

# 2021

Environmental, Social and Governance  
(ESG) Report Published: May 2022

**BIRCHCLIFF**  
ENERGY





**Front Cover:** Bridge Road – Pouce  
Coupe River Crossing.

“Birchcliff remains steadfast on putting the environment and the safety of our people and all of our stakeholders at the forefront of our corporate strategy.”

**A. Jeffery Tonken**

Chief Executive Officer and Chairman of the Board

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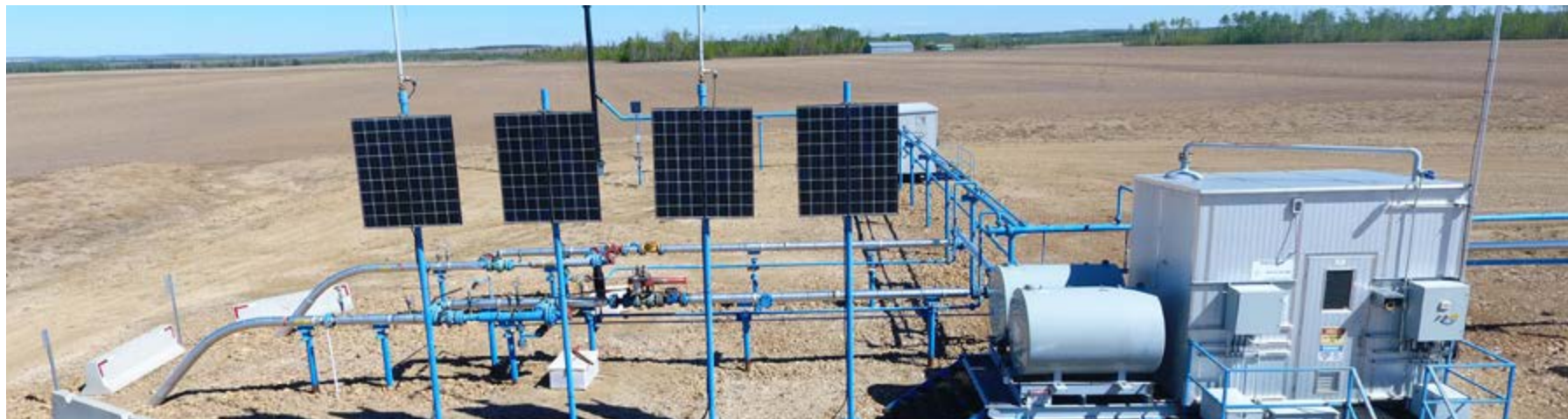
SECTION 1

# INTRODUCTION



## 1.1 GREENHOUSE GAS (“GHG”) REDUCTION HIGHLIGHTS

- **Low Emissions Intensity Producer (LEIP)** with one of the lowest direct emissions intensities in our peer group of 0.01232 tonnes of CO<sub>2</sub> equivalent emissions per barrel of oil equivalent (tCO<sub>2</sub>e/boe).
- Carbon Sequestration at **Pouce Coupe Gas Plant**, 3-22-078-12W6, is now over 63,000 tonnes CO<sub>2</sub> injected as of December 31, 2021.
- Well sites designed and constructed for **ZERO vented emissions**.
- Active Methane Reduction and Retrofit Compliance Plan (“**MRRCP**”)
- Starting to generate Emission Offset Credits (“**EOCs**”) under Alberta’s voluntary Vent Reduction Protocol. Will continue to **reduce venting and generate offset carbon credits in the coming years**.
  - All pneumatic gas devices will be retrofitted or removed by 2023 compliance deadline, generating offset carbon credits.
  - 80% of compressor seals capture or destroy vent gas, significantly reducing methane emissions.
  - Removed all high-bleed devices from service (other than pumps) in 2021.
- Stringent Fugitive Emissions Management Program (FEMP).
- Minimal flared volumes during new well completion operations, as a result of our in-line completions testing best practice.
- Utilization of Compressed Natural Gas (CNG) to displace diesel in Drilling and Completions operations.
- Waste heat recovery (“**WHR**”) at the Pouce Coupe Gas Plant.
  - Recovery of heat energy / lower fuel gas requirements, **resulting in 15,000 tCO<sub>2</sub>e reduced emissions per year**.
  - Due to the success of our WHR units, we are evaluating and looking to install more WHR units in our operations.
- Awarded Emission Performance Credits (EPCs) under TIER Program for **low GHG emissions totaling approximately \$3MM over past three years**.
- Cleantech Investments.
- Natural Gas Innovation Fund (“**NGIF**”) and NGIF CleanTech Ventures Equity Fund
  - Continual pursuit of new emissions reduction technologies





## 1.2 MESSAGE TO STAKEHOLDERS

### Dear Fellow Stakeholder,

At Birchcliff, we continue to be a leader in all aspects of our environmental, social and governance (“**ESG**”) performance and are committed to the safe and responsible production and delivery of clean, reliable natural gas and oil to the commodity market. 2021 was a record year for Birchcliff in many respects, with record adjusted funds flow, free funds flow and net income to common shareholders. I am proud that these results were earned in conjunction with another exceptional year of ESG performance. Birchcliff remains steadfast on putting the environment and the safety of our people and all of our stakeholders at the forefront of our corporate strategy.

We recognize the importance of, and our responsibility for, environmental stewardship while developing our assets. Birchcliff is one of the lowest GHG emissions intensity producers among its peers and we remain focused on ongoing initiatives and investments to further reduce our GHG emissions intensity. Birchcliff has developed the acronym “LEIP”, meaning Low Emissions Intensity Producer, which describes what we are today and what we endeavor to accomplish in the future.

The LEIP program at Birchcliff reminds us, as well as our stakeholders and others interested in our industry’s emissions reductions initiatives, of Birchcliff’s commitments and successes as a company, to reducing our environmental impact.

Birchcliff continues to be a leader in emissions reduction initiatives, which have resulted in notable environmental, operational and financial benefits. Despite already having a much lower methane emission intensity than many of our industry peers, we have reduced our vented methane emissions by 60% since 2019 in order to help meet Alberta’s provincial methane emissions reduction commitment.

We strive to maintain excellence in environmental stewardship and are continually looking to identify, develop and utilize new technology, systems and processes that will reduce our environmental footprint and create a safer work environment.



Birchcliff continues to invest financial resources and time to support our commitment to further reduce our impact, and the impact of the oil and gas industry as a whole, on the environment. Birchcliff is proud to be a partner in the NGIF Capital Corporation through two of its divisions: NGIF Industry Grants and NGIF Cleantech Ventures. Birchcliff has been a member of NGIF Industry Grants (originally the Natural Gas Innovation Fund) since 2018, when it was expanded to include natural gas producers and is a founding limited partner of NGIF Cleantech Ventures. Both NGIF Industry Grants and NGIF Cleantech Ventures are projects created by the Canadian Gas Association to support the funding of cleantech innovations in the natural gas value chain.

