

# MAKING CONNECTIONS



PEMBINA PIPELINE CORPORATION

Winter Newsletter

2012

## Welcome to the Winter 2012 edition of Making Connections

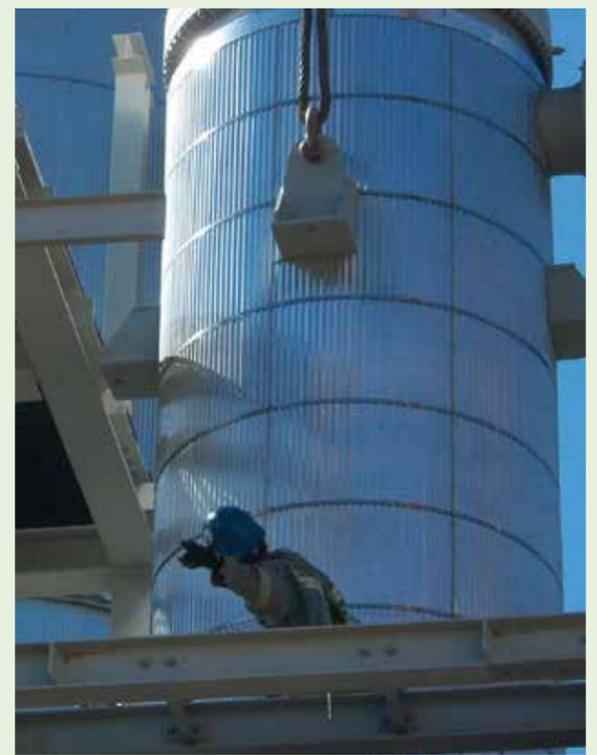
*Pembina uses this newsletter to inform stakeholders, like you, of the various projects and initiatives we are undertaking both corporately and as an active member of your community.*



New depropanizer reboiler



Depropanizer reboiler being set



Final work on depropanizer reboiler

## REGULAR MAINTENANCE AND PERFORMANCE ENHANCEMENTS AT REDWATER, AB

You probably already know, a regular check-up of your furnace at home can prevent an untimely furnace failure when it is -20C outside. Just like regular furnace maintenance, Pembina performs timely and routine maintenance of our facilities to avoid unexpected outages, losses and to meet regulatory requirements.

As part of our integrity and asset management program, we recently performed a shutdown of our Redwater Fractionation and Storage Facility (RFS) in Redwater, Alberta. This was done to perform routine maintenance and inspections on equipment that would not be possible while the facility is operating. At Redwater, shutdowns take place every 12 to 24 months and typically last anywhere from four to five days.

This year's RFS shutdown, which was a little more complex and involved additional elements,

took three weeks to complete. That is because, in addition to conducting a regular shutdown, we took the opportunity to enhance our equipment and increase the amount of natural gas liquids (NGL) we could process through the fractionator.

To increase capacity by 8,000 barrels per day (12% of current capacity), we re-trayed the deethanizer and depropanizer and installed a new, larger reboiler for the depropanizer. If we keep using your home furnace as an analogy, this would be like completing activities such as changing the furnace filter to improve the furnace's output.

But of course, projects like this are never as simple as changing a filter. "There were many aspects to this project, and planning had to begin more than a year in advance to make sure we utilized the shutdown period as effectively and

efficiently as possible," said Brad Kohlsmith, Engineering Manager, NGL Business Unit.

At times there were up to 400 people on site working during the three week shutdown. "As part of the logistics for the project, a parking lot was constructed last year in preparation for the added vehicles, and an experienced contractor was selected for the project a year in advance," stated Brad.

We are happy to report the shutdown finished on time and under budget. And our furnace - er, Redwater Fractionation and Storage Facility, is working better than ever.



**2** Read about: our expansion projects and the exciting opportunities they bring.



**3** Discover: some of the ways Pembina protects the environment.



**4** Learn about: the investments we're making in your communities to ensure they continue to be vibrant places to live, work and play.

# SATURN AND RESTHAVEN FACILITIES AND RELATED PIPELINE PROJECTS

At Pembina, we're committed to responsible growth. That means we create thorough safety plans for construction, comply with all regulatory requirements, consult with affected stakeholders in our operating communities, and conduct extensive environmental studies to minimize any potential impact from our operations.

