

AURORA



**Students go
underground to find
rock-steady jobs**

By Julie Stricker

Above: Student Erik Bach uses a jackleg drill in UAF's underground mine training camp near Delta Junction in November 2022. In the foreground is instructor Jim Smith. Instructor Sam Reves is in the background. Photo courtesy of the UAF Mining and Petroleum Training Service.

**In November 2022,
Allen Agnes Jr.
was on top of the
world as he stood
in a rough-hewn
auditorium 100
feet under the
ground, his hard
hat and safety vest
gleaming in the
overhead lights.**

The young man from Tetlin, Alaska, had been working as a seasonal firefighter only weeks before. It's one of the few jobs available in Tetlin, a traditional Athabascan community of about 125 on the Tetlin River, a tributary of the upper Tanana River in eastern Alaska. But new opportunities are on the horizon.

Agnes had just completed an intense four-week training camp operated by the Mining and Petroleum Training Service, earning certifications that set him up for a career in the mining industry. When he headed out the door of the underground mine training center near Delta Junction on a breezy November day, it was to a job with Kinross Gold Corp. at its Manh Choh project in Tetlin's backyard.

"He really came out of his shell during that four weeks that he was in training," said Meg Smith, human resources manager for the Manh Choh project. Kinross is 70% owner and operator of the project, with Contango Ore as minority owner. "Towards the end of the last two weeks of training, he became the safety champion and was able to get up and speak in front of an audience."

Five other men from all walks of life successfully completed the mine training camp with Agnes. One man is transitioning out of the military, noting "it's my first time out in the real world."

Others were in search of a new career or a way to support a young family. They all left the November graduation ceremony with jobs at major mines in Alaska: Kinross in Interior Alaska; Hecla Greens Creek Mine on Admiralty Island; and Coeur Alaska Kensington Mine near Juneau.



Graduates (from left) Allen Agnes Jr., Davin Treas and CJ Skellham watch a video presentation during graduation at the Mining and Petroleum Training Service's underground mine training center off of the Alaska Highway outside Delta Junction Nov. 21, 2022. UAF photo by Eric Engman.

"We know that this program changes lives," said MAPTS Executive Director William Bieber.

Charity Etheridge, a 2019 MAPTS graduate now working at Greens Creek, told the graduates, "Be proud that now you have the tools in your back pocket to take care of yourself and your people."

The University of Alaska established MAPTS in 1979. The workforce development program for Alaska's resource industries is now part of the Institute of Agriculture, Natural Resources and

Extension, under the umbrella of the UAF Cooperative Extension Service.

“This program trains Alaska’s sand and gravel operations, placer miners and mine service companies,” Bieber said. “This program and facility is the only one in the world that trains entry-level miners in a real mining environment.”

Classes in both surface and underground mining are taught at the MAPTS training center near Delta Junction. The program provides the only in-state, third-party training in how to comply with the federal Mine Safety and Health Administration’s safety regulations, Bieber said. It is also the state’s sole third-party provider of training in how to meet the International Association of Drilling Contractors’ standards for the oil and gas industry.

The three combined divisions of MAPTS train an average of 1,000 to 1,300 students annually for the Alaska mining and oil and gas industries, Bieber said.

It’s the underground mine training facility 30 miles east of Delta Junction that sets the MAPTS program apart. Established in 1998 to help train local workers for mining jobs in Alaska, it provides

world-class training for underground mining and is in demand far beyond Alaska.



Top: Attendees enter the tunnel while taking a tour of the facility during the MAPTS graduation day. Middle: Attendees view a large piece of mining equipment in the above-ground facility. Bottom right: Attendees view a large truck at the training center. Bottom left: Graduates attend presentations and a ceremony on the floor of the underground "great room" on Nov. 21, 2022. UAF photos by Eric Engman.

MAPTS is working with the government of Greenland under a four-year grant to provide guidance and training, Bieber said. MAPTS frequently hosts Zoom conferences with mines in Canada, the Lower 48 and overseas.

More than 400 miners have graduated from MAPTS' underground mining program in the past decade. Almost all of them went straight to work in one of Alaska's major mines, and most are still working. About 60 percent of graduates are Alaska Natives.

