

# REPORT TO STAKEHOLDERS & COMMUNITIES



**PLAINS  
MIDSTREAM**  
C A N A D A







*On the cover:  
Shafter, California*

*Inside cover:  
Shafter, California*

# OUR MISSION IS TO SAFELY DELIVER EXCEPTIONAL RESULTS

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# MESSAGE FROM OUR PRESIDENT

The North American energy industry underwent a transformative year in 2017. In the face of prolonged low commodity prices for most of 2017, hydrocarbon production continued to grow. Exports to overseas markets increased in importance for North American production and proposed pipeline projects and access to markets dominated headlines in Canada and the U.S.

It was a transformative year for Plains Midstream Canada (PMC) as well. Our organization and business model continued to evolve with the changing environment. Our assets span the crude oil and natural gas liquids (NGL) value chains from wellhead to end-user, linking energy production to markets by optimizing our pipelines, plants, storage facilities, trucks and rail assets. We continued to develop the NGL business with assets and marketing efforts located throughout Canada and the U.S. On the crude oil side, we continued to use our western Canadian asset presence and close relationship with our parent company, Plains All American Pipeline, L.P., to link Canadian crude oil production to markets throughout North America and overseas.

Building on our historically solid foundation, we continued to thrive thanks to the commitment, support and efforts of our people to safely deliver exceptional results. Bringing the voices, perspectives and accomplishments of employees and communities to the forefront is one of the driving forces behind our annual Report to Stakeholders and Communities. This collection of unique stories from 2017 paints a picture of continuous improvement, sustainability and accountability—areas in which we take great pride.

The following pages focus on four major pillars of our organization: our business, safety and environment, our people and communities, and protecting our assets.

In 2017, we saw the conclusion of a major expansion program at our Fort Saskatchewan plant, which concentrates on NGL and liquefied petroleum products. Completion of this five-year, multi-phase project was a resounding accomplishment, one that provides economic benefits for the surrounding communities and a boost in our commercial capacity and ability to serve western Canadian producers.



We were persistent in our efforts to improve safety, the foundation of our culture. The protection, security and stewardship of the environment, the public and our employees in the communities where we operate is not just an aspiration—it's a core value of PMC. Platforms like Health and Safety Management, Hazard Identification and Safety Incentive Programs continued to guide operations and establish concrete expectations on how we safely conduct our business.

We remain committed to the people who live and work where we do. Investment in community initiatives through our employee donation-matching program and the sponsorship of community events allow us to maintain positive relationships based on collaboration and respect.

Our commitment to protection of the environment and the public requires a strong, rigorous approach to fundamental operating principles such as asset integrity, damage prevention and public awareness. Our Operations Management System is made up of a number of programs and processes that are fundamental to continuous improvement and safe operations.

We hope our report serves as a practical, educational resource for anyone who picks it up, helping them understand our company, the midstream industry and the ideologies that guide our business. The intent of the report is to provide you with greater insight into our operations in an industry that continues to improve, grow and mature.

Continued success for PMC is a collaborative effort, which requires dedication from everyone involved. I extend my gratitude to employees and stakeholders alike for maintaining the course on a shared vision as we navigate the changing waters for our industry and position ourselves for future growth.

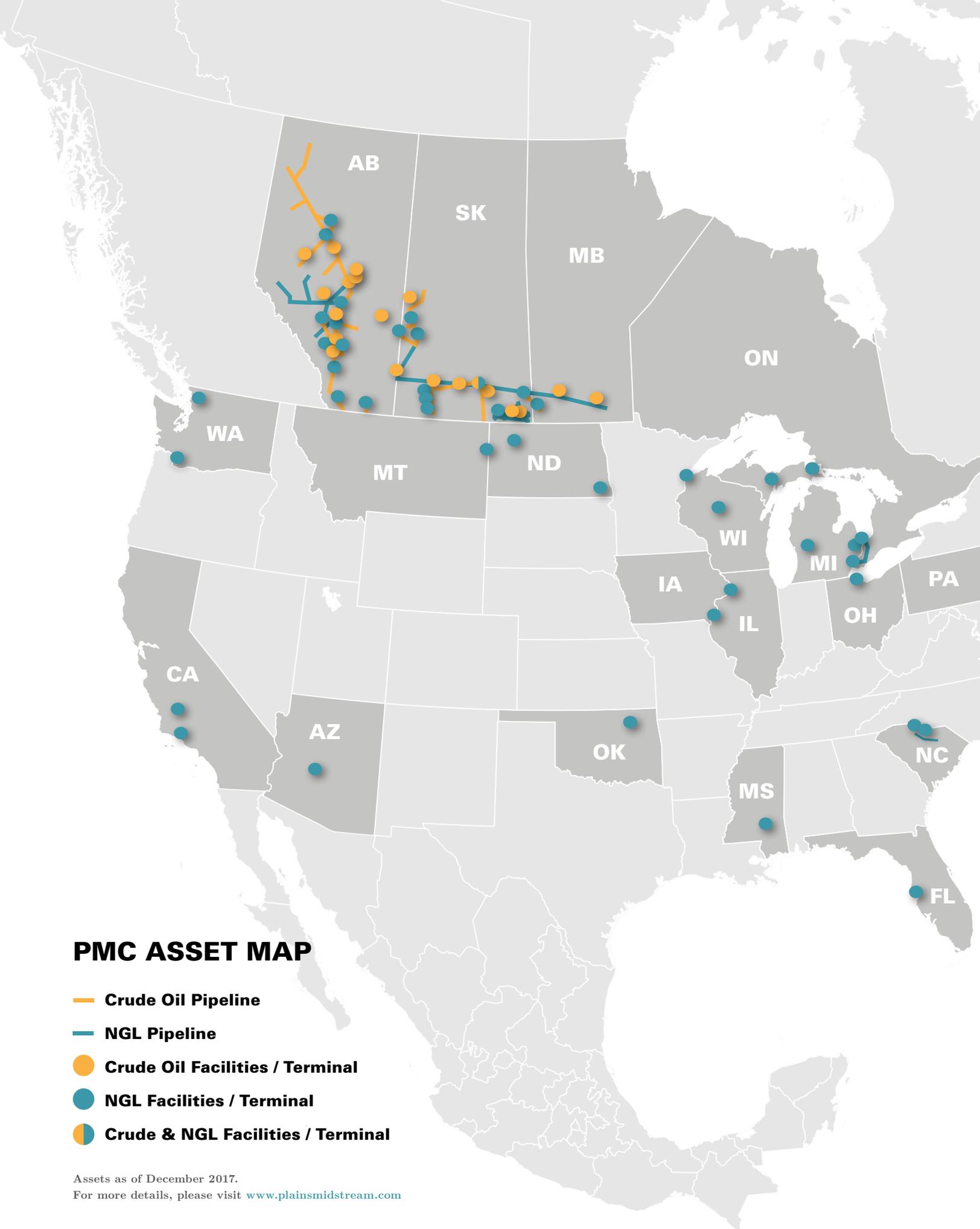
## Jason Balasch

President, Plains Midstream Canada





# OUR BUSINESS



## PMC ASSET MAP

- Crude Oil Pipeline
- NGL Pipeline
- Crude Oil Facilities / Terminal
- NGL Facilities / Terminal
- Crude & NGL Facilities / Terminal

Assets as of December 2017.  
 For more details, please visit [www.plainsmidstream.com](http://www.plainsmidstream.com)



## OUR WAY TO OPERATE

At the core of our mission, to safely deliver exceptional results, is a clear, aligned, process-driven Operations Management System (OMS). OMS helps us conduct and coordinate operations in a way that is systematically planned and supports the execution of our strategy.