Last year, Pembina announced plans to construct two enhanced natural gas liquids (NGL) extraction facilities. Both located in west central Alberta – an area known for liquids-rich natural gas – the Saturn NGL Facility and the Resthaven Facility will also include NGL and gas gathering pipelines and related infrastructure. Here's a quick update on each of these projects:

## Saturn Facility

Pembina plans to construct the \$200 million 200 MMcf/d enhanced NGL extraction Saturn Facility and associated NGL and gas gathering pipelines in the Berland area of west central Alberta. Once operational, Pembina expects the Saturn Facility will have the capacity to extract up to 13.5 mbpd of NGL.

Pembina has spent a considerable amount of time securing customer support for the Saturn Facility and now has contracts in place for 100 percent of the facility's capacity. As well, we have ordered 90 percent of the major equipment for the project and have begun construction at the plant site. In addition, we have now completed all environmental field assessments related to the associated pipelines, and are continuing with stakeholder consultation. We expect the project to be in service in late 2013.

## Resthaven Facility

Given that gas producers are increasingly relying on NGL recoveries to support their economics,

more emphasis is being placed on a plant's ability to extract the largest amount of NGL possible from the raw gas stream. As well, producers are anxious to extract ethane, another of the NGL, from the gas stream. Historically, most gas plants in western Canada have only extracted enough of the NGL stream to meet the specification requirements of the delivery gas pipelines. These types of plants are referred to as "shallow-cut" plants. Plants with the ability to extract a greater percentage of NGL, often including ethane, are referred to as "deep-cut" plants.

As a result of demand, the Resthaven Facility, located in the Deep Basin, will be a combined shallow-cut and deep-cut NGL extraction facility by modifying and expanding an existing gas plant. We are also constructing a pipeline to transport the extracted NGL from the Resthaven Facility to Pembina's Peace Pipeline system.

Once complete, Pembina will own approximately 65 percent of the Resthaven Facility and 100 percent of the NGL pipeline. Pembina expects the initial phase of the Resthaven Facility will have a gross capacity of 200 MMcf/d (130 MMcf/d net) and 13 mbpd of liquids extraction capability, with ultimate processing capacity of 300 MMcf/d (195 MMcf/d net) and 18 mbpd of liquids extraction capability. Pembina expects these new assets to be in-service in the first quarter of 2014.

Pembina has ordered 65 percent of the major equipment for the project.

## Pembina's integrated approach

Two of Pembina's business units, Conventional Pipelines and Gas Services, are working closely to construct the pipeline components of the Saturn and Resthaven facilities. Both the 83 kilometre, 6 inch NGL pipeline from the Saturn Facility, and the 44 kilometre, 6 inch diameter NGL pipeline from the



Resthaven Facility will transport extracted NGL to Pembina's Peace Pipeline, which transports product from north eastern British Columbia into Edmonton, Alberta.

Engaging with community stakeholders is something we strongly believe in – it's how we make sure we understand and can address any questions early in a project's development. On both the Saturn and Resthaven facilities, consultation began in October 2011 and April 2012 respectively. Pembina continues its consultation activities related to the projects with interested parties, and keeps the communities apprised of significant project changes.

"These NGL facilities will enhance our ability to move products in and out of storage and to ship products to markets to meet demand and the needs of our customers," said Bob Michaleski, Pembina's Chief Executive Officer. "By filling the demand, these projects will generate additional value by integrating with our conventional pipelines and midstream services."

## Liquids-Rich Natural Gas: Expansion of Peace and Northern NGL Pipelines

Making sure we have enough pipeline capacity to meet the growing demands of our customers is always a focus for Pembina. To that end, we are investing \$100 million to increase the capacity on our Peace and Northern NGL pipelines by 52 kbpd. The project is called the "NGL Expansion".

Pembina has received regulatory approval for, and begun construction on, two of the three pump stations that comprise the first phase of the NGL Expansion.

Pembina's Northern NGL System is strategically located across liquids-rich natural gas production areas in the Western Canadian Sedimentary Basin. Currently, the Northern NGL System's capacity is 115 kbpd. Once the project is completed, the proposed NGL Expansion will increase capacity on the Northern NGL System by 45 percent to 167 kbpd.