Producing new miners

If you didn't know it was there, it would be easy to drive past the training site. The narrow dirt road branches directly off the Alaska Highway. It opens into a dusty clearing ringed by stunted black spruce that nod in the region's ever-present winds. A cluster of small trailers serve as the living quarters, cafeteria and above-ground classroom. Equipment is housed in an industrial

metal-sided building and another shed with an oversized door houses the entry to the underground mine.

Visitors are ushered into one of the trailers and given a safety vest, hard hat with a headlamp and eye protection. A safety briefing follows, variations of which will be repeated throughout the morning.



Mine training coordinator Sam Reves addresses graduates during their ceremony on Nov. 21, 2022. UAF photo by Eric Engman.

Instructor Sam Reves, a burly man with a full white beard, a ready chuckle and a bottomless font of pithy sayings, guides visitors outside for a tour. He's in no hurry. "We never run," he said. "There's nothing here to run to or run from."

Every six-week course ends with a graduation ceremony. The students give presentations next to oversized pieces of heavy equipment. Each begins with a safety briefing. Nearly every person

noted how intimidated they were by the equipment when they started, and how much they have learned in the 280-hour course.

Not only do the students learn to safely operate the equipment, they also learn public speaking skills, which was scarier than learning to back up the articulated loader, one student noted.

The students learn to operate the equipment outside and only move to the closer underground confines when they're more confident in their abilities.

The facility burrows under a rocky hill north of the Alaska Highway. Its walls and ceiling are blocky lumps of granite held in place by an untidy web of iron beams riveted into the hillside. The muddy, dirt-floored tunnels are just wide enough for a six-seater all-terrain vehicle. One part of the tunnel is sheathed in metal where the beams and rivets couldn't contain the weight of the rock above. The dank air smells of engine exhaust.

A sign on the wall notes "Smoking Allowed."

Reves notes that it's a rock mine with no bad gases that could cause a problem. The rules are different in every mine, he said. "We're training

them so they can work in any mine, so they get used to following the rules where they are.”

Other pieces of heavy equipment are tucked into divots along the main route, and more tunnels branch off to the side. Once the entrance recedes, the only illumination comes from headlights and the lamps on hard hats.

After a few hundred yards, a set of enormous doors opens into the “great room,” the heart of the facility, which is large enough to hold a three-story building. The building houses classrooms, offices and a kitchen facility. There’s even wi-fi.



<https://www.youtube.com/watch?v=fvuuCyTwPrY>

Follow the long, winding underground tunnel through a granite hillside at the Mining and Petroleum Training Service facility near Delta Junction. Video courtesy of MAPTS.

It's a working mine, but as Reves noted, "the only thing we're producing are new miners."

Alaska's major mines are hungry.

According to a report commissioned by the Alaska Miners Association, Alaska's mining industry provided 5,400 direct mining jobs in 2021. A total of 10,800 direct and indirect jobs are attributed to the industry, with \$985 million in total direct and indirect payroll. Mining also provides year-round jobs for residents in more than 95 Alaska communities, half of which are in rural Alaska, where few other jobs are available.

Building self-confidence

In general, Bieber said, mines select the people they want to take the MAPTS course. Students must be 18 and pass a drug test and a background check. Each course covers a six-week period with a schedule mimicking that of Alaska's remote mines: Two weeks on, two weeks off, two weeks on.