Each operating group is responsible for aligning with our OMS. All programs, processes and procedures are defined and documented to ensure they are aligned with our values, implemented and evaluated for continuous improvement.

PMC has invested a significant amount of time and resources into our management system over the last few years, and we remain committed to our strategy of using OMS as a tool to reach our goals in pursuit of operational excellence.



# PMC VALUE CHAIN



**PRODUCERS**

## TRANSPORTATION TO PROCESSING & STORAGE:



**4,700 KM**  
CRUDE OIL PIPELINES



**800**  
TRAILERS



**3,400 KM**  
NGL PIPELINES



**7,000**  
RAILCARS

## STORAGE:



**32** ACTIVE STORAGE, TRANSPORTATION TERMINALS & FACILITIES



**5M** BARRELS CRUDE OIL STORAGE



**34M** BARRELS NGL STORAGE

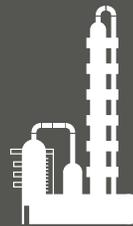
PMC uses spheres, bullets, caverns and tanks to temporarily store crude oil, condensate and NGL products. The storage facilities are regularly inspected for environment and safety reasons.

## PROCESSING:

**2** GAS PROCESSING PLANTS

**5** GAS STRADDLE PLANTS

**9** FRACTIONATION PLANTS



- Gas processing plants remove hydrocarbon and water from natural gas.
- Gas straddle plants extract additional NGLs from natural gas pipelines.
- Fractionation plants separate NGLs into products such as ethane, propane, butane and pentanes.

## TRANSPORTATION TO END USER:



PIPELINE



TRUCK



RAIL



**END USER**

END CONSUMERS / GAS STATIONS  
RESIDENTIAL & RETAIL DISTRIBUTIONS  
CHEMICAL REFINERIES

## OUR BUSINESS

PMC specializes in transportation, storage, processing and marketing solutions for crude oil, natural gas and natural gas liquids (NGLs). We link petroleum producers with refiners, petrochemical producers and various heating and motor fuel customers via pipeline, truck and rail transportation. We also operate strategically located facilities for crude oil and NGL storage, separate NGLs from natural gas and fractionate NGLs into pure liquid petroleum gas (LPG) products. With our expertise in marketing, logistics and our asset base, we are positioned to provide our customers with flexible, value-added services.

### Product Spotlight: Propane

Most people associate propane with backyard accessories, like barbecues and patio heaters. However, the gas has widespread use across many areas, including home heating, cooking, agriculture, transportation, industrial equipment operations and plastic manufacturing.

### How is propane produced?

When natural gas is extracted from beneath the Earth's surface, it is processed in a gas plant to remove the NGLs from the gas. The NGLs are then separated into pure LPG components including ethane, propane, butane and condensate through a process called fractionation. After these products are separated, they are delivered to various customers to heat homes, make motor fuel and serve as feedstock for consumer goods.

### Where does PMC come in?

As a midstream provider, we are involved in the stages of gas processing, fractionation, storage, marketing and transportation of products like propane. Through these business lines, we bridge the gap between producers and consumers, and monitor and respond to variances in market supply and demand, which fluctuate seasonally.

During times of low demand, we store propane at our storage facilities. When propane heating demand increases, we transport the product via pipeline, truck or rail to distributors who provide the needed supply to the end-user.

### Product Spotlight: Crude Oil

Crude oil is an integral part of the energy industry and our daily lives. From keeping cars on the road and jets in the air, to being a key ingredient in soap and detergent, petroleum makes up two-thirds of all energy consumption.

### What is crude oil?

Crude oil is a liquid found beneath the Earth's surface and is comprised of hydrocarbons and organic material.

There are two types of crude oil production:

- **Conventional:** This type can range from light to heavy oil. Light has a low viscosity and flows freely at room temperature, while heavy oil has a high viscosity that does not flow easily.
- **Unconventional:** Oil sands production is considered unconventional and results by separating sand and clay particles from bitumen. Bitumen is oil that is too heavy or thick to flow or be pumped without being diluted or heated.

### Where does PMC come in?

As a midstream provider, our assets provide oil producers with flexibility for transportation and storage of crude oil.

On the transportation side, we move Canadian conventional crude oil via 4,700 km of pipelines, 625 truck trailers and 500 railcars. This allows us to get product from producer companies to refineries and storage facilities across North America.

With our storage assets, PMC can hold approximately five million barrels of crude. This allows us to meet the supply and demand needs of refiners and consumers.

To learn more about our business visit [www.plainsmidstream.com](http://www.plainsmidstream.com).

# FORT SASKATCHEWAN EXPANSION PROGRAM

In 2013, PMC began a major expansion program at our Fort Saskatchewan, Alberta, plant which receives, stores, fractionates and delivers natural gas liquids (NGLs) and processes liquefied petroleum gas (LPG) specification products from NGL. The program involved several phases focused on the expansion of fractionation and storage capacities, as well as development of transportation infrastructure. At the end of 2017, construction of the program was successfully completed. Through this expansion, we have contributed to the local and surrounding communities in terms of jobs and sustainability in the region.

## Commercial Impact

**75** FULL TIME EMPLOYEES AT THE PLANT

CONSTRUCTION OF A BUTANE STORAGE FACILITY

ADDED A MERCAPTAN OXIDIZATION UNIT TO REMOVE SULPHUR FROM NGL MIX PRODUCT

ADDED ADDITIONAL SULPHUR TREATING FOR SPECIFICATION PRODUCTS (PROPANE AND BUTANE)

CONSTRUCTION OF A CONDENSATE DISTRIBUTION AND STORAGE FACILITY

CONSTRUCTION OF PROPANE AND BUTANE TRUCK LOADING AND NGL OFFLOADING FACILITY

CONSTRUCTION OF A **60** RAILCAR PER DAY PROPANE LOADING TERMINAL

DEVELOPMENT OF:

**5** STORAGE CAVERNS **2** BRINE PONDS

INCREASED INLET CAPACITY BY **20,000**

## Community Impact

ESTIMATED PROJECT TOTAL IN EXCESS OF  
**\$750** MILLION CAD



**\$2.9** MILLION CAD IN TAX REVENUE GENERATED FROM  
THE PLANT TO LOCAL AND REGIONAL GOVERNMENTS

CREATED IN EXCESS OF **2,500,000** PERSON HOURS  
OF EMPLOYMENT OVER THE EXPANSION PROGRAM PERIOD

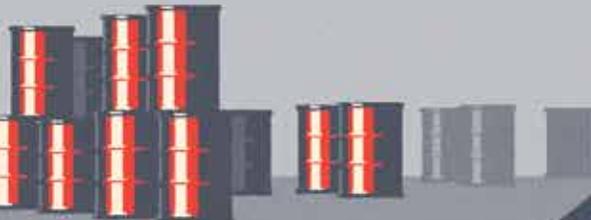


OVER **250,000** PROACTIVE SAFETY ACTIVITIES CONDUCTED  
DURING PROJECT INCLUDING HAZARD IDENTIFICATIONS, HAZARD  
ASSESSMENTS AND WORKPLACE INSPECTIONS



CONTINUE TO CONTRIBUTE DIRECTLY AND INDIRECTLY TO  
VARIOUS LOCAL AND REGIONAL BUSINESSES THROUGH USE  
AND PURCHASE OF GOODS AND SERVICES SUCH AS:

- ENGINEERING, CONTRACTING AND CONSTRUCTION FIRMS
- OILFIELD SERVICE AND EQUIPMENT SUPPLIERS
- LOCAL EQUIPMENT RENTAL COMPANIES
- HOTELS AND RESTAURANTS



BARRELS PER  
DAY OF NGL

PMC IS AN ACTIVE MEMBER OF THE ALBERTA INDUSTRIAL  
HEARTLAND ASSOCIATION WHERE WE CONTINUE TO  
PARTICIPATE IN MANY STAKEHOLDER EVENTS TO PROVIDE  
THE LOCAL COMMUNITY WITH UPDATES REGARDING OUR  
OPERATIONS AT THE FORT SASKATCHEWAN PLANT.





# **SAFETY & ENVIRONMENT**

## **SAFETY BY THE NUMBERS IN 2017**

**~15**

**AVERAGE HOURS  
SPENT ON STANDARD  
SAFETY TRAINING FOR  
CORPORATE OFFICE  
EMPLOYEES**

**~235**

**SAFETY MEETINGS  
CONDUCTED ACROSS  
OUR OPERATIONS**

**~60**

**AVERAGE HOURS SPENT ON  
STANDARD SAFETY TRAINING  
FOR FIELD EMPLOYEES**

**~30**

**SAFETY TRAINING  
COURSES AT PMC**

**40**

**MANAGEMENT WALK  
AROUNDS CONDUCTED  
ACROSS OUR FIELD  
OPERATIONS**

**93%**

**PASS RATE FOR  
INTERNAL SAFETY  
AUDIT**

# SAFETY PROGRAM

PMC is committed to conducting our operations in a manner that maintains the safety and security of the public, our employees and our contractors; the protection and stewardship of the environment; and the safety, security and integrity of all our assets, including property.

Our Health & Safety Management Program is a reflection of that commitment and works to enhance our health and safety processes through:

- Identifying, assessing and controlling health and safety hazards and risks.
- Setting and achieving objectives and targets consistent with our Operations Policy and health and safety commitments.
- Providing employee training, guidance and access to resources necessary to meet their responsibilities and to create a safe and healthy workplace.
- Consulting and collaborating with our employees, contractors and other stakeholders on health and safety matters.
- Adhering to government legislation, meeting legal requirements and industry safety standards, and ensuring these requirements are built into controls to properly operate and maintain equipment.
- Establishing employee and contractor accountability while conducting their activities in accordance with our standards.
- Continuing to monitor, assess and improve health and safety performance, and reporting progress in a transparent and timely manner.

## PMC LIFE RULES

Our life rules are a set of values and expectations that outline the key rules every employee and contractor must follow. Awareness and use of these rules enhance our corporate safety culture.



**Have a Safe Work Authorization Permit**



**Assess Hazards**



**Use Management of Change**



**Use Personal Protective Equipment**



**Control Entry to Confined Spaces**



**Manage Ground Disturbances**



**Safely Operate Lifting and Motorized Equipment**



**Isolate Energy Sources**



**Work Safely at Heights**



**Operate Vehicles Safely**



## DRIVING CONSISTENCY THROUGH AREA MANAGEMENT TEAMS

Consistency in the delivery of our corporate programs and communications is important due to the complex nature and diversity of assets in our operating districts. In order to help us establish a uniform approach, we formalized and standardized Area Management Teams (AMT).

The AMTs drive an annual planning process with a standardized foundation in each operating district, regardless of the asset or product type. The annual plan identifies improvement opportunities from several sources, including gap analysis, operational risk assessments, organization-wide goals and other assurance activities. The structure of the AMTs has helped reinforce our safety culture across the company.

Annual planning activities include:

- Communicating goals, objectives and targets, and creation of activities to achieve them.
- Reviewing the findings from assessments, gap analysis and risk management to inform decision making.
- Coordinating with the company's annual budget cycle.

While safety has always been an important part of our business, structured monthly AMT meetings have helped deliver consistent execution of safety, environment and maintenance programs, messaging and measurement. These meetings include reviewing risk, lessons learned, health and safety statistics and other district initiatives.

Performance metrics against the annual plan are captured in an AMT dashboard, which presents leadership with a summary for each district. The dashboard measures safety performance such as incidents, hazards and injuries on a monthly basis.

Our AMT structure and strategy is another way we foster a culture that puts the highest priority on employee, contractor and public safety, as well as protection of the environment.

**“An important part of safety success is empowering employees to properly take the time to safely complete work. This brings us closer to our goal of an injury free workplace.”**

- Francois, Facilities Engineering, PMC



## RECOGNIZING SAFE BEHAVIOUR

PMC focuses on recognizing proactive safety behaviour, as well as identifying and reporting hazards through our Safety Incentive and Hazard Identification Programs. Reinforcing these behaviours is critical for a safe workplace.

The Safety Incentive Program was established to set reporting requirements and encourage participation in all of PMC's safety programs. The resulting awards celebrate those individuals who go above and beyond to set an example through proactive, thoughtful, consistent and safe day-to-day routines. Individuals are also recognized for their efforts to identify and report health and safety hazards, small or large.

Through clear safety identification and reporting expectations, these programs improve and reinforce positive employee and contractor behaviour. This helps prevent incidents before they occur and allows other operating areas to learn from identified hazards.

Safe behaviour from employees and contractors is rewarded through acknowledgment from leaders, co-workers and our president. The Safety Incentive Program recognizes those who have demonstrated outstanding safety leadership in situations such as stopping unsafe work, which can prevent potential injury or property damage, and helps to build a positive local safety culture.

## SAFETY AS A FOUNDATION OF CULTURE

PMC employees demonstrate our culture by driving safety outcomes and performance through our company values, beliefs and attitudes.

The National Energy Board (NEB) has recognized that safety culture requires greater understanding and consideration in the energy industry. An organization's culture may positively or negatively influence safety and environmental protection outcomes. The strength of an organization's safety culture is demonstrated by leadership's commitment to safety and reflected through a company's access to adequate resources, systems and rewards.