Resthaven Facility

## Those crazy acronyms and abbreviations

bbl	barrel
kbbls	thousands of barrels
mmbbls	millions of barrels
bpd	barrels per day
mbpd	thousands of barrels per day
boe	barrels of oil equivalent
boe/d	barrels of oil equivalent per day
mboe	thousands of barrels of oil equivalent
mboe/d	thousands of barrels of oil equivalent per day
MMcf	millions of cubic feet
MMcf/d	millions of cubic feet per day
bcf/d	billions of cubic feet per day
MW/h	megawatts per hour
GJ	gigajoule
km	kilometre
AECO	Alberta gas trading price
AESO	Alberta Electric Systems Operator
Frac	Fractionation
NGL	Natural gas liquids
LNG	Liquefied natural gas



## Pembina Celebrates An Office Expansion

Pembina's operations in the Swan Hills area of Alberta has grown over the years, as have the number of employees in that office. And more employees meant we needed more office space.

In November, Pembina unveiled our newly expanded office in Swan Hills with a ribbon cutting ceremony and an open house.

The open house was well attended by community members, local officials and industry partners. The event gave us a great opportunity to thank our local community while enhancing our existing relationships.

Building trust with the communities where we operate is a top priority for Pembina. We've been in business for almost 60 years and during that time we've developed a reputation for honesty, transparency and treating our community members with respect.



Pembina Employees L to R: John Pattysen, Don Carter, Mike Hantzsch, Dave Ellery, Tim McAfee.

# Pembina Supports Alberta's Grizzly Study

The Foothills Research Institute is conducting a grizzly bear research project in the Kakwa area south of Grande Prairie. The aim of the project: to gain an understanding of the potential impacts of pipeline and associated infrastructure on grizzly bears. Pembina recently agreed to provide \$50,000 over two years to the Foothills Research Institute to fund this project, and we caught up with Shawn Davis, Manager of Communications & Public Affairs, to learn more.

## Why did we decide to fund this project?

Pembina's community investment program covers three key funding priorities: environment, education and health & culture. As a research project, this initiative really ties well with where we focus our investments.

Also, because we have significant operations with the Pembina Peace Pipeline and are growing in the region with the Resthaven and Saturn facilities, we believe this is an extremely worthwhile investment for Pembina. It allows us to a) be involved at the early stage of this research, b) have access to the research, c) utilize the research to understand bear patterns and incorporate the data into our project planning within our operating areas, and d) use the information for employee safety programs, including mitigation plans for potential bear-human interactions.

## What is the scope of the project?

This study is set to take two years and will build on the Foothills Research Institute's existing grizzly bear location data in the Kakwa study area of west central Alberta. The project has the following research objectives:

- Determine if, how, and when grizzly bears use pipeline rights-of-way (RoWs) for travel, including seasonal and/or time-of-day effects (Year One).
- Understand if/how the use of pipeline RoWs by grizzly bears may be related to access to plant food resources or access to prey (Year One);



- Understand if grizzly bear use of RoWs is significant (relative use) and how grizzly bear use of pipeline RoWs may differ from their use of roads and from travel patterns through undeveloped terrain (Year One);
- Determine if/how the presence and operation of pipeline pump stations or compressor facilities have any impact on grizzly bear use of pipeline RoWs adjacent to these sites (Year One);
- Determine levels of human use along pipeline RoWs and probabilities of bear-human interactions (Year Two); and
- Based on the results of our research and analysis, the Foothills Research Institute will, in collaboration with industry participants, propose mitigation strategies for pipeline RoWs in core grizzly bear conservation zones in Alberta (Year Two).

## Who else is funding this study?

The study is endorsed by Petroleum Technology Alliance Canada (PTAC) and the Upstream Petroleum Industry. Additional partners include:

- Alberta Sustainable Resource Development
- Alberta Energy
- TransCanada Pipelines

According to Phil Nepszy, Pembina's Supervisor of Environment, "This investment is yet another example of one of the ways we examine our potential impacts on the environment before we initiate a project, during project construction, and then during the life of the asset."

## From Ball Pits to Ponds: Bird Balls

If you have kids (or remember when you were a kid), you've likely encountered colourful ball pits – that fun place where kids jump and splash around amongst colourful, hollow plastic balls.

Now, would you believe these are the very same things keeping our fire water pond in Corunna, Ontario clean? Granted, they're not quite as colourful, but the technology is exactly the same.