Birchcliff continues to be a committed supporter of the communities where we operate. Each year, Birchcliff participates in a number of community support endeavours in Calgary, Alberta and the areas surrounding our field operations. During 2021 Birchcliff committed to be major contributor to STARS Air Ambulance, both in Northern Alberta and Calgary. This commitment will help enable STARS to purchase new helicopters that offer the latest in safety, technology and avionics, resulting in significantly increased safety measures, reduced crew fatigue, fuel efficiency and increased coverage area with overall cost savings, all the while upholding STARS life-saving mission. Birchcliff also supported many other charitable initiatives during 2021, including the United Way of Calgary and Area and the University of Calgary.

We acknowledge that our field operations are located within the ancestral and traditional territory of the Treaty 8 First Nations, as well as the Métis people. At Birchcliff, we pride ourselves on our open and honest consultation with the Indigenous peoples whose traditional lands could be affected by our operations, which has led to strong and lasting relationships. We always strive to go above and beyond Alberta's stringent regulatory requirements for consultation by building partnerships with Indigenous communities that are beneficial to Birchcliff, our Indigenous partners and the environment. In addition, we believe that providing economic opportunity is critical to developing and maintaining positive relationships. As such, we are focused on hiring local employees and using local contractors whenever possible, including contractors that are partnered with or owned by members of the Indigenous communities in the Pouce Coupe and Gordondale areas.

As part of our commitment to the First Nations and Métis communities where we operate, we provide support through community-led investment in youth, culture and heritage, including by supporting local cultural events and by providing education and scholarship programs, student employment and career opportunities.

At Birchcliff, we take a proactive approach to succession and we made some exciting changes to our executive team effective January 1, 2022 to help lead us into the future. Chris Carlsen, previously our Vice President, Engineering, was appointed as our new President and Chief Operating Officer, while I continue on as Chief Executive Officer and Chairman of our Board of Directors. We also appointed three additional individuals to our executive team: Theo van der Werken as Vice President, Engineering, Robyn Bourgeois as Vice President, Legal, General Counsel and Corporate Secretary and Hue Tran as Vice President, Business Development and Marketing. The skills, expertise and perspectives of these three individuals will further complement our executive team, adding diversity of opinion and enhancing Birchcliff's ability to continuously improve the execution of our business and create value for our shareholders. These individuals are all long-term employees who have excelled at Birchcliff and I believe all of us will benefit from their being a part of the executive team.

At Birchcliff, we are steadfast in our commitment to continuous improvement. Whether it is by reducing our environmental footprint through the use of cutting-edge technologies, by making our communities stronger by lifting up the less fortunate or through our strong connections to the Indigenous peoples who have inhabited this land for centuries, Birchcliff continues to be a leader in all aspects of corporate responsibility.

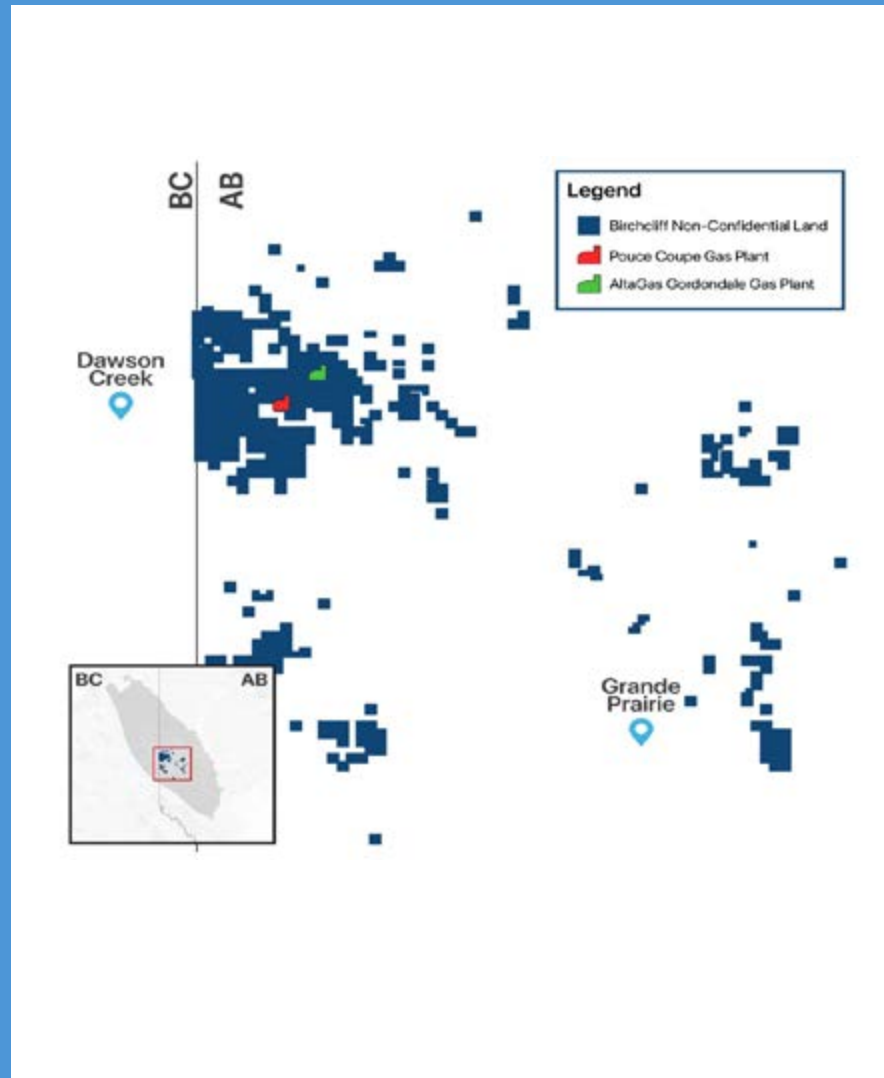
With respect,



**A. Jeffery Tonken**  
Chief Executive Officer  
and Chairman of the Board

## 1.3 ABOUT BIRCHCLIFF

Birchcliff Energy Ltd. is a Calgary, Alberta based intermediate oil and gas company. Birchcliff's operations are concentrated within our one core area in northwestern Alberta, adjacent to the Alberta/British Columbia border. Our Montney/Doig Resource Play is considered by management to be one of the most desirable natural gas and light oil drilling areas in North America.



Birchcliff's common shares are listed on the Toronto Stock Exchange ("TSX") under the symbol "BIR". Birchcliff's Series A and Series C Preferred Shares are listed for trading on the TSX under the symbols "BIR.PR.A" and "BIR.PR.C", respectively.

