

SiteLine

Joffre Site Community News

Published for the Central Alberta community by NOVA Chemicals

Volume 34, Number 1 **July 2023**

Special Edition: Annual Environment Review

NOVA actively promotes sustainable practices and the responsible management of our operational impacts to air, water, land, and biodiversity—all key components of our Joffre Site Environmental Program outlined in this edition of *SiteLine*.

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I am pleased to provide this *SiteLine* update to our community! This is our annual environmental edition of our *SiteLine* newsletter, and I am excited to share what we've been working on and updates that impact us locally. 22 years ago, I helped put together the very first environmental edition of *SiteLine*. We wanted to provide more information and perspective to the broader community about the environmental work we do—and I am proud to see this tradition still going strong.

While I am serving in a new role, I am not new to our area or to NOVA. I've worked for the company for the past 26 years in many different roles locally and corporately. My colleagues and I work every day to ensure safe and reliable operations. And I am very glad to be able to continue to support our desire to be a good member of our local community.

In mid-June NOVA Chemicals welcomed a new President and CEO, Roger Kearns. We had the pleasure of hosting Roger on site in his second week with our company. During this visit we were able to share with him information about our community and our world-scale manufacturing facilities. Roger joins us from Westlake Corporation where he served as Chief Operating Officer. He will lead us as we work to reshape plastics for a better, more sustainable world. There is a lot of excitement at NOVA about our recently announced 2030 Strategy. We will invest \$2-4 billion (USD) to meet our bold ambitions to create a plastics circular economy and work toward a low-carbon, zero plastic waste future. If you'd like to learn more about our 2030 strategy and the roadmap to get there, please visit [novachem.com](https://www.novachem.com).

As I write this letter, we are nearly complete with our Polyethylene 1 turnaround. From an operational perspective, this event went extremely well, and I am immensely proud of the team for their dedication to doing the work safely and efficiently. We will have



minor site outages in the fall, and always, we are working to minimize any disruptions to the community. You can find all the details about these outages on the back page.

We are committed to open dialogue with our community. In early June, I was able to spend some time with our Joffre Community Advisory Panel—it was also nice to see so many familiar faces—I look forward to the strengthened relationships NOVA leadership will build with this group. Our Spring Open House event was well attended, and we hope to keep the conversation going at upcoming community events including our annual Emergency Preparedness BBQ at NOVA on August 17.

As always, feel free to contact us with any questions or concerns. Rest assured, we remain focused on doing our work safely and being a good neighbour. I hope you and your families have a safe and enjoyable summer.

Jim Dixon,
Acting Vice President Manufacturing West

NOVA Chemicals sets bold ESG aspirations

In late March, we announced our new Environmental, Social, and Governance (ESG) aspirations to lead the plastics circular economy, in line with our vision to become the leading sustainable polyethylene producer in North America.

Our ambitions by 2030:



1. Set new industry standards for driving the transition to the plastics circular economy and solidifying the market for recycled polyethylene, with **30 per cent of our polyethylene sales* being from recycled content**



2. Be at the forefront of decarbonization by **reducing our Scope 1 and 2 absolute CO₂ emissions by 30 per cent** from 2020 levels



3. Be recognized as a **Top 30 company in Canada**

To achieve these aspirations, we anticipate investing between **USD\$2-4 billion** by 2030.

These ambitions along with our goal to reach net-zero Scope 1 and 2 emissions by 2050 are outlined in our *NOVA 2030: Our Roadmap to Sustainability Leadership* available on our website, novachemicals.com.

* On a volume basis
** Under operational control

We're officially verified!

NOVA Chemicals takes part in regular verification processes since we received Responsible Care status in 1994. The Chemistry Industry Association of Canada (CIAC) regularly assesses member companies for credibility with peers and the public, and for continuous improvement in the implementation of the Responsible Care ethic and principles. CIAC appoints a team including a community representative, with the input of the Joffre Community Advisory Panel (JCAP). Community member Mark Visscher was the community representative for the 2022 verification which took place in May (Thank you Mark!).