PMC's safety culture is maintained through leadership, engagement, operational discipline and performance measurement, demonstrated in part through:

- Committed and accountable leaders.
- An empowered workforce that has a reporting culture and stops unsafe work.
- Regular status reviews and annual management reviews.

Our goal is to conduct our business in a manner that is safe for our employees, contractors and the environment. We continue to mature through our day-to-day behaviours and actions, and we understand that safety performance is a foundation of our culture.

## WATER RECYCLING

Protection of the environment is a top priority for PMC which is why our Empress, Alberta, plant takes water treatment seriously. To operate our plant, we pump water from an underground source along the banks of the South Saskatchewan River. As a responsible operator, we treat the remaining used water and reclaim it before recycling it back into the watershed.

As part of our recycling process, many rigorous tests are conducted to confirm that the water released back is safe for the natural ecosystem. We test for several release limits such as phosphate levels, chlorine, PH levels, etc. We also conduct ecological tests several times per month to confirm that the water is habitable for aquatic life.

Water treatment at our Empress plant includes many other checks and balances. We gather and monitor real time data on flow, levels and quality of all water in the plant. Our operators also perform regular manual testing with further analysis conducted through our laboratory. In addition, we send our water out to third-party laboratories for testing to ensure we are meeting the requirements of our operating license.



## ABOUT THE PROGRAM

PMC's Environmental Protection Program outlines a framework for safeguarding the environment when planning and executing our work activities. Environmental sensitivities are identified during project planning, and plans are developed to minimize or avoid potential impacts. Potential site sensitivities include the following disciplines: soil, vegetation, wildlife and habitat, water bodies, aquatic studies and historical resources (i.e. archeology or paleontology).

**“PMC’s initiative to proactively identify environmental sensitivities and implement protection measures in all phases of projects demonstrates their commitment to environmental stewardship.”**

- Victoria, Aquatic Toxicologist / Project Manager,  
Applied Aquatic Research Ltd.

*Empress, Alberta*





## IDENTIFYING ENVIRONMENTAL SENSITIVITIES

Project planning at PMC involves a number of preliminary evaluations, including potential environmental impacts associated with a proposed project. For example, during project planning for the construction of a new pipeline connection near Caroline, Alberta, we conducted a review of the area to identify potential environmental sensitivities. A pre-construction breeding and nest survey identified various species of birds present. This resulted in specific mitigation measures incorporated into the project's environmental protection plan.

Animal dens, shelters or nests were not observed within the project footprint. Outside of the project footprint, a Mountain Bluebird nest was observed near the access road which would be trafficked by project vehicles. To not disturb the birds or cause them to abandon their nest, activities were minimized during the project including limiting noise and refraining from prolonged idling or placing equipment within 50 metres of the nest site. Personnel were also instructed to not approach or touch the nest.

The pipeline connection was successfully constructed without any adverse effects to the birds or their nest in the area. Safeguarding the environment and potential sensitivities is an important part of our program.







# OUR PEOPLE & COMMUNITIES

## LEADERSHIP AND DEVELOPMENT AT PMC

As an entrepreneurial company that fosters a culture where leadership is encouraged, we have a well-defined approach to support emerging leaders as they work to achieve their career aspirations.

The Leadership Exploration And Development (LEAD) Program is the first step for high-performing employees interested in pursuing leadership opportunities at PMC. This program is a critical part of our employee development program with participants nominated by their supervisors.

LEAD Program participants spend on average three to six hours a month in the classroom with specialized content geared towards leadership preparation and readiness. The classroom portion involves interactive discussions and engagement with PMC's executive team who join as guest speakers. Part of this program is to develop a supportive network of future leaders working together to contribute to the overall success of our company.

Participants develop a clear understanding of PMC's leadership principles, expectations and skills. The program is strongly aligned with our collaborative culture and puts emphasis on the three C's we believe strengthen a team: Connect with your team members more effectively, Create clarity for yourself and others, and Celebrate your team members' performance.



*40 PMC employees participated in the LEAD Program this year*

**“The one true take away from the LEAD Program was discovering this leadership quality others saw in me, but never realizing this on my own until joining the program. It is a dedicated platform for individual growth as well as character build which you cannot achieve on a singular level.”**

- Janice, Pipelines & Facilities, PMC



Canadian Red Cross volunteers

**“The impact that PMC employees can have in the community is amplified with the company support. To me, it says a lot about a company and the people who work for it, when there is a program that encourages and empowers employees to participate and support charitable organizations.”**

- Omar, Rail Logistics, PMC

## CARE (CREATE A REAL EFFECT) PROGRAM

Mother Nature was a strong force in 2017, resulting in several devastating hurricanes and fires across North America - most notably Hurricane Harvey, Hurricane Irma and the numerous forest fires in Alberta and British Columbia. These natural disasters displaced tens of thousands of people from their homes, including employees and members of the communities where we operate. PMC employees answered the call for help and made donations to both the Canadian and American Red Cross which were matched by PMC’s CARE Program.

Through CARE, over 100 charities across North America received matching donations from PMC. These charities supported community benefits, education, and health and welfare initiatives, and programs across 15 provinces and states. Employees at PMC have shared that they choose to donate to registered charities for many reasons, such as personal affect by a specific cause, belief in the positive impact a charity has on their community or belief the charity provides an essential service to the community. Some of the most supported organizations by employees in 2017 were the Alberta Cancer Foundation, Heartland Humane Society and the University of Calgary.

**CARE**  
*Create A Real Effect*

### ABOUT THE PROGRAM

The Create A Real Effect (CARE) Program supports charities close to the hearts of our employees. Through CARE, our employees can donate to registered charities of their choice, and PMC is proud to match overall contributions up to \$10,000 per employee, per year.

## ABOUT THE PROGRAM

PMC's Community Investment Program supports our long-term strategic involvement in the communities where we operate. We form partnerships with organizations to address social issues in the areas of health and safety, education, environment and capacity building.



**Health & Safety:** We invest in programs that support the health and safety of our employees, contractors and local communities.



**Education:** We believe knowledge is a building block for the success of future generations.



**Environment:** As a responsible operator, we support organizations that protect and conserve the environment.



**Capacity Building:** Our entrepreneurial spirit recognizes the importance of business skill development, training and economic development.



**“We are pleased and proud to add Plains Midstream Canada to our team of supporters, building a strong community serving a large region.”**

- Diana, President of the High Prairie Health Care Auxiliary Society



## COMMUNITY INVESTMENT

### Healthcare in High Prairie

High Prairie Health Care Auxiliary Society received a financial booster shot in 2017 through our Community Investment Program. Donations like ours, earmarked for new equipment, assist the society in their purpose to improve patient comfort and care. This will have a positive effect on the population in the surrounding area of some 17,000 people, which includes three Métis settlements, five First Nations and a large rural area of grain and mixed farming.

