	6%	
Female Employees	77	14%	
Male Employees	459	86%	
Average Age	40		



Euclid Tomlinson completed his apprenticeship and is pictured above with his Millwright Inter-Provincial Red Seal.

#### SUPPORTING KAMLOOPS FIRE RESCUE NEW AFTON FIRE & MINE RESCUE STEPS IN TO HELP

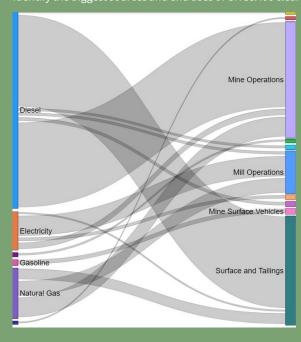
On July 31st, the City of Kamloops experienced three simultaneous structure fires in the Rayleigh neighborhood. Multiple alarms were called by Kamloops Fire Rescue's on-scene commander, summoning the majority of fire crews in the city to respond to the three fires. As the incident unfolded, Kamloops Fire Rescue command recognized the need to backfill additional fire halls in the city to provide fire protection for the rest of the city during this unprecedented emergency. As part of our Emergency Preparedness Plan, New Afton Fire & Mine Rescue maintains a two-way mutual aid agreement with the City of Kamloops allowing both New Afton and the City to draw upon each other's firefighting resources in times of emergency. Kamloops Fire Rescue formally requested mutual aid from New Afton during this incident and New Afton Fire & Mine Rescue Engine #2 was dispatched with a crew of six members to assist. New Afton Fire & Mine Rescue members provided emergency services for the City of Kamloops, working out of the Valleyview Station #3 Fire Hall, allowing Kamloops Fire Rescue to dedicate most of their resources to extinguishing the three structure fires in Rayleigh. As the incidents in Rayleigh were brought under control and KFR crews returned to their halls in the city, New Afton Fire & Mine Rescue members returned to site.



### **A LOW CARBON FUTURE FOR NEW AFTON**

What is a "low carbon future"? Simply put, it's a future where global greenhouse gas (GHG) emissions are less than what they were decades ago. How do you get there? In three ways. First and foremost, you focus on conservation and only use as much energy as you need to. Secondly, switch sources of energy to cleaner, lower GHG energy sources; from diesel to clean BC Hydro electricity, for example. Lastly, implement innovative ways to capture carbon from the air. Two ways to do this are through cultivating grasslands or by injecting carbon dioxide into ready-mix concrete.

While New Afton is already a very low carbon intensity mine, we can still contribute to global GHG reductions. As far as conservation goes, the mine has a robust energy management system in place, supported by the ISO 50001 Energy Management System. The focus on conservation will continue. Figure 1 (below) shows the source and destination of the GHGs produced by the energy used on-site. This diagram helps identify the biggest sources and end uses of GHGs. It's clear to see that reducing diesel used for mine operations and tailings dam construction



is where we could accomodate the biggest reduction. With upcoming projects like thickened and amended tailings and the possibility of electrifying C-zone, New Afton is well positioned for a low carbon future.

A number of GHG reduction initiatives are already underway:

- A possible battery electric Load Haul Dump (LHD) for B3 as opposed to a diesel LHD;
- Better temperature controls for the mill heating systems for more efficient use of natural gas;
- Building insulation for the mill coverall and emergency services buildings to reduce natural gas consumption in winter; and
- Battery electric vehicle charging stations for employee and mine electric vehicles.

New Afton is committed to a cleaner and greener future. As it is the energy we use which causes GHG emissions, it is more important than ever to remember that "Energy Matters" at New Afton.



## **WE WELCOME YOUR FEEDBACK**

Call us at (250) 377-2100 or email samuel.numsen@newgold.com for a chance to win a private tour underground.

To enter, simply get in touch and provide responses to the following questions:

- 1. Was the report clear and understandable?
- 2. Did the report provide enough detail?
- 3. What issues related to our operation or mining are you most interested in? Did the report address them to your satisfaction? If not, what could have improved the report?
- 4. Are there any communities, interest groups or stakeholders, including those whose interests may be issues-based or indirect, you think should be included in our communications?
- 5. Are there more effective methods of communicating with the general public that you would prefer to this newsletter?

## **ADDITIONAL INFORMATION**

🈏 @NewAfton

If you have any comments on this report or would like further information on the New Afton Operation, please contact either of the following:

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New Afton welcomes your feedback: Call us at 250.377.2100 or email us at info@newgold.com

To learn about New Afton's current career opportunities please visit: www.newgold.com/careers.

While every effort has been made to ensure accuracy of the information presented, please note that all figures are unaudited.