## 2021 Operational Highlights

**Wells Drilled: 32**

**Wells Brought on Production: 33**



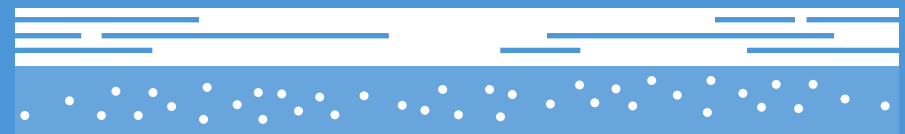
**Average Production: 78,520 BOE/D**

**Commodity Mix: 79% Natural Gas and 21% Liquids**



**PDP Reserves: 217 MMBOE**

**2P Reserves: 1,022 MMBOE**





## 1.4 ABOUT THIS REPORT

- This report is intended for **all Company stakeholders and future investors** to provide **performance details** on elements of Birchcliff's operations, with a specific focus on ESG measures.
- To determine the content for this report, Birchcliff executives, managers and leaders were **engaged throughout 2021** to identify and prioritize matters that are most relevant to our key stakeholder groups.
- This report was created based on the **Global Reporting Initiative ("GRI") Standards** and the **Sustainability Accounting Standards Board ("SASB")** frameworks. This report contains standard disclosures from GRI and SASB but has not fulfilled all of the requirements to qualify as fully 'in accordance' with these standards.
- Unless otherwise stated, **this report is with respect to the year ended December 31, 2021, compared to the years ending December 31, 2020, and December 31, 2019.**
- Unless otherwise stated, financial data is in **Canadian dollars**, environmental data is in **metric units**, and production data is in **barrels of oil equivalent ("boe")**.
- For further information regarding production or reserves, please refer to our **Annual Information Form** for the year ended December 31, 2021, on our website **www.birchcliffenergy.com**.
- The terms **Birchcliff, our, we, and the Company**, refer to Birchcliff Energy Ltd.



Gordondale Battery at 07-29-078-11W6

## 1.5 THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

The United Nations' Sustainable Development Goals (“**SDGs**”) were established in 2012. These goals are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. There are 17 interconnecting SDGs in areas such as decent work and economic growth, responsible consumption and production, good health and wellbeing, peace, justice and strong institutions and climate action, and success in one will affect others. Birchcliff is proud to contribute towards achieving many of these goals by operationalizing many of them into our core business practices. Birchcliff's **foundations of safety, innovation, environmental protection, and corporate culture** are all interconnected with the SDGs. As Birchcliff continues to be a leader in all aspects of our industry, we continue to develop and focus our programs to steward to the SDGs.

**SDG 7 Affordable and Clean Energy** focuses on ensuring universal access to affordable, reliable, sustainable and modern energy. This goal promotes global access to cleaner forms of energy, specifically to less developed nations whose citizens either don't currently have access to affordable or reliable electricity or are currently using more carbon-intensive energy sources, such as coal. While there is continued sentiment towards renewable energy development and implementation, renewable technologies are unable to meet the world's energy demands. For these reasons, it is expected oil and natural gas will remain a dominant source of global energy for years to come. The technologies surrounding the oil and gas industry are well developed and therefore are capable of supplying global energy demands reliably and affordably.

**Natural gas is among the cleanest energy options** and can be used to support both heating and electricity demands. Birchcliff is primarily a natural gas producer with massive natural gas reserves, and as Canada increases its natural gas egress options through additional pipelines and liquefied natural gas ("LNG") hubs, **we are ready to supply the world with a clean energy resource for decades to come!**

Throughout this report, we have identified each of the UN Sustainable Development Goals that Birchcliff is proud to be stewarding towards.





## 1.6 COVID-19 PANDEMIC RESPONSE



Birchcliff's Bay Tree Warehouse – daily production operations COVID-19 testing site.

On January 30, 2020, the World Health Organization (“**WHO**”) declared the COVID-19 outbreak a public health emergency of international concern and on March 11, 2020, declared it to be a pandemic. Birchcliff has been proactive in managing the health and safety of its employees and its business continuity challenges resulting from the COVID-19 pandemic by implementing a number of initiatives to protect the well-being of its employees and contractors. This includes remote work-from-home arrangements, physical distancing measures, enhanced cleaning and sanitization measures and conducting meetings through virtual means. Birchcliff established a response team to coordinate and implement initiatives relating to COVID-19 and continues to closely monitor the recommendations of applicable government and health authorities.

In 2021, Birchcliff continued its various **initiatives and measures to protect the health and well-being of its employees and contractors**, initiatives such as: remote work-from-home arrangements, physical distancing measures, rapid testing at work locations, enhanced cleaning and sanitization measures and conducting meetings through virtual tools.

Birchcliff's COVID-19 Response Team continued to coordinate and implement initiatives relating to COVID-19 and closely monitored the recommendations of applicable government and health authorities.



Since the start of the COVID-19 pandemic in March 2020, the COVID-19 Response Team received, assessed, advised and monitored over 500 requests from Birchcliff employees. These requests ranged from questions about protocols, symptoms, travel concerns, contact tracing and rapid testing requests. Over 200 of these requests took place during 2021.

In the fall of 2021 due to increased concern brought on by the Omicron variant, Birchcliff implemented a rapid test program across all our field production locations, requiring all employees and contractors to be tested for COVID-19 prior to accessing Birchcliff's work sites.

We integrated a series of mitigation measures to ensure our workers' health and safety, while maintaining business continuity. These measures included:

#### Production:

- Plant Operations common areas were restricted to critical personnel only and masks were required when physical distancing was not possible.
- Improved sanitation by increasing cleaning schedules for the offices and control room.
- Those workers who were able to were allowed to work remotely.
- Production, HSE and Operational meetings were held virtually and additional resources were acquired and made available to facilitate this change.
- COVID-19 Pre-Screen questionnaire was implemented for employees and contractors coming to production worksites.

#### Capital Projects:

Birchcliff worked with the Explorers and Producers Association of Canada ("EPAC") Health & Safety Committee to create a COVID-19 Risk Matrix. This matrix was created **to assess risk from a health, safety and business continuity** perspective, and if necessary to identify and implement control measures to achieve an acceptable level of risk. These COVID-19 control measures were also evaluated to ensure that they would not reduce the effectiveness of other implemented health and safety controls or materially increase safety risk. These measures included:

- Additional medical services were brought in to support our operations.
- Birchcliff worked with our contractors to ensure that they had the support and processes in place to protect their employees and support their own operations on site.
- Contractor communication and engagement opportunities took place to ensure they had the necessary support they required.
- Birchcliff brought in remote work accommodations for Capital Projects (D&C Camp) to reduce our workers' potential exposure in local communities.
- Onsite COVID-19 protocols were implemented, including:
  - COVID-19 Pre-screening temperature checks and travel/exposure questionnaire;
  - Changes to safety meetings to allow for appropriate spacing of workers and, where possible, meetings were held outside; and
  - Additional PPE requirements at worksites when workers could not maintain a minimum spacing of two metres apart.

## 1.7 STAKEHOLDER ENGAGEMENT



Fostering a strong relationship with the community and our stakeholders is integral to successfully and responsibly developing our resources. At Birchcliff, we believe cooperative, sincere and responsive consultation efforts with stakeholders in the areas in which we operate create a solid foundation for our business.

We have an experienced team working with local stakeholders to learn their values and priorities and resolve any issues or concerns that may arise.