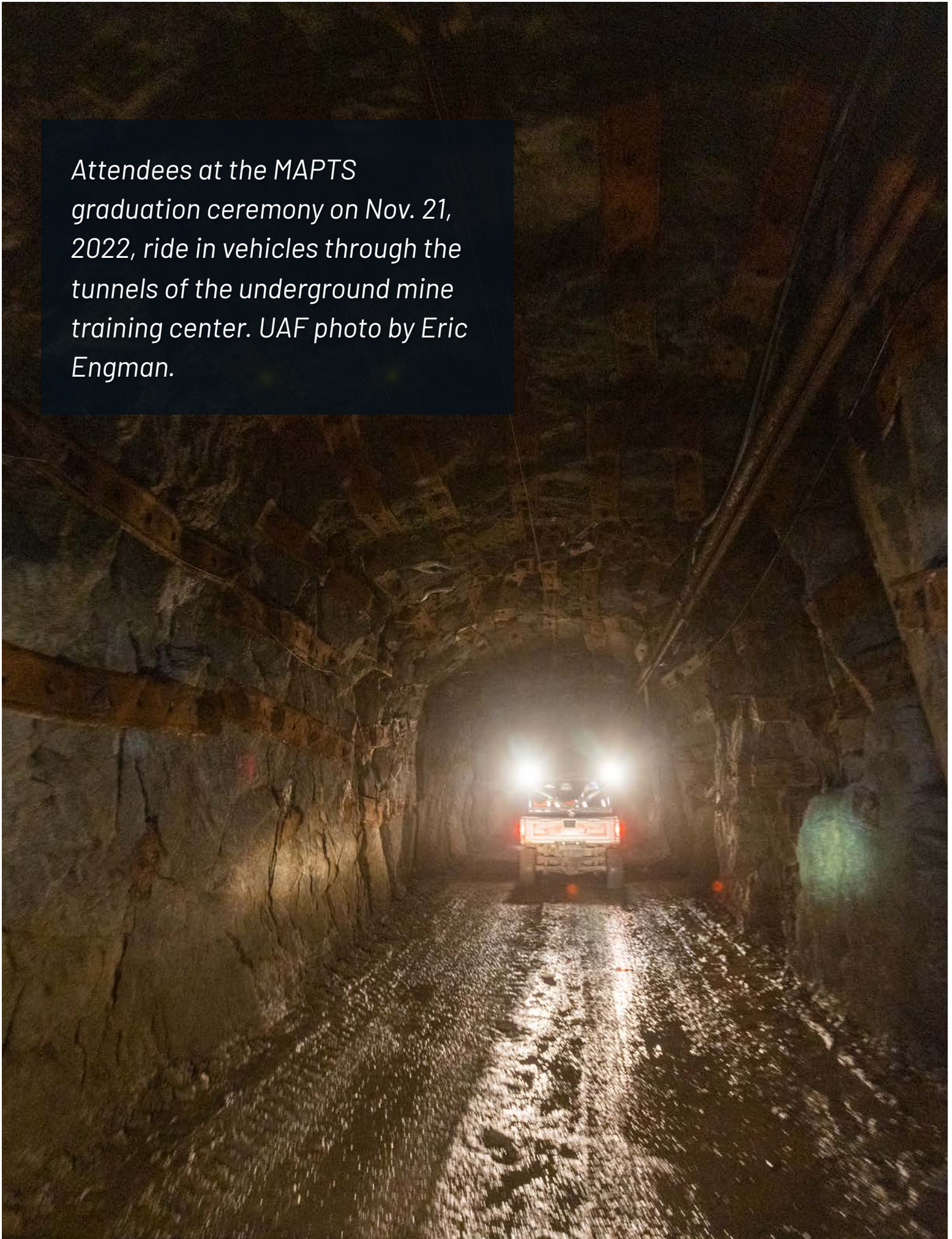
Students bunk and eat at the training center. Drugs and alcohol are forbidden.

Students are up at 6 a.m. They eat breakfast, clean their rooms, make their lunch and are in the classroom at 7:15. Not 7:16.

"It's an entry-level setting," Reves said. "We have them for two weeks. They go home for two weeks. If they meet expectations, we invite them back for the final two weeks."

The training encompasses 10-hour days for a total of 280 hours. The students learn how to work at a remote site location, work safely underground, understand the mining cycle and be able to "read the ground." They also learn "soft skills," such as communication, teamwork, budgeting, having a good work ethic, and life and career planning, in addition to public speaking.

Attendees at the MAPTS graduation ceremony on Nov. 21, 2022, ride in vehicles through the tunnels of the underground mine training center. UAF photo by Eric Engman.



“The whole objective of the class is to build their self-confidence,” Bieber said. “They’re learning how to balance their lives, be successful in the work environment.”

Those soft skills are a big reason the Alaska natural resource industry values the MAPTS training courses, said Smith, human resources manager for Kinross’ Manh Choh project.

“The most important part of this is the employability skills,” Smith said. “They’re really focused on building the work ethic when they’re there. Understanding how to balance being away from home if they’re on a rotation, and then also family life.