Bird balls are hollow plastic balls that form a floating cover for ponds, tanks, lagoons and other basins. They are low maintenance (meaning no maintenance), easy to install (simply pour them onto the water), and last for around 10 years.

The reason these balls were used in Corunna were:

- For algae and minnow control. Originally, they had issues with minnow and weeds plugging up the fire pump. By using these balls, they are able to block the UV from penetrating the water, thus preventing algae and minnows from growing.
- To prevent the need for chemicals. Because this water could be sprayed in various areas, it was important to not introduce additional chemicals to the environment.

A few other benefits of bird balls include:

- Heat retention. Since the balls cover more than 90% of the surface area, they provide an insulation blanket on the tank.
- Odour control. Less exposed surface area results in less odour emission.
- Bird control. The balls camouflage the water surface from waterfowl, thus preventing birds from using or contaminating the water.
- Evaporation control. Covering the water surface minimizes evaporation and water loss.
- Vapour containment. Reduces chemical vapour emissions.

Corunna invested \$45,000 into these bird balls six years ago, and have seen a savings of at least \$10,000 each year since. This means that over the course of ten years, we can expect a minimum savings of \$55,000. This is a pretty impressive return for some plastic balls... and some food for thought the next time you're at Chuckie Cheese watching your kids splash around in the very same thing.



## TESTING OUR EMERGENCY RESPONSE PLANS (ERPS)



Pembina is committed to ensuring the health and safety of our people and the communities in which we operate – something that is integrated into everything we do. Conducting emergency response exercises allows us to practice our skills and make continuous improvements to our Emergency Response Plans (ERPs).

This fall, we conducted two full-scale emergency response exercises to test our reactions. For the first exercise, Pembina teamed up with an industry partner to simulate an oil spill to test our equipment and skills along the North Saskatchewan River.

Once the simulation began, we deployed two upstream booms. In the event of a real incident, we would use these booms, called catchment booms, to catch and divert the oil, which can then be trapped and skimmed so we can begin clean-up and reclamation work. For this exercise, no oil was used.

Shawn Davis, Manager, Communications & Public Affairs, participated in the exercise, "Part of the regulations around operating pipelines is making sure you're ready to respond in the event of an incident. This exercise gave us a great opportunity to test our response times and learn from the exercise," she said.

Although there was no oil in the river, the simulated exercise allowed us to make sure we are familiar with and know how to use our clean-up equipment so we can be prepared for any eventuality.

We conducted our second full-scale emergency exercise in our Drayton Valley District. This exercise tested Pembina's response to a release of natural gas liquids (NGL). The simulated scenario involved a landowner using a post-pounder to construct a fence, with the steel piercing the top of a six inch NGL pipeline.



"Since not everyone remembers to 'Call Before You Dig', this scenario provided a good opportunity for our team to go through the numerous activities we would need to undertake in the event of a real NGL release," said Sandy Buchan, Manager, Drayton Valley District.

During the simulation, Pembina employees shut in the pipeline, established roadblocks, notified area residents and worked with first responders and regulators.

Pembina takes our emergency response training very seriously. In fact, Pembina undertakes more exercises each year than regulators require. This helps us make sure the steps we take to respond to an emergency become second nature for our team. Annually, we conduct at least two exercises for each of our field office locations.

# PEMBINA IN THE COMMUNITY

Pembina's community investment decisions are based on our understanding of the unique needs and characteristics of each community. We focus initiatives on supporting organizations that advance education, preserve and protect the environment, and foster wellness and cultural awareness primarily in the communities where we operate.



Construction of the new duplex Pembina helped to build in Whitecourt, AB

## Habitat for Humanity

Pembina is a proud new sponsor of Habitat for Humanity in Whitecourt, Alberta. Our commitment of \$25,000 will help the organization build a new duplex for two families.

"Supporting an initiative like Habitat for Humanity is important because it helps us strengthen our community ties, while at the same time ensuring our community has the necessary resources it needs to thrive," said Whitecourt Supervisor, Trevor Shand.

## United Way

Pembina is a large United Way supporter in our operating communities. Because of the United Way's strong ties to the community, they are in a unique position to be able to identify those areas of greatest need while minimizing overhead costs.