Summary of the 2022 verification report:

- No findings for the Joffre Site
- One finding across the company: To develop a management system for assessing marine carriers utilized by NOVA Chemicals
 - Our Response: We do not directly evaluate olefins marine carriers as there are existing equivalent evaluation systems in place through other parties
- 15 best practices identified across the company, including several local to our Joffre Site:
 1. Our automated risk communication system
 2. JCAP and its value to the community
 3. Our Regional Public Affairs Business Plan
 4. Our support of employee engagement through the United Way Day of Caring™ Program
 5. Our elementary school presentations
 6. Our long-term relationship and support for Red Deer Polytechnic programs and initiatives

As part of the report, JCAP identified four recommendations:

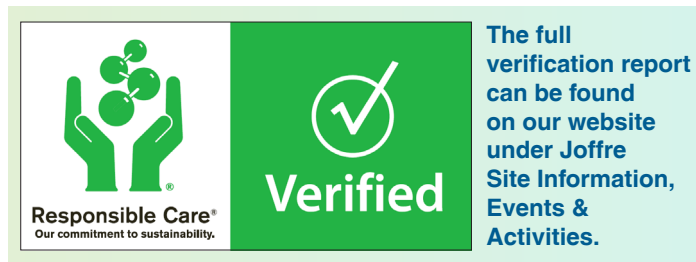
1. To develop, in conjunction with JCAP and other industry participants, a program to include a high school or college



SYNDIGO™ recycled polyethylene now available at NOVA Chemicals

NOVA Chemicals proudly introduced a new product line in February, SYNDIGO recycled polyethylene. The four SYNDIGO resins are made from post-consumer content and offer our customers a lower-emission recycled solution for flexible and rigid packaging. Ideal use cases for these resins include food packaging, e-commerce mailers, stretch, shrink, heavy duty sacks, and small part blow molding.

Help us support sustainable plastic usage by purchasing products and packaging made from recycled content!



student as regular JCAP member. Outcome: A recent Red Deer Polytechnic graduate was onboarded and attended their first JCAP meeting in June.

2. To develop, in conjunction with JCAP, additional policies and procedures to address traffic flow issues in the area around the Joffre site. Outcome: We have a carpooling app NOVATOGO (reactivated in May 2022) and carpooling campaigns; one ended just recently with successful results.
3. To share Joffre's "safe driver" program with other JCAP company members, near industry neighbours and residents. Outcome: Local industry managers meet on a regular basis and this will be raised at the next meeting for awareness.
4. To improve access to information concerning Joffre Site unplanned events, such as flaring and general concerns, for those residents outside the current five-kilometer notification zone. Outcome: 'Keeping You Informed' courtesy emails have been initiated to JCAP community members; JCAP members who reside outside of our 5 km community list have been added to the 5 km mailing list; we have committed to more timely activation of our Joffre Site Operations Information Line (JSOIL) for unplanned site events.

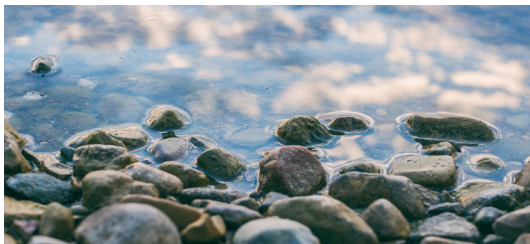
Monitoring our impact on water resources

Water is critical to Joffre Site operations and our management programs focus on minimizing our impact on this valuable resource.

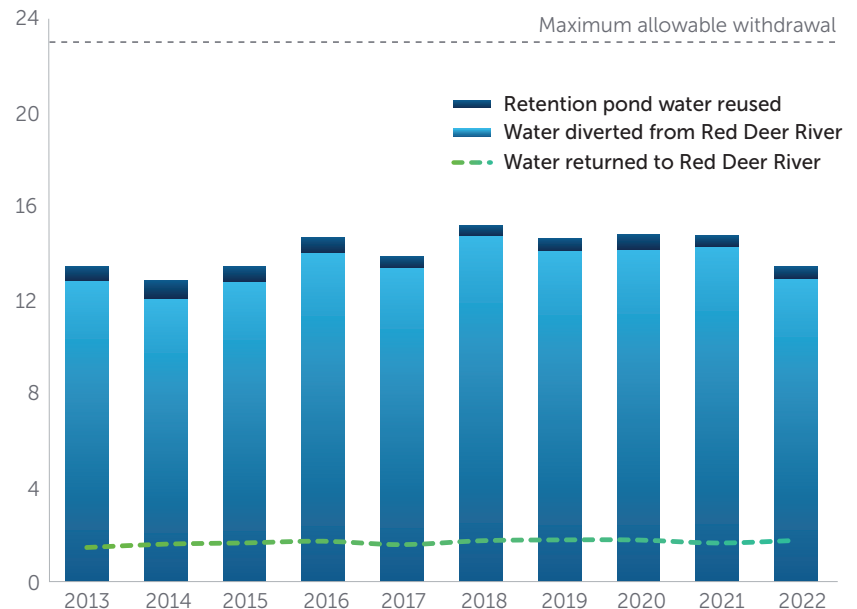
The Red Deer River has an annual flow of roughly two billion cubic metres (m³). NOVA Chemicals has water licences for approximately 23 million m³ per year, which is just over 1% of the annual flow in the river.