### Supporting a Sustainable Saskatchewan

The Saskatchewan Association of Rural Municipalities (SARM) is an independent association representing rural municipal governments in Saskatchewan. The group works to build a diverse economy resulting in a strong, sustainable province. SARM delivers timely programs and services to meet the needs of its members while influencing government policy and facilitating municipalities to work together to foster rural development.

PMC supports organizations like SARM in their mission towards a sustainable community. In 2017, PMC sponsored the mid-term convention where 1,000 delegates, including reeves, councillors and administrators from 296 rural municipalities across the province participated. Attendees debated policies, programs and service delivery, and learned from a variety of relevant presenters on municipal and rural policy research and development, agriculture and economic development.



*Saskatchewan Association of Rural Municipalities mid-term convention*



## Educating Youth in Los Angeles

The life of a youth in the Los Angeles Harbor can be a difficult one with over 13,000 children living below the poverty line and 27 per cent of residents 18 and older, having less than a high school diploma. The Boys and Girls Clubs of the Los Angeles Harbor serve more than 2,300 children per day through high-quality programming in academics, arts and athletics.

These programs are provided in a safe and nurturing environment which these children may not have experienced otherwise. Rancho LPG Holdings LLC, a subsidiary of PMC, donated to the boys and girls clubs in support of their core program areas, leadership development, daily recreation and after-school activities.



## Conservation Efforts in Ontario

The St. Clair Region Conservation Authority (SCRCA) has a mission to provide leadership through coordination of watershed planning, implementation of resource management programs and promotion of conservation awareness. PMC recognized this important mission in 2016 when we supported their conservation education programs and again in 2017 with a donation towards their Water Quality Monitoring Program.

PMC diligently monitors the water we use for our operations and sought to support a program that did the same for the community and surrounding area. Through the Water Quality Monitoring Program, surface water quality is monitored regularly by measuring water chemistry and organisms at monitoring stations throughout the 4,100 cubic kilometre region in southern Ontario. The data is collected and then analyzed to generate a report to highlight areas of need and direct conservation actions. With approximately 20 per cent of the world's freshwater located in Canada, it is evident why water is such an important resource and why PMC supports organizations that help protect and conserve it.



## Planting for a Sustainable Future

For more than two decades, Tree Canada has engaged communities in the pursuit of a greener and healthier living environment for Canadians. As a responsible operator, we share Tree Canada's commitment to environmental accountability. Our donation to Tree Canada supported their National Greening Program, an effort which will see 5,000 trees planted in an area around Portage la Prairie, Manitoba. These saplings will replace trees lost during a 2016 tornado, and will ultimately provide windbreak from the nearby provincial highway, complement wildlife habitat and promote water retention. Our collaboration with Tree Canada helps to create more sustainable communities where we operate and will benefit generations for years to come.



## Driving for a Healthier Future

Rockyview General Hospital benefitted from some friendly competition between the energy and real estate industries in Calgary at the fourth annual Rockyview Invitational Golf Tournament. The tournament pitted these two groups head-to-head on the links to raise funds for Rockyview General Hospital's expansion of the Gastrointestinal (GI) clinic. PMC, in partnership with Jayman Homes, worked together to raise more than \$1 million. With arguably one of the busiest GI units and clinics of its kind in Canada, Rockyview General Hospital enhances patient care and treatment through specialized GI suites. Critical care is provided to patients with a variety of conditions, including bladder cancer, colitis and Crohn's disease, and the funds raised at the tournament supported the purchase of new equipment for the suites.



*Tree Canada National Greening Program*



*SCRCA Water Quality Program sampling*

**“We could not continue to serve the 2,300 youth we provide programs to daily without your support.”**

- Pamela, Director, Donor Relations, Boys & Girls Clubs of the Los Angeles Harbor



*Boys & Girls Clubs of the Los Angeles Harbor*



## PARTICIPATING IN THE COMMUNITY

PMC recognizes the importance of stakeholder engagement through open and honest two-way communication. We strongly believe those who may be affected by our business have a right to be informed about company activities, involved in issues and opportunities where they live and included in open dialogue.

In order to continue to build relationships with our stakeholders, our employees work with industry peers and community members across Alberta, Saskatchewan, Manitoba and Ontario through several associations, synergy groups and mutual aid groups. These valuable organizations allow us to share information, learnings and best practices.

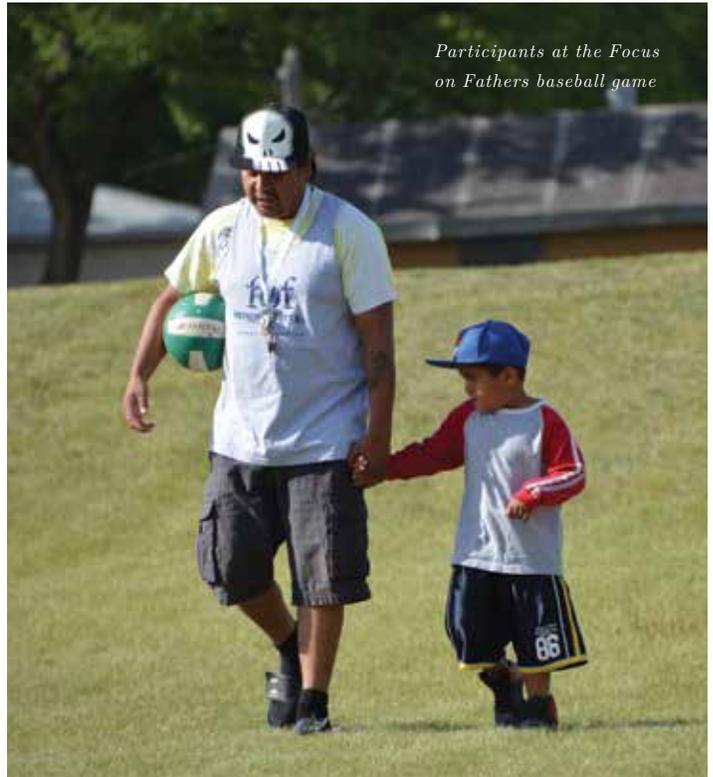
PMC is a participant in Synergy Alberta's annual conference where we participate in active conversations with our stakeholders across Alberta. In 2017, we learned about connecting communities with energy companies, government departments and regulators. Best practices were shared on effective engagement strategies focused on working together with respect to active and potential developments, community issues and how to avoid or mitigate potential impacts.

In Saskatchewan, PMC is a member of the Area Six Emergency Response Co-operative, of which our employees participate in regular meetings and emergency response exercises. The co-operative is a collaboration of pipeline companies, government agencies, the City of Regina, police and fire departments, working together as a mutual aid group. During the initial response of a pipeline incident, this group facilitates interaction between industry, government agencies, emergency services and the community. Our participation in the co-operative arms us with the tools, support and the ability to communicate with directly impacted stakeholders in an accurate and timely manner during an incident.