“You can get a job, but keeping a job is the hardest part.”

Previously, the time in training camp was unpaid, but in 2022, the mines also started paying the trainees during their time at MAPTS.

The program costs about \$22,000 per student, who work with state jobs centers to get grants and other funding to pay for the program. MAPTS also recently received a \$300,000 grant from the

Alaska Department of Labor and Workforce Development to train up to 28 workers for the Manh Choh project.

“This training is expensive,” Bieber said. “We don’t want to train to train. We want to train to employ.”

The students leave with about seven certifications. Beginning mine workers make about \$75,000 annually, plus full benefits.

MAPTS’ approach is working. Bieber said MAPTS has a 95% graduation rate and an 87% long-term retention rate.

On the first day of training, one of the instructors made a comment that resonated with student Davin Treas: “Success comes when preparation meets opportunity.” Treas was heading to a job at Coeur Alaska’s Kensington Mine.

A variety of drill bits are on display during the MAPTS graduation. UAF photo by Eric Engman.



A century of experience

Bieber has been executive director of MAPTS since 2013. He's an affable man with a ready smile. He grew up on a remote Montana ranch and has more than 42 years of mining experience, including several overseas assignments.

He came to Alaska in 1996 while working for Placer Dome Inc. to help start the Donlin Creek Project, now called the Donlin Gold Project, in southwest Alaska. He managed all of the onsite operations for 14 years, except for a three-year gap starting in 2000 when Placer Dome put the project on hold.

During that break, Bieber was recruited by Teck Resources to help build the Pogo Mine north of Delta Junction.

When he took over the MAPTS program in 2013, Bieber said he found that it wasn't just enough to teach the skills so students could get a mining job; they had to be able to keep it.

The facility can accommodate 20 students, but Bieber said a class size of about 12 is ideal.

The classes are kept small so students get one-to-one training with one of MAPTS' four instructors, who have more than a century of mining experience combined.

"MAPTS' greatest asset is the outstanding and dedicated-to-excellence staff," Bieber said.

Reves coordinates training in federal Mine Safety and Health Administration regulations. He has more than 35 years of mining experience and provides steady encouragement to the students. "Today is a good day" is his mantra.

Peter "Boise" Alexie Jr. is originally from Russian Mission, a village on the lower Yukon River. He is the lead underground instructor for MAPTS. In addition to his mining experience, Alexie understands the pressures students from Alaska's rural villages face when they are considering whether to participate in the training.



Training instructor Peter Alexie Jr., at left, and training coordinator Sam Reves, at right, speak during the MAPTS graduation in the underground mine training center on Nov. 21, 2022. UAF photos by Eric Engman.

“They (the students) come in here greener than a cucumber,” Alexie said. “You can teach anyone anything except what it takes to keep a job. I know we’re doing it right when the mining company brings back students we’ve trained,” he said, nodding to Etheridge and others in the audience at the graduation ceremony.

MAPTS allows people from rural areas to see what the mining industry is all about. The skills MAPTS teaches can be transferred to other occupations – health and safety, administrative roles such as warehousing and inventory control, and heavy equipment operation and maintenance.

Jim “Smitty” Smith is a long-timer, with decades of experience in underground mining. He’s a quiet man with a wry sense of humor. He is an expert in how to safely operate modern bolters, jumbo drills, haul trucks, suckers, jackleg drills and underground utilities.

Adam Lopez is the newest member of the team, arriving in Alaska in 2022. However, he has more than 17 years of mining experience and 15 years

experience as an MSHA instructor, operator and mine rescue coordinator.

Reves said their teaching technique has three parts: "We talk about it, we demonstrate it and they do it. Then they'll do it again until they get it right. This is vo-tech. This is hands-on."

They install utilities and learn to repair them. Then they tear them out again. Safety is hammered in every step of the way. The lesson is well-learned.

"The most important thing that comes out of a mine is the miner," Treas said.

MAPTS students also learn to operate a jackleg drill, which Reves calls a lost art, but which teaches the basics of "rock control." One of the highlights at the end of the course is a jackleg-drilling contest between students.