Birchcliff is actively engaged in many industry groups. Our executives participate as governors, directors or play other key roles within the following organizations:






- Canadian Association of Petroleum Producers
- Explorers and Producers Association of Canada
- Energy Safety Canada
- Calgary Economic Development
- Natural Gas Innovation Fund
- Canadian Energy Executive Association

In 2021, to further show Birchcliff's commitment to and performance in ESG, we created a [video](#) that captures Birchcliff's pursuit of ESG excellence. We are proud of what we have created and believe it communicates the essence of our program, our ESG commitment and our long-term values here at Birchcliff.





The table below summarizes our engagement with various stakeholder groups:

Stakeholders	How We Engage					
Indigenous Groups	<ul style="list-style-type: none"><li>• Undertake an inclusive process of fair, representative and non-discriminatory engagement and good faith consultation with all project-affected communities of Indigenous Peoples.</li><li>• Collaborative partnerships with local Indigenous group-affiliated service companies</li></ul>	<ul style="list-style-type: none"><li>• Community and education grant funding</li><li>• Providing industry learning opportunities</li></ul>				
Local Communities and Landowners	<ul style="list-style-type: none"><li>• Support of local projects and initiatives through active participation and charitable donations</li><li>• Direct communication and engagement</li><li>• Participation in the Wapiti Area Synergy Partnership</li></ul>					
Employees and Contractors	<ul style="list-style-type: none"><li>• Career development, training and progression planning</li><li>• Employee performance reviews</li><li>• Quarterly staff meetings and monthly Corporate Updates</li></ul>	<ul style="list-style-type: none"><li>• Monthly field Health, Safety and Environment (“HSE”) meetings and annual Safety Stand Downs</li><li>• Annual mentoring program</li></ul>				
Government Regulators	<ul style="list-style-type: none"><li>• Obtaining and meeting all requirements for regulatory approvals.</li><li>• Provide input in the development and implementation of balanced legislation, regulations, best practices and guidelines</li><li>• Engagement and participation in regulatory advisory groups</li></ul>					
Shareholders	<ul style="list-style-type: none"><li>• Annual and Quarterly reports</li><li>• Press releases</li><li>• Annual General Meetings</li></ul>	<ul style="list-style-type: none"><li>• ESG Reports</li><li>• Frequent one-on-one communication</li><li>• Open dialogue with industry analysts</li></ul>				
Industry Groups	<ul style="list-style-type: none"><li>• Canadian Association of Petroleum Producers (“CAPP”)</li><li>• Explorers and Producers Association of Canada (“EPAC”)</li><li>• Canadian Association of Energy Contractors (“CAOEC”)</li></ul>	<ul style="list-style-type: none"><li>• Energy Safety Canada (“ESC”)</li><li>• Canadian Society of Unconventional Resources (“CSUR”)</li><li>• Canadian Energy Executive Association (“CEEA”)</li></ul>				



SECTION 2

# ENVIRONMENTAL







## LOOKING BACK

- Construction of low-emission facilities, utilizing leading-edge technology.
- Minimal flaring intensity during new well startup and flow testing operations.
- Stewarded to our long-term water strategy.
- **Decommissioning, Abandonment, Remediation and Reclamation ("DARR")** team completed full decommissioning of the Rycroft Sour Gas Plant.
- Maintained industry top decile Liability Management Rating (LMR) of 17.9.

## LOOKING FORWARD

- Continue to identify, manage and implement practices to address our changing regulatory landscape.
- Strong focus on our DARR program, specifically the reduction of liabilities.
- Continue implementing MRRCP (eliminate venting, fugitive emissions detection and repair).
- Focus on further GHG emission reductions maintaining Birchcliff's status as a **Low Emissions Intensity Producer ("LEIP")**, with a focus on methane emission reductions.

## Minimizing Environmental Impacts

As an organization, we are committed to reducing the impact our operations have on the environment. As part of our fundamental values, we recognize the importance of our responsibility to the environment. We endeavor to maintain excellence in environmental stewardship and take proactive steps to eliminate or reduce our environmental impact.

Careful consideration is put into our site selection and design to minimize the footprint of our operations on the environment. Field assessments are conducted during the preliminary phases of our projects so that we can assess any key environmental features or sensitivities that need to be considered.



**Birchcliff strives for continuous improvement. We continue to look for and implement new technology, systems and processes that will help improve efficiency, reduce our environmental footprint and create a safer work environment.**

We believe we can be part of the long-term, sustainable energy development cycle and are prepared to lead the way with progressive, measurable, and impactful operational practices which will reduce the environmental impact we may have in the areas in which we operate, as well as across the industry.



**24,500**m<sup>2</sup>  
of land  
reclaimed



**35**

Wellbores Abandoned  
and/or Cut and Capped



**100**

Closure Activities  
Executed



**4**

Four Reclamation  
Certificates Received



**44**

Facilities and Pipelines  
Decommissioned



**1,000**  
trees planted



## Rycroft 07-02-77-04W6 Sour Gas Plant Decommissioning Project

Birchcliff recently completed the full facility decommissioning and pipeline abandonment at our Rycroft 07-02-77-04W6 Sour Gas Plant. The facility was a 23 MMcf/d sour gas processing facility with an acid gas well and eight associated pipelines. All decommissioned processing equipment was either sold or recycled, and the entire project resulted in very limited waste generated.

Decommissioning of this facility met all Alberta *Environmental Protection and Enhancement Act* (EPEA) approval requirements and allowed for site reclamation to begin earlier than originally scheduled. Reclamation activities began in the summer of 2021 and will continue throughout 2022.



Rycroft 07-02-77-04W6 Sour Gas Plant – September 2005 (left photo) and Post Decommissioning and Reclamation – July 2021 (right photo).

## 2.1 LOW EMISSIONS INTENSITY PRODUCER

At Birchcliff we continue to be extremely proud of our corporate emissions performance. In 2020, to celebrate our industry leading accomplishment, we adopted our own logo. We have created our own identifiable brand that proudly reminds us and others that our commitments and successes, as a company, to reducing our environmental impact are integrated in every decision we make.

When benchmarked against our industry peers, Birchcliff continues to have one of the lowest GHG emissions intensities in the Canadian oil and gas industry. We are therefore very proud to brand ourselves as a **Low Emissions Intensity Producer** ("LEIP").