As an active member of the Sarnia-Lambton Environmental Association (SLEA) in Ontario, member companies hold a collective commitment to ongoing environmental improvements and share that information with each other, government agencies and the local community. One of the mandates of SLEA is to monitor ambient environmental conditions to assess the impacts on the local environment. Recently, PMC, along with 13 other companies involved in a variety of industries in Sarnia shared their sulphur dioxide (SO<sub>2</sub>) emissions data to aid in a cumulative effects airshed study.

**“I am thrilled that PMC supports a barbecue and ball game for this community in Regina. The huge appreciation we’ve been shown from the community at this event is invaluable.”**

- Beverly, Community Relations Advisor, PMC



*Participants at the Focus on Fathers baseball game*

## **FOCUS ON FATHERS COMMUNITY EVENT**

For 14 years, the local ball park has come to life at the Four Directions Community Health Centre’s Focus on Fathers barbecue and baseball game. The annual event invites youth from various Indigenous groups in the north-central Regina community to challenge their fathers in an action-packed ball game that never disappoints.

PMC supports this event by providing families with a positive and safe environment, while reinforcing healthy relationships between agency and community. A number of PMC employees from the local Regina office came out to lend a hand, managing the grill and serving over 250 burgers.

## **SUPPORTING ECONOMIC DEVELOPMENT**

Development and retention of business is important for the economic sustainability of a community. PMC believes in supporting capacity-building initiatives for communities, local business skill development, training and chambers of commerce.

The Council for the Advancement of Native Development Officers (CANDO) is focused on the education and professional development of economic development officers to work in Indigenous communities or organizations. In 2017, we sponsored CANDO’s 24th annual national conference called, “A New Dawn in Indigenous Economies,” where delegates received valuable information on the profession of economic development in Indigenous communities, while incorporating a unique cultural perspective that is not often seen in pan-Indigenous gatherings.



## **ABOUT THE PROGRAM**

Based on a foundation of trust and respect, PMC is a committed good neighbour with Indigenous communities in the areas where we operate. Through open communication, transparency and a shared sense of responsibility, we have built long-term and mutually beneficial relationships.





# PROTECTING OUR ASSETS



## ASSET INTEGRITY

### In-Line Inspections & Integrity Digs

In-line inspection (ILI) tools, also known as “smart pigs,” travel inside the pipeline and use sensors to identify inconsistencies or anomalies.

Regular ILIs allow us to monitor the conditions of our pipelines for both internal and external defects, such as detecting metal loss, cracks, corrosion or dents.

When an ILI detects inconsistencies that meet certain criteria, an integrity dig is performed. The following steps are taken:

Step 1: Earth above a pipeline is removed and the line is exposed for inspection.

Step 2: The exposed pipeline is cleaned and examined for defects or weaknesses, such as dents or corrosion.

Step 3: If repairs are required, options include installation of a metal sleeve over the damaged area, or in some cases, we may cut out the impacted section and replace it with new pipe.

### Coating and Cathodic Protection

To minimize external corrosion, an external coating is applied to the pipeline to isolate it from environmental factors such as water and bacteria.

Applying a small electrical current to the pipeline helps to protect the line in the event coating may be compromised.

### Pipeline Pigging

Maintenance and cleaning pigs are run inside the pipeline to clean debris, bacteria and other oxidation agents to avoid internal corrosion.

### Chemical Protection

Chemicals are used to mitigate internal corrosion by forming a protective film inside the pipeline wall and minimizing the contact area of oxidation agents. Other chemicals are used to prevent bacteria that can cause corrosion from growing.



## WATERCOURSE MANAGEMENT

Maintaining the integrity of our assets is critical to our business and a priority for our operations management system. We take a qualitative and quantitative approach to risk management for our pipeline systems, allowing for improvements to plan and prioritize our asset integrity activities.

PMC uses an extensive mapping database of all bodies of water in Canada overlaid with our pipeline network to identify points at which streams and rivers overlap with our pipelines, referred to as watercourse crossings. These crossings are visited at key times during the year and are analyzed on an annual basis through aerial, satellite and Google Earth imagery.

Several procedures conducted by qualified, third-party geotechnical experts determine the potential hazards of bodies of water crossing or encroaching on our pipelines. These include ground inspections, surveys and detailed data analysis of watercourse crossing sites. Ground inspections include identifying pipeline exposure, bank and surface erosion, and the potential for the sudden separation of land due to flooding or a change in the course of a body of water. After the analysis is conducted, sites are categorized and given a priority ranking and mitigation plans are implemented if needed.

Watercourse crossings with a priority ranking are placed on a daily monitoring list from April to July for real-time flood monitoring. With this information, we know in real-time when water levels reach a specific threshold allowing us to proactively shut-in and isolate a pipeline as a precautionary measure. These specific sites are also ground inspected on an annual basis following the flood season.



### ABOUT THE PROGRAM

Asset Integrity at PMC is made up of a variety of programs and processes focused on the maintenance and operational assurance of our pipelines, processing and fractionation plants, storage tanks and caverns. Maintaining the integrity of our assets is a priority and our responsibility as a safe operator. Dedication to the most stringent regulations and industry best practices help to further the health and safety of the communities where we operate.