Earlier this month, Pembina's Calgary office completed its annual United Way campaign and surpassed our campaign target of \$407,000 by raising half a million dollars – an overwhelming feat to say the least. Through a number of fun events, pledge drives and some friendly competition between office floors, Calgary employees and contractors came together to not only beat their goal, but also set a new all-time high by donating a whopping \$1 million (Pembina matches employee and contractor contributions) to the United Way of Calgary & Area!

And the fundraising continues. A number of Pembina's field offices have already surpassed their goals and others are well on their way with their respective campaigns set to complete by the end of December 2012.

## Ann & Sandy Cross Conservation Area

We know that preserving our natural landscape is important to maintaining a healthy community. That's why we decided to support the Ann & Sandy Cross Conservation Area, a 4,800-acre day-use natural area located just southwest of Calgary, Alberta. Pembina's support is being used for conservation education, which includes onsite and outreach programs for school students, programs for organized youth group participants and summer day camp participants. These programs are designed to expand knowledge, awareness and appreciation of the natural world and conservation issues, and to create the capacity for students/youth to connect to nature in their own communities through their experiences.

## Fort St. John Hospital Foundation

Pembina provided \$5,000 towards the Fort St. John Hospital Foundation's Lend a Hand fundraiser for medical equipment. Pictured left to right: Ashley Bentley, Hospital Foundation member, Brad Beaupre, Pembina Manager, Deep Basin District, Jane Neher Hospital Foundation member, Rob Munroe, Pembina Field Operator & Hospital Foundation Vice Chair, and Avi Sinclair, Pembina Foreman, Operations.



## Junior Achievement

Pembina believes that by supporting organizations that improve access to education, we are able to enhance the quality of life in the communities where we operate. That's why Pembina is proud to support Junior Achievement as the Community Lead Partner in Fort McMurray, Alberta. As the Community Lead Partner, Pembina's \$45,000 sponsorship will support all of the Junior Achievement programs in the Fort McMurray area, from Grades 3 – 12. These programs will help to educate students about work readiness, entrepreneurship, and financial literacy through experiential, hands-on programs.

## DO YOU KNOW US BY A SUBSIDIARY NAME?

In British Columbia, Pembina's pipelines are known by our subsidiary company name, **Plateau Pipe Line Ltd.** Crossing the B.C. / Alberta border, we operate under **Pouce Coupé Pipe Line Ltd.**, and our pipelines within the Edmonton / Fort McMurray corridor are operated as **Alberta Oil Sands Pipeline Ltd. (AOSPL)**. Here are their logos:



Pembina also operates under the following subsidiary company names: Pembina NGL Corporation, Pembina Energy Services Inc., Pembina Gas Services Ltd., Pembina Marketing Ltd., 1195714 Alberta Ltd., and 1195713 Alberta Ltd.

## MAKE YOUR OWN CONNECTION WITH PEMBINA

Pembina Pipeline Corporation 3800, 525 – 8th Ave. SW, Calgary, Alberta T2P 1G1  
[www.pembina.com](http://www.pembina.com) 24-Hour Emergency Contact: 1-800-360-4706 Email: [community@pembina.com](mailto:community@pembina.com)

### Reliable | Trusted | Responsible

Committed to being the operator, employer, partner, neighbour and investment of choice in North America's energy infrastructure sector.

This newsletter may contain forward-looking statements and information that are based on Pembina's current expectations, estimates, projections and assumptions. Actual results may differ materially. For more information about these risks, please refer to Pembina's annual and interim reports available at [www.pembina.com](http://www.pembina.com). Pembina is a publicly-traded company. Our shares are listed on the Toronto Stock Exchange under the symbol PPL, our convertible debentures are listed under the symbols PPL.DB.C, PPL.DB.E, PPL.DB.F, and shares on the New York Stock Exchange under the symbol PBA.

## CALL BEFORE YOU DIG

To protect people and the environment, and to reduce the risk of pipeline damage, it's important to contact Pembina directly (1-888-428-3222 or [landrequests@pembina.com](mailto:landrequests@pembina.com)) at least three days before you do any type of excavation that might be on or near a pipeline right-of-way. You should also always call your provincial One Call Service at:

Alberta One Call: 1-800-242-3447  
British Columbia One Call: 1-800-474-6886  
Ontario One Call: 1-800-400-2255