In 2022, we withdrew 13.0 million m³ or 57% of our allotment from the river. We also collected and used 0.51 million m³ from surface runoff.

The majority of water used in our manufacturing facilities is returned to the environment through evaporation in cooling tower plumes. The amount of water vapour released back to the ecosystem is about 80% of our intake. Water returned to the river goes through extensive testing to meet regulatory requirements and strict environmental standards before discharge.



JOFFRE SITE WATER USAGE
(million m³ of water)



This graph shows our water use at the Joffre Site. Generally, the greater the production rate, the greater our water use. Water use also fluctuates with other site activities such as turnarounds and weather conditions.

Noise management update

Monitoring, modelling and mitigation are key components of our ongoing noise management strategy.

Noise management is important to the community and has been a key consideration at the Joffre Site. NOVA Chemicals continues to focus on noise mitigation and conducts continuous noise monitoring at four permanent noise monitoring stations located east, west, south and north of the Joffre Site.

In 2022, analysis of historical permanent noise monitoring station data was completed. This data indicated that night-time noise levels continue to be below the historic target sound levels during normal operations. In addition, ad hoc noise monitoring was conducted during unit shutdowns and startups.

The North Rail Abatement Strategy 2022 results indicated that sound levels continue to be below the Alberta Energy Regulator Noise Directive.

There was one rail curfew exceedance for the north rail yard in 2022.



Our commitment to waste reduction

We are committed to reducing the amount of waste that we send to landfill for disposal.

In the last six years, we continued to work hard at finding new options to divert away from landfill. In 2022, 62% of waste generated was recycled, reused or recovered.

Our Soil Enhancement Program continues to benefit local farmer fields with the application of our spent lime/phosphate to 3,429 acres in 2022.

Our Rethink Recycling initiative continued to expand at site. With our refundable partnership with The United Way of Central Alberta and Cosmos bottle Depot, we assisted 870 Central Albertans in 2022 (since inception, approximately 3,000 Central Albertans have benefited from our refundable program). **Wondering what our refundables help support in the community?** These funds support hot breakfasts for school aged children, domestic violence therapy, literacy training, immigrant training and more.



Ensuring air emissions meet Alberta Ambient Air Quality Objectives

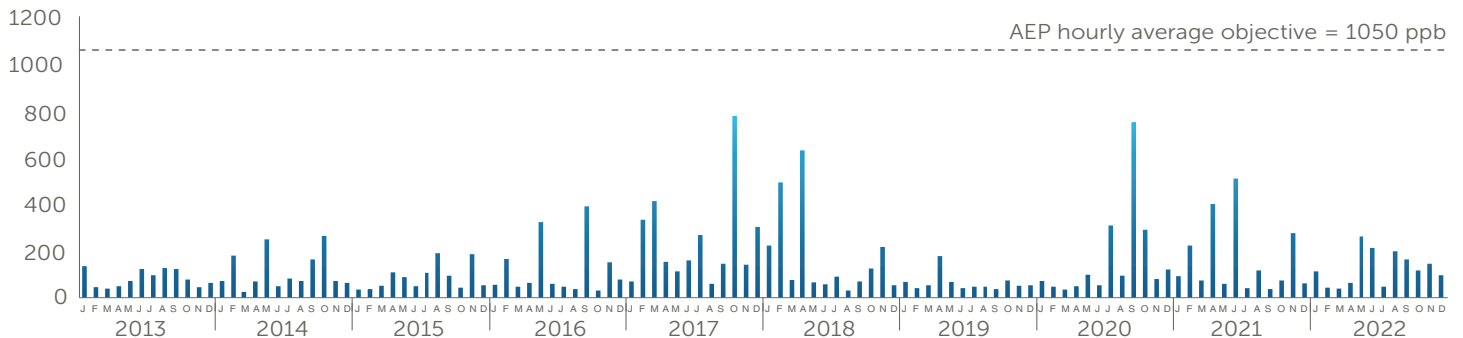
Through the Joffre Site Air Emissions Management Program we strive to reduce emissions, monitor impacts and continuously review our performance.