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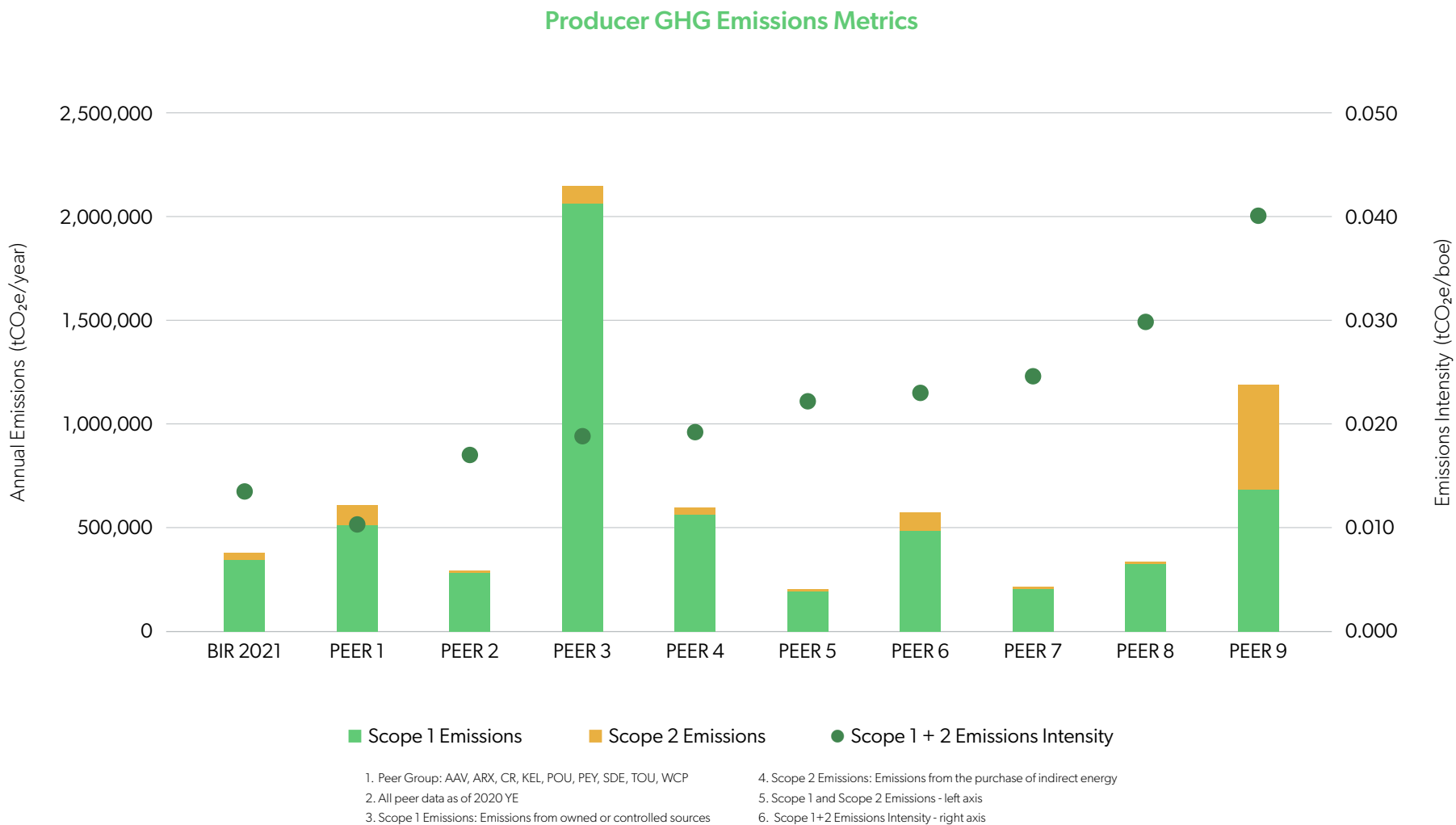
This logo was chosen as it represents sun, air, earth and water.  
These are elements of environmental stewardship.

 **Sun**    **Air**    **Earth**    **Water**



A common industry metric for carbon emissions intensity is tonnes of CO<sub>2</sub> equivalent emissions per barrel of oil equivalent (tCO<sub>2</sub>e/boe). In general terms, it is the amount of GHG emitted (measured as tonnes of CO<sub>2</sub> equivalent) relative to a company's raw production (measured as a barrel of oil equivalent).

The lower your emissions intensity, the better. **Birchcliff is proud to distinguish ourselves as a LEIP because it embodies the initiatives we have taken to reduce our carbon footprint and to explore for opportunities to make ourselves even better.**

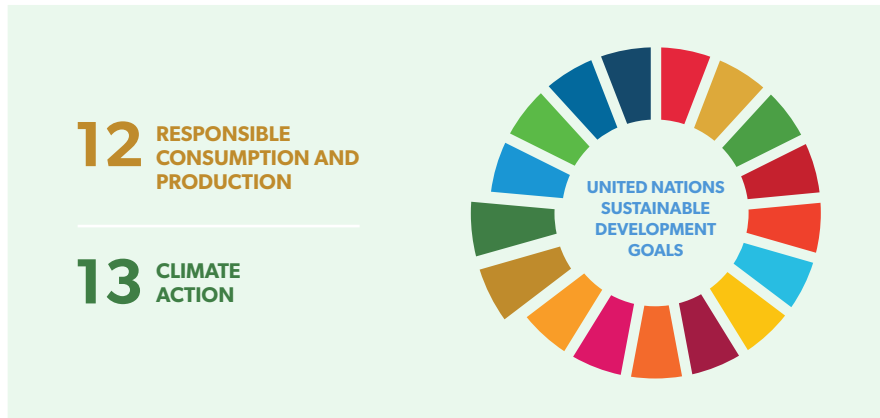




AIR



## 2.2 AIR

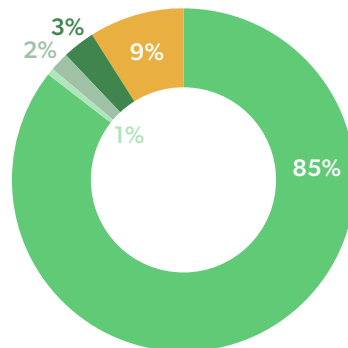


Birchcliff has always looked for ways to reduce our environmental footprint and has proven to be one of the lowest GHG emission intensity producers within industry. Through continuous evaluation of operational efficiencies, trials and implementation of new technologies, Birchcliff is very proud of the many emission reduction initiatives that we have implemented to date.

2021 saw Birchcliff focus primarily on methane emission reductions to help the province of Alberta achieve its commitment to reduce methane emissions from upstream oil and gas operations by 45% (relative to 2014 levels) by 2025. Alberta, along with most other jurisdictions, have recently emphasized methane emissions due to their Global Warming Potential (“GWP”).

### 2021 GHG Birchcliff Emissions by Activity

- Stationary Combustion
- Flaring
- Fugitives
- Vented
- Scope 2 Emissions



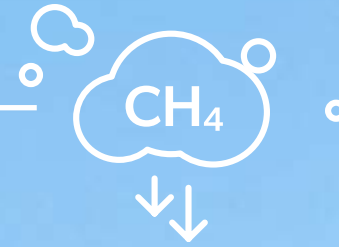
Dual Drilling Rigs 14-28-77-13W6 Site



## METHANE VENTING REDUCTION

Birchcliff does not own very many legacy assets. We are therefore fortunate to have designed and built the majority of our facility infrastructure throughout our operations. Our sites have been designed with zero-bleed pneumatic devices which eliminates methane venting. More than 90% of our sites already meet or exceed provincial government regulations that are to come into effect in 2023. Birchcliff will continue to focus on methane reduction in 2022 to ensure full compliance before the new regulations come into effect.

Additionally, the majority of our compressor seal vent gas is captured and recycled or combusted on site. Only 20% of our compressor packing vents currently vent to atmosphere and we are working to further reduce that number to zero in the near future.

