



energy pathways



Trans Mountain pipeline repairs in the Coquihalla Canyon



Nestled high in the Coast Mountain range, as the Trans Mountain pipeline plunges westward from the Interior of BC down into the broad Fraser Valley, it follows the Coquihalla River for about 50 km. This narrow, steep river valley is home to lots of wildlife including mountain goats visible on the rocks high above the valley floor, and the scenic former Kettle Valley Railway. The railway is now preserved as a walking trail along much of its length through the valley.

In the 1950s, the Trans Mountain pipeline was constructed through this valley as the most accessible route to the west coast, owing to the access the Kettle Valley Railway provided through this treacherous terrain.

The beautiful setting comes with challenges, including gaining access to the pipeline. Summer access is less challenging thanks to a 4x4 access road that winds its way through the valley. However, at some points this

roadway is still many metres above the pipeline in the valley floor. During the winter's heavy snowfalls, the road must be plowed or access is restricted to snowmobile or ATV. According to historic railway records, the valley received more than 1.5 metres of snow early in the winter of 1951 before the railway was considered impassable for the remainder of the winter.

At KM 975 in the valley, the pipeline is above ground where it crosses over the Coquihalla River. This is one of the only sections of the Trans Mountain pipeline that is not buried. Although the pipeline was initially buried at this location, it was revised to an overhead river crossing shortly after construction because of the scouring action of the Coquihalla River in this steep valley and the concern that the river may compromise the pipe.

At this crossing, the pipeline is suspended above the river on a bailey bridge. Stairs welded onto the pipeline during the crossing's construction provided easier access to the bailey bridge for inspection and maintenance.

During September 2009, Kinder Morgan Canada (KMC) staff and contractors completed repairs to the bailey bridge and removed the stairs from the pipe. Recent investigation had determined that the staircase should be removed to protect the structural integrity of the pipe. The bridge repairs consisted of replacing the 'pins' that hold the bridge together. Bailey bridges, commonly used in remote areas are

created by lining up several 'pieces' of pre-constructed bridge structure and pinning them together.

In addition to the usual technical challenges of this job, it had the added complication of requiring tight logistical coordination. The access road at this point is about 91 metres above the pipeline and is only accessible by a steep trail down to the river valley.

The contractor found a manlift that was transported by hi-ab truck down the access trail because the usual mobile manlift was unable to navigate the trail on its own.

Crews working on the project stayed in Hope, the closest town which is still about a 45-minute commute.

The project was completed successfully and the valley once again became a quiet retreat for its wildlife.



Stairs, prior to being removed from the pipeline

Our People

Meet Bob Briggs, KMC Employee and Olympic Volunteer

The 2010 Winter Olympics was a historic event that drew around 3.5 billion viewers worldwide. One of the factors contributing to the event's success was the tireless efforts of 18,500 volunteers from around the world. As a member of the Olympic volunteer team, Bob Briggs, an Abbotsford, BC based KMC operator tech, is proud to have made his personal contribution to the Games.

A seasoned volunteer with 20 years of experience at sporting events, Bob was inspired by this once-in-a-lifetime opportunity to be a part of an event of such magnitude. "It was a true honour to represent my country to the world," Bob said.

All volunteers completed a rigorous screening and selection process, and 12 hours of training. Bob started at pass control, showing spectators to their seats. Thanks to his strong presence, he then became a holding zone supervisor at Canada Hockey Place, the venue for the 2010 Winter Games ice hockey tournament. He was responsible for 25 volunteers, maintaining order, answering inquiries and providing directions to the visitors within security inspection areas. Bob worked alongside staff from government agencies such as RCMP and the FBI.

Volunteering for the Olympics required a significant time commitment. Bob took

vacation time to complete 15 10-hour volunteer shifts. Even though long hours and a four-hour daily commute were demanding, Bob believes his incredible Olympic experience was completely worth it. He witnessed the Olympic Opening Ceremonies, worked with an amazing team, watched some of the best hockey, met people from all over the world and, most importantly, was an ambassador for his country. Meeting Alexandre Bilodeau, a Canadian freestyle skier and Canada's first Gold Medal winner, was a highlight of the Games. The athlete showed up at the staff gate with his gold medal around his neck. He had forgotten his credentials required to enter his venue and was looking for help. Bob was thrilled to assist the famous champion.

Volunteers' contribution to the Olympics went far beyond ordinary participation. "As soon as you donned your blue volunteer uniform, you became an ambassador for the Games. People would turn to you for assistance and directions anywhere any time," Bob said. Well received by both the spectators and athletes, volunteers' efforts were highly recognized by the organizers of the Games including a special tribute to the volunteers at the Olympic Closing Ceremonies.

The 2010 Winter Games experience bolstered Bob's plans to volunteer for the future Olympics. "This experience exceeded my expectations in a massive way. Being a part of something so big that you can't quite put it into words will be in my memories for a lifetime. The chance to do it again in future games will be the next chapter in my Olympic adventure."



Raft River WHC Certification: being recognized for environmental stewardship

KMC is pleased that since 2008 our employees have received international recognition for their contribution to wildlife habitat conservation for two locations in British Columbia.