We remain focused on ensuring air emissions are below all regulatory compliance limits and air quality objectives set by Alberta Environment and Parks (AEP). NOVA Chemicals interfaces with regional groups such as the Parkland Airshed Management Zone (PAMZ) and the Red Deer Air Quality Committee.

Data related to a variety of air quality parameters, as shown in the graphs below and on page 5, indicates our concentrations are consistently below established objectives.

AMBIENT AIR ETHYLENE 1-HOUR MAXIMUM CONCENTRATIONS

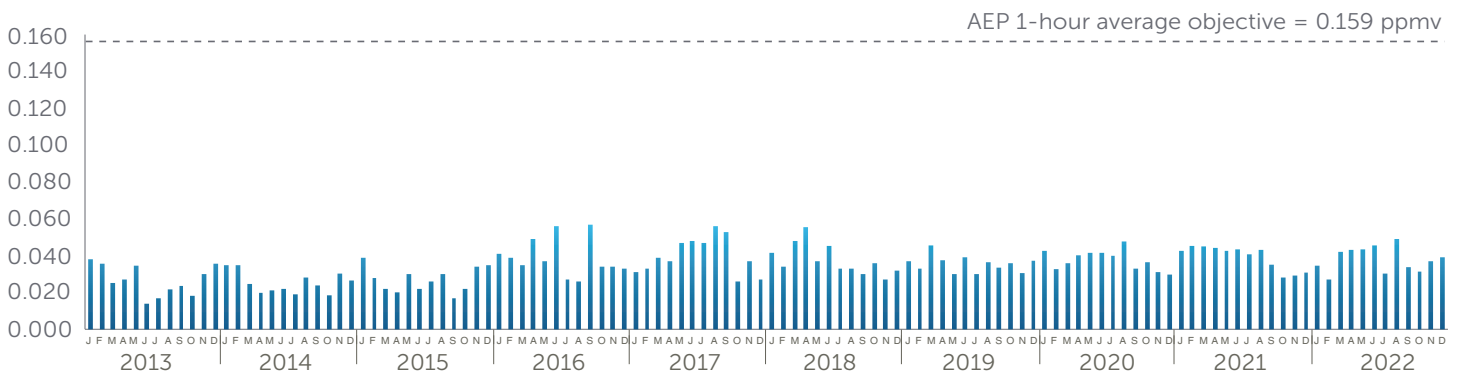
(ethylene reading [ppb])



Ambient ethylene (1-hour maximum) concentrations are well below the AEP Hourly Average Objective of 1,050 parts per billion (ppb). The high concentration readings correlate with outage dates and plant start-ups, where most often additional flaring and equipment purging occurred. Operational corrections for flaring events and repairs made through the LDAR program (Leak Detection and Repair) have been made as necessary, and have successfully reduced the number of high concentration readings.

AMBIENT AIR NO₂ 1-HOUR MAXIMUM CONCENTRATIONS

(NO₂ readings [ppmv])



Concentrations of oxides of nitrogen (NO_x), specifically NO₂, are consistently below regulatory limits.

Why do we flare?

Flaring is a safe environmentally acceptable way to dispose of hydrocarbons.