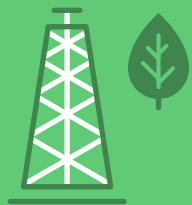


### 2021 Methane Vent Reduction Highlights

Of Birchcliff's remaining pneumatic devices above the high-bleed threshold:

- Removed 16.9% devices from service, completely eliminating methane emissions from those devices.
- Successfully retrofitted 33.8% of our devices to low-bleed, putting them in compliance with upcoming provincial regulations.
- Installed additional instrument air compression, completely eliminating venting from an additional 8.1% of high-bleed pneumatics.
- Replaced fuel gas driven pumps with electric pumps, eliminating their vent gas altogether.

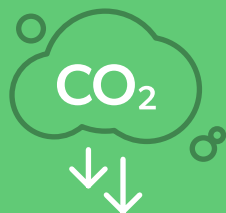
This has resulted in more than 60% of high-bleed pneumatic devices being brought into compliance in preparation for provincial regulations that come into effect in 2023. The remaining devices will be brought into compliance as part of the 2022 methane vent reduction program.



### Drilling and Completions Emissions Reductions:

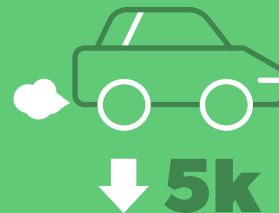
Birchcliff uses various fuel types throughout our Drilling and Completions operations but steer towards lower emission fuels where possible. By using more compressed natural gas (“CNG”) and our own fuel gas we have been able to use much less diesel, thereby lowering GHG emissions. **We are using 29% less diesel fuel per well drilled than we did two years ago.**

Birchcliff has entered into partnerships with contractors in order to jointly share costs needed to modify their drilling rigs and equipment so they create less emissions. We have invested over \$1.5 million over the past few years on these types of initiatives and will continue to work with our vendors and service providers to implement further emission reduction initiatives



### Flare Emissions Reduction:

We proactively construct pipelines to our wellsites prior to our D&C operations being completed. This allows flowback water, liquid hydrocarbon, and natural gas to be shipped via pipeline, to our processing facilities, almost immediately after fracing operations are complete. **This results in minimal natural gas volumes being flared thereby significantly reducing potential GHG emissions.**



### Heat Recovery:

We continue to see material fuel gas savings from our Waste Heat Recovery units at our Pouce Coupe Gas Plant which results in significantly less GHG emissions per year. **The 15,000 tCO<sub>2</sub>e reduced emissions per year from this facility is equivalent to about 5,000 passenger vehicles taken off the road annually.** As a result of this success, we are proceeding with the installation of an additional Waste Heat Recovery unit in the Pouce Coupe Gas Plant. This investment is expected to cost over \$2 million dollars.



### Vapor Recovery Units (VRUs):

For over a decade, Birchcliff has benefitted from the implementation of numerous VRUs throughout our operations. Natural gas that might normally be vented to atmosphere or flared is captured and recycled back into our process streams. **This results in less CO<sub>2</sub> and CH<sub>4</sub> emissions while increasing our production volumes, directly improving our already low emissions intensity.**





Birchcliff's 100% owned and operated Pouce Coupe Gas Plant, located at 3-22-078-12W6

## Emission Performance

By voluntarily reducing our GHG emissions, there are regulatory mechanisms in place to generate a "carbon credit" for each tonne of carbon dioxide equivalent ( $\text{tCO}_2\text{e}$ ) reduced. These credits can be used for future compliance reporting or monetized by selling to third parties.

The Pouce Coupe Gas Plant is highly fuel efficient compared to many older plants in the province. It is equipped with modern, high efficiency natural gas engines with state-of-the-art emission controls, waste heat recovery, high efficiency process heaters, and acid gas capture and sequestration. Our Pouce Coupe Gas Plant has two acid gas sequestration wells, with an approved AER acid gas scheme, that have been operational for over 12 years. As of December 31, 2021 over 63,700 tonnes of  $\text{CO}_2$  has been extracted and disposed of from our raw natural gas production stream.

All of these features of the Pouce Coupe Gas Plant, as well as various emissions reduction initiatives, are playing a significant role in Birchcliff continuing to be one of the lowest emissions intensity producers in the industry. Birchcliff has been awarded 87,607 **Emission Performance Credits ("EPCs")** over the past three reporting years (valued at an aggregate of approximately \$3.0 million). In Alberta, EPCs are awarded pursuant to the **Technology Innovation and Emissions Reduction Regulation ("TIER")**, and its predecessor, the **Carbon Competitiveness Incentive Regulation ("CCIR")**. Facilities regulated under TIER, such as the Pouce Coupe Gas Plant, must reduce emissions beyond their established facility benchmarks in order to generate EPCs. We continue to look for new technology that will improve our emissions intensity, making it as low as absolutely possible.





Alberta's Vent Gas Reduction protocol (the "**Vent Reduction Protocol**"), pursuant under the Alberta Emission Offset System, allows groups to voluntarily reduce their vented greenhouse gas emissions in order to generate Emission Offset Credits ("**EOCs**"). While conducting our methane vent reduction program, Birchcliff goes above-and-beyond the regulatory requirements, resulting in the generation of EOCs. We have implemented several methane reduction initiatives such as replacing high-bleed pneumatic devices with low-bleed or zero-bleed devices, tying vent gas to flare, installing solar pump packages and instrument air compressors, and electrification of instrumentation. By reducing our vented emissions at numerous sites, we expect to generate additional EOCs for up to eight years. Reducing or eliminating methane venting is one of the most efficient ways to reduce GHG emissions. Since methane has a GWP of 25 times that of CO<sub>2</sub>, each tonne of methane eliminated is the equivalent of reducing 25 tonnes of CO<sub>2</sub>.

### Strategic Partnerships

Birchcliff has been a proud member of the Peace Airshed Zone Association ("**PAZA**") since 2010. PAZA is a nonprofit, multi-stakeholder organization that conducts ambient air quality monitoring in northwestern Alberta. PAZA is an unbiased, open and transparent organization, and its members collaborate to provide local solutions to local air quality concerns. PAZA works with its Members, Alberta Environment, Alberta Energy Regulator and Alberta Health to monitor the air quality in the region.



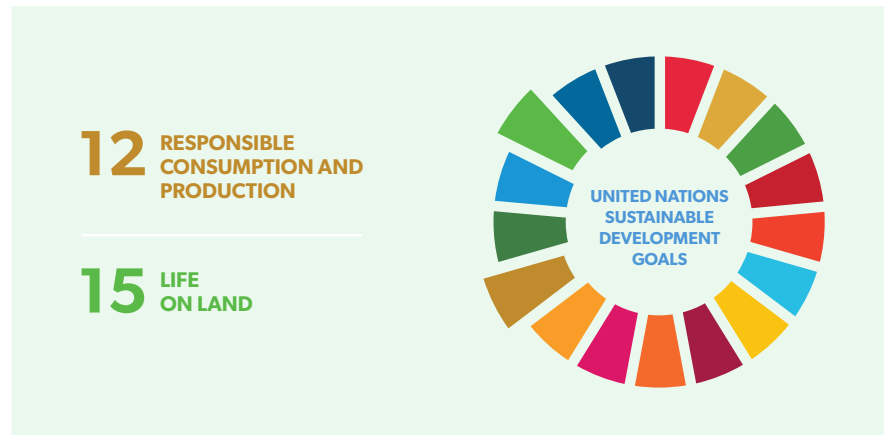


# LAND





## 2.3 LAND



### Asset Retirement & Reclamation

Birchcliff believes in being an environmental steward, therefore, we have active abandonment and reclamation programs to ensure non-producing assets are retired and the surface leases are restored to their natural state. Our Decommissioning, Abandonment, Remediation and Reclamation (“**DARR**”) team is responsible for preparing our annual budget and efficiently executing on our annual DARR program.