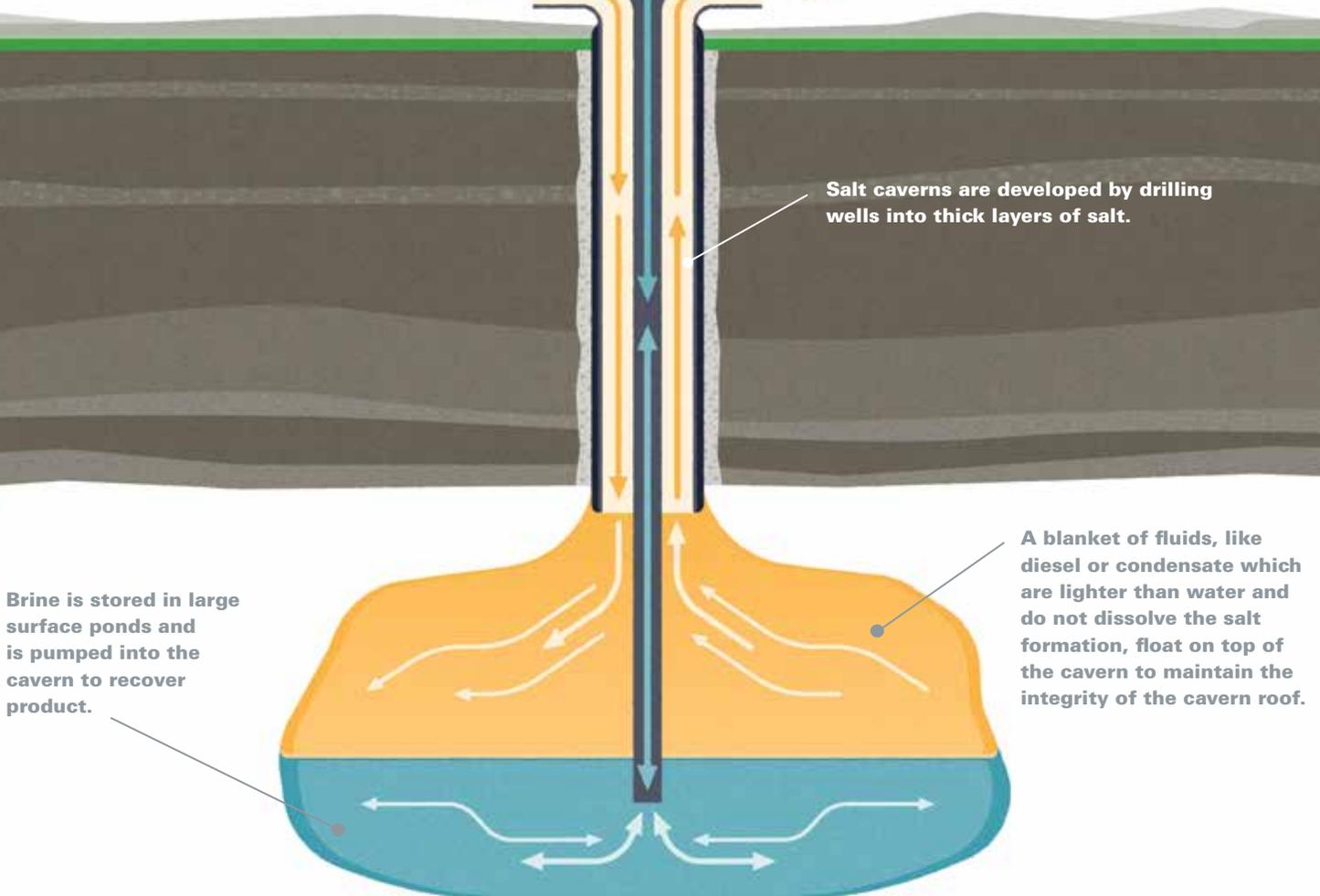
## ABOUT THE PROGRAM

Caverns can be created in naturally occurring underground salt layers and are a resource for safely storing large amounts of hydrocarbon products. PMC uses salt caverns to store natural gas liquids and liquified petroleum gas in the provinces of Alberta, Saskatchewan and Ontario and in the states of Michigan and Arizona. At PMC, we integrate programs and technology to proactively provide a more comprehensive approach to asset integrity. As part of maintaining the safety of our caverns, enhanced sonar imaging tools are used to accurately measure the shape and size of caverns, giving us a better understanding of long-term behaviour and life expectancy of caverns.

## SALT CAVERNS

Product is pumped into the well, displacing the existing brine to surface.

A cavern is washed out by pumping fresh water down the well and dissolving the salt.



Brine is stored in large surface ponds and is pumped into the cavern to recover product.

A blanket of fluids, like diesel or condensate which are lighter than water and do not dissolve the salt formation, float on top of the cavern to maintain the integrity of the cavern roof.



## MAINTAINING OUR FACILITIES

PMC's Facility Asset Integrity Program combines evaluations, inspections, equipment history and risk-based analysis to schedule maintenance and make recommendations for an asset. Recommendations may include replacement of certain equipment or proactive repairs to continue to operate safely.

Our employees are well-versed in the lifecycle of our assets and equipment, providing critical knowledge to the maintenance of our plants and facilities. For example, our Sarnia plant conducted an electrical outage, where all power was suspended to complete preventative maintenance and inspections of all major electrical systems and instrumentation.

During these types of outages, intrusive inspections are conducted, allowing employees and inspection specialists to examine the interior of equipment to identify any potential issues, such as corrosion or cracking, and to confirm proper internal configuration. Intrusive inspections are important because they:

- Validate the accuracy of corrosion monitoring through physical measurements taken during external inspections.
- Identify if any damage has occurred to internal components which provides insight to equipment lifecycles and can reduce the potential for future issues.
- Allow proactive cleaning to remove accumulation in equipment which may lead to reduced equipment efficiencies or failure.

As a result of an inspection, new equipment was installed at our Sarnia plant in 2017 to continue safe operations. Examples of this new equipment include new isolation valves, rail track repairs and heat exchangers. Regularly scheduled inspections, repairs and new equipment all help our plants and facilities run more efficiently and safely.



*Sundre, Alberta*

## DAMAGE PREVENTION COLLABORATION

PMC takes part in a number of initiatives in collaboration with our industry peers to contribute to the development of damage prevention best practices, and to educate the public and excavating community on how to work safely around pipelines.

We work closely with the Canadian Common Ground Alliance (CCGA), along with regional chapters in the provinces in which we operate. These working groups promote safe digging practices and awareness of provincial and federal regulations to all stakeholders, with a strong focus on the excavation community. Awareness activities include, but are not limited to: promoting and participating in contractor breakfasts, educational symposiums, tradeshow and joint industry campaigns.

Our participation in the Damage Prevention Working Group at the Canadian Energy Pipeline Association (CEPA) is another initiative in which we are deeply involved within our industry. A key objective for the group is to develop a standardized, industry-wide approach to investigate and report unauthorized ground disturbance activities that pose a risk to the safety of communities, our employees, contractors and the environment.

The working group also collaborates with the CCGA committee on the advancement of a bill within the federal government. This proposal represents a common interest in underground infrastructure safety. If this legislation becomes law, it will increase regulations associated with underground infrastructure by mandating a comprehensive click/call-before-you-dig notification system across Canada.

Another CEPA project underway is measuring the effectiveness of public awareness activities. Pipeline operators, the excavating community, farmers, landowners, municipalities, emergency responders and other stakeholders involved in the damage prevention process have a shared responsibility to protect the public, themselves and the environment by acting in a safe and responsible manner. The goal is for intended stakeholders to understand their role in preventing damage to buried infrastructure. This project will examine the effectiveness of industry promotional materials, delivery methods, frequency and messaging.



## ABOUT THE PROGRAM

PMC's Damage Prevention Program governs ground disturbance activities near and over our buried pipelines so that they are conducted in a manner that protects the safety and security of our employees, contractors, the public, our assets and the environment.



**Are you planning to do work which will disturb the ground?**

Visit the website [clickbeforeyoudig.com](http://clickbeforeyoudig.com) for the One-Call Centre information you need before working near a pipeline.

## PUBLIC AWARENESS

Public awareness is a component of our Damage Prevention Program which enables us to work with stakeholders living and working near our assets to raise awareness of the presence of pipelines and safe ground disturbance practices.

Stakeholders who are directly affected by our operations may have received information about us or a visit from a company representative. Our goal is to promote awareness among our stakeholders by educating them on their role in damage prevention. Through our efforts we also provide information on how to place a One-Call, request a crossing agreement and determine what safety procedures to follow in the event of an emergency.

During visits, personal information may be collected, such as emergency contacts to assist in emergency preparedness, planning and response. Stakeholders who perform agricultural work close to a PMC pipeline may also be asked to provide information on the type of work and the equipment used.

PMC is continually working to educate our stakeholders on the important role they play in preventing damage to buried infrastructure.