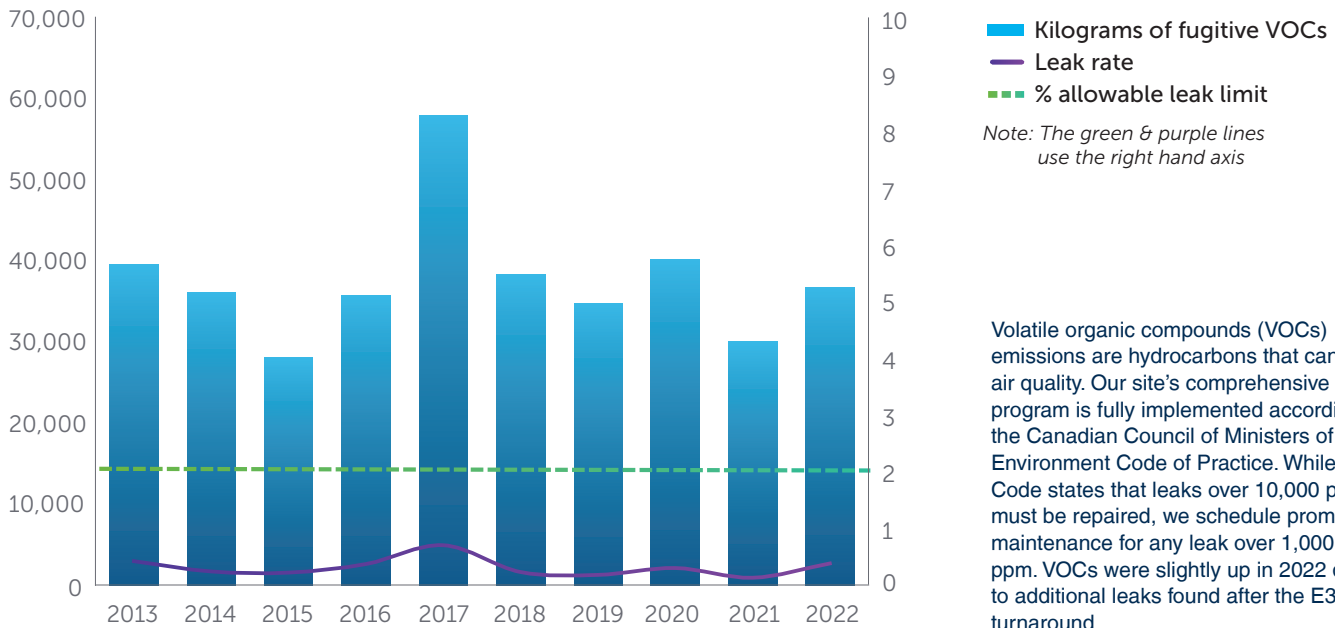
We need to dispose of hydrocarbons when a plant needs to isolate for maintenance activities and during emergency events. When the flare's flame becomes unstable due to too much air or steam addition, noise or vibrations can occur. We are also required to ensure that the flare maintains proper combustion (not smoky). Balancing reduced noise and proper combustion is a constant effort when flaring. **Our operating policy is to minimize flaring to reduce environmental, economic and community impacts.**



PETROCHEMICAL FACILITY FUGITIVE VOCS

(kilograms of fugitive VOCs)

(% allowable leak rate)



Volatile organic compounds (VOCs) emissions are hydrocarbons that can affect air quality. Our site's comprehensive LDAR program is fully implemented according to the Canadian Council of Ministers of the Environment Code of Practice. While the Code states that leaks over 10,000 ppm must be repaired, we schedule prompt maintenance for any leak over 1,000 ppm. VOCs were slightly up in 2022 due to additional leaks found after the E3 turnaround.

Great turn out for Spring Open House

We had a full house on April 12 for the annual Spring Open House! It was great to connect with so many community members and provide updates on NOVA Chemicals, as well as answer a number of questions from the crowd. We look forward to connecting with you again at the Emergency Preparedness Awareness Community BBQ on August 17 and the Fall Open House, November 14!



Sharing information on NOVA Circular Solutions, a new line of business focusing on lower-emission, recycled solutions that will help reshape a better, more sustainable world. NOVA Circular Solutions will be home to the SYNDIGO™ brand, our newest portfolio of recycled polyethylene (rPE).



4-H member Nate Dobinson shows off the appreciation plaque for NOVA's support of the Lacombe and District 4-H Club.



Our youth guests had some fun experimenting with science activities hosted by NOVA's genScience volunteers!

Community engagement

NOVA CHEMICALS RECOGNIZED WITH AWARDS OF DISTINCTION

NOVA Chemicals was presented with two awards at the United Way Central Alberta (UWCA) community campaign wrap-up event:

Top Achievement Award

— This award was presented to the workplace who raised the most dollars for UWCA in 2022. Our Joffre Site campaign raised **\$615,800**, which includes employee and retiree pledges and NOVA's matching dollars.