We have taken a proactive approach with regard to our annual well abandonment and suspension obligations. We actively monitor our producing wells and have a documented workflow process in place to ensure we are in compliance with the Alberta Energy Regulator (“**AER**”) Directive 013: Suspension Requirements for Wells. This includes classifying our wells based on a risk matrix, conducting annual field inspections and abandoning wells when required.

In 2021, Birchcliff participated in the Area-Based Closure (“**ABC**”) program. The ABC program encourages oil and gas licensees to work together to decommission, remediate, and reclaim their energy infrastructure and sites. This voluntary program benefits industry by reducing the cost of closure activity — pilot programs have shown a reduction in costs of up to 40% and allows for Birchcliff to reallocate those savings for further liability reduction projects. **On an annual basis Birchcliff spends more capital on its liability projects than the minimum required by the AER ABC program.**

Birchcliff is a proud participant in the Alberta Site Rehabilitation Program (“**SRP**”). This program provides grants directly to oilfield service contractors to perform work on wells, pipelines, and other oil and gas site closure activities. Birchcliff is very appreciative that our contractors have received close to \$4.4MM dollars to date in SRP government grant funding, helping to keep our contractors working through challenging times all the while reducing the oil and gas industry liability.

The SRP program goals are to:

- Invigorate Alberta’s economy while getting specialized oil and gas labour forces back to work;
- Accelerate site abandonment and reclamation efforts province wide; and
- Complete a high volume of environmentally-significant work.



Remediation and reclamation project at 6-04-88-09W6



## Birchcliff's 2021 Area Base Closure and Site Rehabilitation Program Activities

19

Wellbore  
Abandonments  
completed



24,500<sub>m²</sub>  
of land  
reclaimed



3

Phase I  
Environmental Site  
Assessments completed



16

Cut and Caps  
completed



4

Reclamation  
Certificates received



44

Facilities and Pipelines  
decommissioned

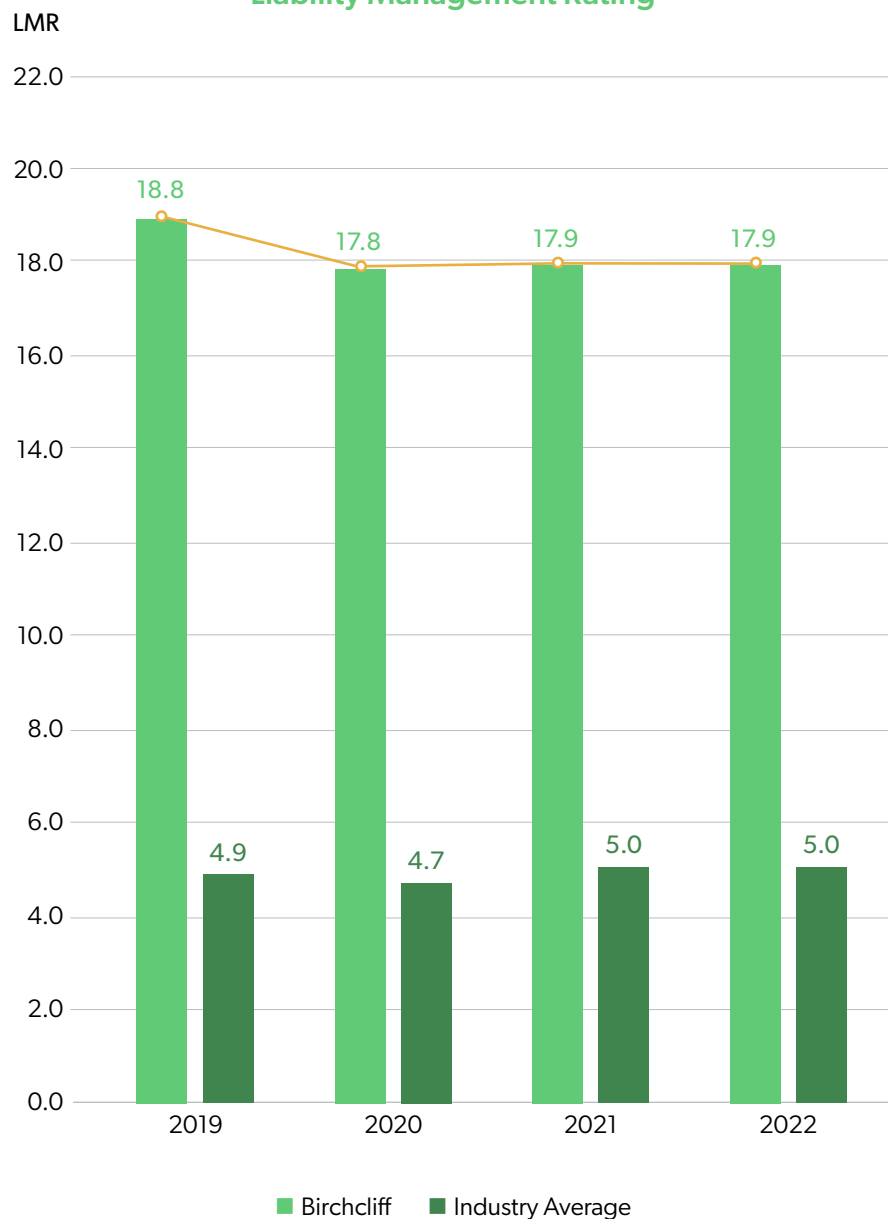


18

Phase II  
Environmental Site  
Assessments completed



## Liability Management Rating



Industry average as per AER publication dated January 1, 2022.

The AER has introduced a Liability Management Framework which consists of a multifactor approach to assess the capabilities of licensees to meet their regulatory and liability obligations. The liability assessment is a measure of deemed assets to deemed liabilities. It is designed to assess a licensee's ability to address suspension, abandonment, remediation, and reclamation liabilities. Under the Liability Management Framework Birchcliff is assigned a target dollar spend amount which is based on our current outstanding liabilities yearly in July. **In 2021, Birchcliff was assigned a minimum spend amount of just under \$1.6MM. Exceeding this amount, Birchcliff spent almost \$3.7 MM (\$1.25 MM from the Alberta Government SRP program).** Birchcliff has and will continue to choose projects that have the greater impact on reducing our current liabilities. All closure program details and spent dollars must be reported yearly to remain compliant with the program.