## CONTRIBUTING TO INDUSTRY STANDARDS

As part of our ongoing damage prevention and public awareness efforts, PMC participates in a Canadian Standards Association (CSA) technical committee. Comprised of industry experts, the committee works together to promote and enhance the protection of people, the environment and property. The group is currently developing a standard on land use planning for buried infrastructure.

The purpose of this new standard is to provide minimum requirements, guidance and best practices for towns, cities and municipalities related to planning and development near pipelines. The standard will provide a process for development planners on the integration of pipelines, their right-of-ways and above-ground facilities in order to promote public safety and pipeline integrity.

The standard will address the following:

- Responsibilities of all stakeholders when land use planning near pipelines.
- Desired consultation and communication process at the onset of planning for land use and development activities.
- Education and engagement activities that promote consistent planning for land use near pipelines.

We conduct regular aerial patrols of our pipeline right-of-ways for visual inspections of potential leaks and geotechnical hazards such as landslides, bank erosion and unauthorized activity by third-parties.



## PROTECTING OUR PIPELINES

We conduct regular visits with our stakeholders so they are aware of how to work and stay safe around our pipelines.



Above ground pipeline marker signs are displayed along the right-of-way to inform the public and excavators of the approximate pipeline location, and provide contact phone numbers in the event of an emergency.

Prior to conducting ground disturbance activities, homeowners and contractors must contact a One-Call Centre to identify if there is buried infrastructure within the vicinity of their planned work. If required, a PMC representative will make arrangements to locate and mark our buried infrastructure free of charge. For more information go to: [clickbeforeyoudig.com](http://clickbeforeyoudig.com)

An integrity dig is performed when an in-line inspection detects inconsistencies that meet certain criteria.

**STEP 1:**  
Earth above a pipeline is removed and the line is exposed for inspection.

**STEP 2:**  
The exposed pipeline is cleaned and examined for defects or weaknesses, such as dents or corrosion.



In-line inspection tools, also known as “smart pigs,” travel inside the pipeline and use sensors to identify inconsistencies or anomalies.

An advanced system of satellites, communication field transmitters, centralized control room computers and trained staff monitor our pipeline network 24 hours a day, 365 days a year.



High quality security fencing is installed around highly-sensitive above ground pipeline infrastructure.

Our watercourse management program includes ground inspections, surveys and detailed data analysis of watercourse crossing sites.



**STEP 3:**  
If repairs are required, options include installation of a metal sleeve over the damaged area, or in some cases, we may cut out the impacted section and replace it with new pipe.

To minimize external corrosion, an external coating is applied to the pipeline to isolate it from environmental factors such as water and bacteria.

Applying a small electrical current to the pipeline helps to protect the line in the event coating may be compromised.

Chemicals are used to mitigate internal corrosion by forming a film inside the pipeline wall and minimizing the contact area of corrosive agents.



## EMERGENCY MANAGEMENT BY THE NUMBERS IN 2017

**200+**

**FIRST RESPONDERS  
PARTICIPATED IN 25 FIRST  
RESPONDER AWARENESS  
SESSIONS**

**30+**

**EMERGENCY  
MANAGEMENT  
TRAINING  
SESSIONS**

**20+**

**FACILITATED  
EMERGENCY  
MANAGEMENT  
EXERCISES**

**350+**

**PMC EMPLOYEES PARTICIPATED  
IN EMERGENCY MANAGEMENT  
TRAINING AND EXERCISES**



## CONTINUING EDUCATION FOR FIRST RESPONDERS

In the event of an emergency, first responders are often the first to arrive on scene. They support field personnel in responding safely and effectively to any incident, working alongside the company to ensure the safety of the public. As part of PMC's commitment to safe operations, providing awareness to first responders is essential so they are prepared for any emergency situation involving PMC's operations or assets.

We abide by four pillars in our Emergency Management Program: prevention and mitigation, preparedness, response and recovery. In order for the program to be effective, we work closely with local first responders and regularly practice our plans and procedures through training and exercises.

The first responder awareness sessions include:

- Information applicable to the operating area.
- Overview of emergency response plans, emergency equipment and spill control points.
- Hazard safety awareness information and the types of products present in an incident.
- Safety features of operating assets such as valves.
- Practices and procedures in the event of an emergency, including roles, responsibilities and communication protocols.
- Shelter-in-place and evacuation procedures.

### FIRST RESPONDERS INCLUDE:

- Fire Departments
- Police Departments
- Royal Canadian Mounted Police
- Paramedics (health services)

Fort Saskatchewan exercise,  
Sherwood Park, Alberta



**“We consider every training exercise as an opportunity to expose our response team to unique emergency scenarios and practice different roles within the Incident Command System. Our goal is to provide a safe learning environment where it’s okay to make mistakes, and questions are encouraged.”**

- Scott Sill, Senior Vice President, Operations, PMC



## PRACTICING EMERGENCY PREPAREDNESS

“Man down!” A term nobody wants to hear, and luckily for the participants at our May 2017 Fort Saskatchewan full scale exercise, it was only a drill.

The exercise focused on public protection, environmental impacts and a realistic emergency medical situation, all resulting from a hypothetical natural gas liquids storage tank leak. Over 85 employees and community members reacted efficiently and effectively to take the appropriate actions.

Participation from emergency crews included the Fort Saskatchewan Fire Department, Royal Canadian Mounted Police, Strathcona County Emergency Services, City of Edmonton Fire Rescue Services and City of Fort Saskatchewan Emergency & Protective Services.

Representatives from PMC’s senior leadership team including our president and senior vice president of operations actively took part in the response. The Alberta Energy Regulator was on hand with emergency response and communication representatives, along with additional attendees from Alberta Health Services, Alberta Transportation, other external agencies and community members.

The exercise provided PMC employees with the opportunity to learn, improve and reinforce our commitment to preparedness and response.

**“The exercise was well developed and provided excellent practice. PMC personnel took the exercise seriously!”**

- Alberta Energy Regulator

Through the scenario, employees were able to:

- Effectively test PMC’s Emergency Response Plan for our Fort Saskatchewan plant.
- Develop strategies that reinforce the safety and security of the public and response personnel.
- Practice a realistic “man down” scenario with boots-on-the-ground operations staff.
- Execute an on-camera news conference with PMC leadership and the Fort Saskatchewan fire chief to practice how we provide critical and timely information.
- Test the internal and external notification process to regulatory bodies, external agencies, first responders and members of the public.
- Develop a collaborative Incident Action Plan for the next 24 hours, which was reviewed and approved by incident command.



# YOUR COMMENTS ARE IMPORTANT TO US

We invite you to share your reviews about our company and how you think PMC can improve our performance. For more information about PMC go to **[www.plainsmidstream.com](http://www.plainsmidstream.com)**

Please send your comments by email to:  
**[stakeholder.relations@plainsmidstream.com](mailto:stakeholder.relations@plainsmidstream.com)**

For more information about pipelines and the pipeline industry please go to:  
**[www.aboutpipelines.com](http://www.aboutpipelines.com)**  
**[www.api.org](http://www.api.org)**





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