Gwen Clarke accepting a UWCA Award of Distinction from Doug Doran, UWCA Board President.

Education and Engagement Award — This award was presented to the organization or community initiative that increased awareness of community needs and the mission of United Way and the impact donations have on our community. Our Joffre Site campaign placed **160 employees** in the community to lend a hand up through the United Way Day of Caring™ Program. This equated to about **1,200 hours** of 'free labour' to United Way supported agencies. Since the mid-1990's, NOVA employees have invested **more than 24,000 hours** in communities where they work and live.

LACOMBE COUNTY CHILDREN'S FARM SAFETY DAY

It was a wet and rainy day, but grade 5 students from across Lacombe County made the best of it learning about the importance of farm safety. NOVA Chemicals is proud to support our agricultural community and help educate kids on the role safety plays every day.



LACOMBE & DISTRICT 4-H BEEF SALE

NOVA has sponsored the Lacombe District 4-H Beef Show and Sale since 1989 and been an active participant in the annual sale since 2007. This year we were proud sponsor an award for Supreme Champion Female. Pictured left is Richard Guido presenting the award to Jake Dobinson of East Lacombe 4-H Beef Club.

The NOVA crew also purchased the Supreme Champion Steer at the sale from Blake Flewelling of Central Lacombe 4-H Beef Club and presented him with the banner for Supreme Champion.

STEPS FOR LIFE

Steps For Life Teams across NOVA's Canadian regions raised funds and awareness for Threads of Life and their impactful work supporting families impacted by workplace tragedy. Across NOVA, individuals raised and/or donated over \$4,000 to the cause, further demonstrating our collective commitment to workplace safety. Locally, NOVA's Responsible Care Leader Chris Banbury's family has a special connection to Threads for Life. Chris has been actively involved in the organization for the past 12 years in remembrance of his father who passed away in a workplace accident. Chris helped raise an additional \$916 for Steps for Life through Cilantro & Chive's Burger of the Month for May.



LACOMBE COUNTY OFFICIALS ANNUAL JOFFRE SITE VISIT

We were excited to welcome the Lacombe County Councillors on June 20. These annual visits give us the opportunity to discuss areas of interest related to our site operations and plans, as well as collect input or concerns from the community.



Manufacturing West Sustainability Action Team (SAT) 2023 activities



Manufacturing West
Sustainability Action Team

SITE INITIATIVES

IMPROVING WALKING ACCESSIBILITY ON SITE

Our new pathway from Building 7 to Building 2 is under construction, this enhancement extends our existing walking path by **600 metres**, eliminating safety risk from walking on the road.



MAKING OFFSITE EVENTS SUSTAINABLE

Through collaboration with offsite venues we've diverted 160 kg of compost waste from landfill by working with venues to include recycling and composting during events.

BIKE SHARE INITIATIVE

Encourages employees to "Take. Ride. Return." bicycles supplied by MW SAT to reduce the use of vehicles around the Joffre Site.



CARPOOLING

Our NOVA To Go web tool and app are available to employees and contractors to find carpool partners. We actively promoted carpooling and the use of our app during this year's PE1 Turnaround. Through the first portion of our PE1 turnaround we had about **20-26%** carpool participation from our contractors.



RETHINK RECYCLING INITIATIVE

Ongoing promotion and awareness of our on-site recycling program, including recycling tips communicated to employees, like this one:

Easy as 1...2...3

Sustainability starts with you!

Leave caps, lids and labels on

Plastic lids and caps are recyclable. Keeping them on ensures that they are recycled just like the bottles. Loose caps have a high probability of falling through the conveyors and ending up at landfill.

COMMUNITY ACTIVITIES

ADOPT-A-HIGHWAY CLEAN-UPS

As part of our sponsorship of Adopt-A-Highway Programs, every Spring and every Fall, we support eight groups to sweep about 35 km of ditches surrounding our Joffre Site collecting garbage and identifying hazardous items for proper retrieval and disposal. **We encourage you to drive with caution when you see the youth groups in the area.**



GREEN DEER ANNUAL SPRING CLEANUP

We encouraged employees, contractors and their families to pick up litter as part of Kerry Wood Nature Centre's Red Deer annual spring cleanup from March 21 – May 31.