<https://www.youtube.com/watch?v=PKutOuXubos>

Erik Bach, a student at MAPTS in November 2022, uses a jackleg drill during a competition in the underground facility at the end of the mine training course. MAPTS instructor Jim Smith is overseeing the drilling. Video courtesy of MAPTS.

Paul Layer, UA president of academic affairs, attended the November 2022 graduation ceremony, noting it was his first visit to the facility. "Mining is tough," he told the students. "Congratulations – you did this. This is an amazing facility and amazing staff."

Bieber said the MAPTS staff is able to thrive in the most challenging of times.

For instance, MAPTS is reliant on earned revenues, which have typically come through face-to-face classes. When COVID-19 struck, the

MAPTS staff had to figure out ways to continue to deliver a quality course, Bieber said. "The MAPTS staff met this trying time head on and actually adapted the programs to be compliant and effective," he said.

Hope for the future

At Allen Agnes Jr.'s graduation, his parents sat a few feet away, beaming. His mother, **Doreen Mark '10, '12**, is an environmental technician and the first person Kinross hired for the Manh Choh operation.



Graduate Allen Agnes Jr., center, stands with his parents during the MAPTS graduation at the underground mine training center on Nov. 21, 2022. UAF photo by Eric Engman.

After talking with his family about Manh Choh, Agnes signed up for the MAPTS program. His goal, he says, is to join a mine rescue team. In the short term, however, he is focused on Manh Choh.

Smith said Agnes is already proving himself to be an ambassador for the MAPTS program, as well as a valuable liaison between Kinross, Tetlin and contractors.

Manh Choh is a catalyst for generational change in the remote region, said **Anna Atchison '01**, U.S. director of external affairs for Kinross Gold Corp., which owns Fort Knox gold mine northeast of Fairbanks.

"There's a lot of excitement and hope down in the larger Tok area, because there hasn't been anything down there that gives people job training and hope for the future in a really long time," she said.

The Manh Choh project is different from other mines in Alaska. The project, located 10 miles south of Tok and 12 miles west of Tetlin, is on land leased from the Native Village of Tetlin, which owns both the surface and subsurface rights. Manh Choh means "big lake."

"There will likely not be a project like this ever again in Alaska's history, because they opted out of ANCSA (Alaska Native Claims Settlement Act)," Atchison said. The village already owned both the surface and subsurface rights to the land when ANCSA passed in 1971. "It's a direct relationship

with the Tetlin people and the village council because there isn't a corporation."

The initial project includes enough gold for an estimated four to five years of mine life, Atchison said. Exploration is continuing in surrounding areas.

The project is expected to employ hundreds of people. However, Interior residents have voiced concern about the plan to truck the ore 240 miles to Fort Knox' mill for processing over public roads.

Atchison said she spoke with the Tetlin tribal chief in 2019 about what the community needed out of the development. The biggest focus is on jobs for people, giving them skills they can use for a lifetime in many different fields.

"Having high school students who can move back home because there are jobs now is what, without a doubt, will be the legacy of this project," Atchison said. Hiring locally is built into the project. "We know that it's so vital to utilize as many local people as possible and then create training programs as well."

MAPTS has an agreement with Kinross to train up to 79 workers. "It's going to start gaining more

momentum once people get the confidence and they talk in the village about what an incredible program it is," Bieber said.

"We feel that having the Delta mining training center so close to Manh Choh provides a leg up for us with the ability to utilize their facility," said Meg Smith, the project's human resources manager. "We're really fortunate to have that right in our backyard."

Atchison said the agreement with MAPTS is another way Kinross has been working with the University of Alaska Fairbanks.

"We were always looking for ways to kind of up our game and re-emphasize our commitment to the university," she said. "It's creating the opportunity for generational change."

"The best investment we could make in any community is education."



Graduates (back row from left) Sadiq Imam, Allen Agnes Jr., Erik Bach, Will Tagaloo, CJ Skellham and Davin Treas pose with (front row from left) mine training coordinator Sam Reves, mine training instructor Jim Smith, office administrator Shirley McCaa, mine training instructor Peter Alexie Jr. and executive director William Bieber during the MAPTS graduation on Nov. 21, 2022. UAF photo by Eric Engman.



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