In 2008, the Wildlife Habitat Council (WHC) recognized KMC employees for a project along Stoney Creek in Burnaby, BC.

Most recently, in December 2009, the WHC recognized a habitat enhancement project on the Raft River near Clearwater, BC in the North Thompson region. The project involved stabilizing over 700 m of river bank to prevent erosion and enhance habitat for fish, as well as native tree and shrub planting.

Practice makes perfect: responding to an emergency

Although you hope you never need to respond to an oil spill, there is truth to the statement 'practice makes perfect'. In the unlikely event of a pipeline release, we want to ensure that we are indeed prepared to respond effectively.

For this reason, on a recent sunny afternoon, about 40 people gathered on the shores of the Fraser River in Surrey, BC, to participate in a deployment exercise. Participants included KMC employees, first responders from surrounding communities, representatives from local First Nations, and other service providers.

With the 24-inch Trans Mountain pipeline crossing under the Fraser River about 6.5 km upstream from Brownsville Park, this location was identified as a strategic control point for responding in the unlikely event of a pipeline breach. Immediately downstream, the river divides into several small channels making an efficient clean up downstream of this point more challenging.

This location doesn't come without its own challenges however. At this point in

the Fraser River, the tidal influence from the Pacific Ocean is still strong, meaning that on any given day, the water may be flowing downstream or upstream or it may be still.

Goals of this deployment included familiarizing staff and other responders with equipment that may be new to them;



testing the equipment to ensure it worked properly; reviewing the suitability of this control point; and continuing to build new and refresh existing relationships

with communities where we may need to respond.

The training opportunity proved valuable. Some of the lessons learned included:

- Equipment standardization is critical. A hydraulic hose borrowed from another piece of equipment didn't fit the skimmer when it came time to use it.
- The chance to review suitability of this control point was important as the area has become more urban since it was originally identified 20 years ago.
- As expected the tidal influence proved challenging and this deployment provided valuable experience to responders.
- The deployment also confirmed that we have the right amount of and type of equipment and responders available.

Although you never hope you need to use them, these lessons learned will only provide a stronger response in the unlikely event they are needed.

Professional Development: KEEPing field staff current

KMC and its predecessors have always had training programs for their pipeline operations and maintenance staff. These programs are now being enhanced and integrated into the Knowledge and Experience Enhancement Program (KEEP). KEEP's purpose is to provide employees with the knowledge and skills they need to do their jobs safely, efficiently and effectively, while protecting themselves, the public and the environment.

KEEP is a multidiscipline modular-based training program consisting of individual competencies. Competencies generally progress from orientation and foundational skills to higher proficiencies for staff involved with performing complex tasks and troubleshooting technical problems. Typically, an employee completes modules within his or her primary technical discipline, but can also complete modules within other technical disciplines, for example,

operations, mechanical, equipment and instrumentation, pipeline maintenance and pipeline protection.



With guidance from his or her supervisor, the employee develops an individual training plan, which identifies the competencies to be completed in

a given year. The supervisor assigns a coach and an evaluator to ensure that the employee meets training objectives for each competency.

Some competencies may be courses, such as First Aid or Confined Space training, and others are self-study, where employees work through a learning packet guided by their coach. Requirements for recertification vary with each competency.

Comprehensive training based on industry standards benefits both the organization and employees, who become multi-discipline experts. It provides the company with flexibility and employees with a broad range of marketable skills.

By keeping field personnel current in their areas of responsibility, we can continue to safely and efficiently transport petroleum products through the Trans Mountain pipeline as we have done for more than 50 years.



Skills Canada BC Competition

Every spring secondary and post-secondary competitors from around BC gather to demonstrate their skills in trades and technology. This year's event was held in Abbotsford, BC.

Students participated in more than 30 competitions that are practical challenges designed to test skills required in trades occupations. The competitions range from building a spaghetti bridge to cabinet making. Students placing gold at the BC Skills Competitions will advance to the Canadian Skills Competition. KMC was pleased to participate in this year's event – and from all of us here, congratulations to all who competed.

Supporting local first responders

Safety is our first priority. For that reason, KMC believes in supporting first responders such as fire departments who are often first on the scene in the unlikely event of a problem with our pipeline.

We support first responders in many ways. In some cases, we invite first responders to participate in our emergency response exercises or equipment deployments; in some cases, we are teaming up to provide training; and, as we have done recently, sometimes we are able to provide funding for specialized equipment. In the Fraser Valley, we recently provided a gas detection

unit for the Popkum Volunteer Fire Department which will assist them to respond safely should they need to respond to a pipeline emergency. We also recently provided funding for the Hope Fire Department to purchase equipment for their Command vehicle.

Abbotsford Lantern Festival

KMC was once again pleased to support the 2009 Abbotsford Lantern Festival. Last fall's event drew Abbotsford and Fraser Valley families to create lanterns with an Olympic theme.

Contact us

We would like to hear from you! If you have a story idea, comments or questions about our publication, please contact:

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