RED DEER TREE PLANTING

On May 5, NOVA personnel and their families planted **674 saplings** in the Queens Eco Industrial Constructed Wetlands area as part of the Red Deer Community Reforestation Program. This is the 25th year of NOVA's involvement in this initiative and so far we've planted **over 16,000 seedlings** in various locations around Red Deer!

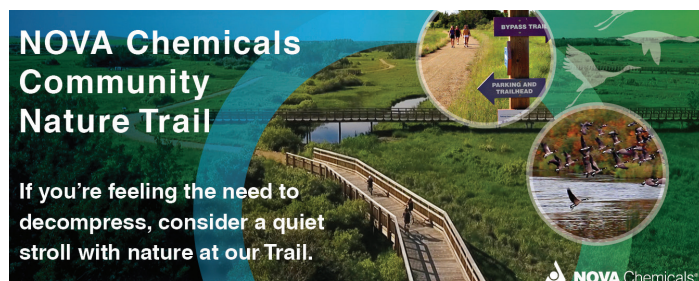


GREAT CANADIAN SHORELINE CLEANUP

On June 10, NOVA employees and family joined **over 50 community members** to collect **over 25 bags of litter** along the banks of the Red Deer River. As sponsors, NOVA **provided the main event prizes**. NOVA also donated **more than 50 garbage pickers** to enable for safer clean-ups for community participants. The Fall cleanup will be on September 16.



Visit the NOVA Chemicals Community Nature Trail

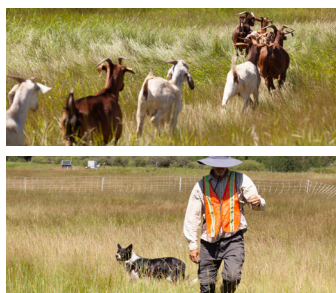


Share your wildlife sightings

We encourage visitors to the NOVA Chemicals Community Nature Trail to continue to tell us about their wildlife sightings at the Trail. **We would love to hear from you and welcome your stories and photos.** Send to joffresite@novachem.com.

Goat grazing

Goats will be grazing the NOVA Chemicals Community Nature Trail through the Summer months as a sustainable measure to control weeds and prevent grass fires. **Please pay attention to signage and do not disturb the goats or working dogs.**



Please watch for and pay attention to signs



Dogs must remain on leash at all times at the NOVA Chemicals Community Nature Trail.

SiteLine is published by NOVA Chemicals Corporation

P.O. Box 5006, Red Deer, AB, T4N 6A1

Attn. Kaelyn Gillard: 403-754-4619

For more information, please see these websites:

- www.novachemicals.com | www.novachem.com/joffre
- Chemistry Industry Association of Canada: www.canadianchemistry.ca
- American Chemistry Council: www.americanchemistry.com

Connect with us!



Joffre Site E1 and AST1 maintenance planned

Chemical facilities need periodic maintenance and renewal outside of day-to-day maintenance. Our Ethylene 1 (E1) and Advanced SCLAIRTECH™ Technology Facility 1 (AST1) facilities will be shut down in September for planned maintenance. Each plant is planned to be down for two weeks with staggered start and completion dates.

What you can expect?

- Approximately 100 contractors at peak
- Flaring during plant shut-down and start-up

AS ALWAYS, MINIMIZING IMPACTS ON THE COMMUNITY IS A KEY AREA OF FOCUS.

- Bussing contractors to alleviate high traffic volumes to site
- We are encouraging carpooling with our NOVA TO GO app

If you have questions about this activity, call our 24-hour number 403.314.8767 or email joffresite@novachem.com.

For more business and environmental information, please visit: www.novachemicals.com.



NOVA Chemicals®

INEOS

Fall Community Open House

Date: Tuesday, November 14, 2023

Time: 5:30 to 6:30 p.m. "Drop in to Chat"
6:30 to 7:30 p.m. Presentation/Discussion

Place: Haynes Hall (Travelling east on Highway 11, turn north (left) on Range Road 244 for 3.3 km to Township Road 390. Cross over 390 and take first left into parking lot of Haynes Hall.)

Agenda:

- Get business and facility operations updates
- Discuss any topic of interest
- Provide your input and suggestions
- Fun science experiments for kids

Refreshments will be served. We hope to see you there!



NOVA Chemicals®



Responsible Care®
Our commitment to sustainability.