Birchcliff's deemed assets is a calculation based on our producing wells. Our deemed liabilities is a calculation based on the value the AER assigns to clean up our wells and facilities.

The **Liability Management Rating ("LMR")** is a calculation of the ratio of deemed assets divided by deemed liability. Ideally, a company's LMR should be 2.0 or higher or the AER could start imposing regulatory restrictions on the operator.

**Birchcliff is proud to report that our LMR was 17.9 as of February 5, 2022 compared to the industry average of 5.0, 3.6 times higher. This demonstrates that our deemed assets significantly outweigh our deemed liabilities.**







Bull moose living in harmony with our operations

## Wildlife Protection

At Birchcliff, we are diligent in looking for ways to minimize our impact on wildlife and their habitat.

The following measures outline a few of our efforts towards protecting wildlife:

- Our multi-well pad drilling has significantly reduced our surface disturbance. Reducing our surface footprint minimizes fragmentation of wildlife habitat, and maintains travel corridors for land and avian species.
- To minimize our impact on wildlife, physical sweeps are conducted during our development planning and prior to project execution to identify any features that may require mitigation or avoidance depending on wildlife species present.
- We participate in the Alberta Watershed Planning Committee where watercourse crossings are collectively remediated by crossing users based on total habitat improvement over individual road ownership.
- Wetland Assessments are completed on all new development projects. Sites are reviewed using remote sensing tools and field inspection to determine the presence of wetlands. Wellsite and pipeline placement is adjusted to minimize our impacts to wetlands. Site specific reclamation plans are developed for wetlands that are impacted.
- During forest fire season, Birchcliff equips our temporary flaring operations with additional firefighting equipment to mitigate risk.



# WATER



## 2.4 WATER



We recognize the need to substantially increase water-use efficiency across all areas in which we operate to ensure sustainable withdrawals and protect the supply of freshwater. Water is used for many of Birchcliff's development activities including drilling, hydraulic fracturing and dust control on roads. We continually look for opportunities to minimize our impact on the watershed and maximize the use of lower-quality water and alternative sources.

Birchcliff has a long-term strategy to mitigate risk and minimize impacts associated with water usage. By being proactive, we have been able to secure the volume necessary for future development while meeting or exceeding regulatory requirements and ultimately minimizing our environmental impact.



Trumpeter swans





**Tiered Water  
Sourcing**



**Permanent Water  
Infrastructure**



**Water Partnerships**





## Understanding Our Watershed

Birchcliff actively monitors the watershed to better understand our impact and forecasted water availability. We collect and analyze flow data, water level data and water quality of various water bodies through both field testing and accessing the Water Survey of Canada database. Understanding this information allows us to time water diversions to have the least impact on the watershed.

## Sustainable Water Supply

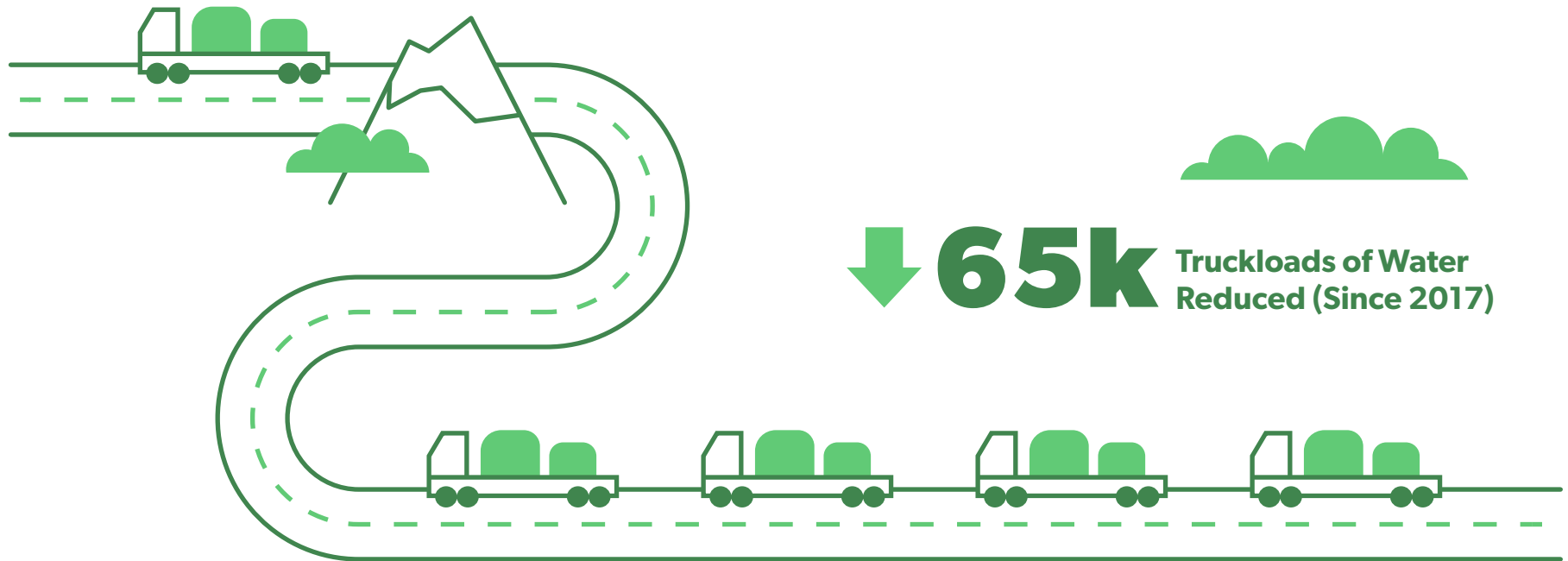
Birchcliff has five 10-year term licenses in place, allowing us to fully develop a long-term sustainable water strategy to minimize our environmental impacts. The process for licensing involves extensive analysis of seasonal water supply and is aligned with Alberta's Water Conservation Policy for Hydraulic Fracturing and the AER's Surface Water Allocation Directive. This maintains water quality for aquatic species and other users and ensures the long-term protection of environmental flow needs of the water source.

## Water Storage Infrastructure

Birchcliff currently has a total of approximately 1,180,000 m<sup>3</sup> of water storage, located at 11 strategically located water storage reservoirs providing water security and availability for hydraulic fracturing. This storage capacity allows us to divert water from our licenced water sources, using temporary above-ground pipelines, during periods of high flow conditions, which protects the environmental flow needs of the watershed.

**Birchcliff's strategic water storage infrastructure effectively removes 15,700 truckloads of water from Alberta roads annually. This has significantly decreased GHG emissions and improved public safety.**

The benefits of pumping water through these temporary above-ground pipeline systems result in a reduction of vehicle emissions, landowner disturbance and traffic. In addition, many safety benefits have been realized through the reduction of tank trucks entering and exiting a location, which minimizes hazards relating to water delivery.





A beautiful morning sunrise on the way to the 13-09 compressor station. Photo credit: Birchcliff Field Operator, Colin Fry.

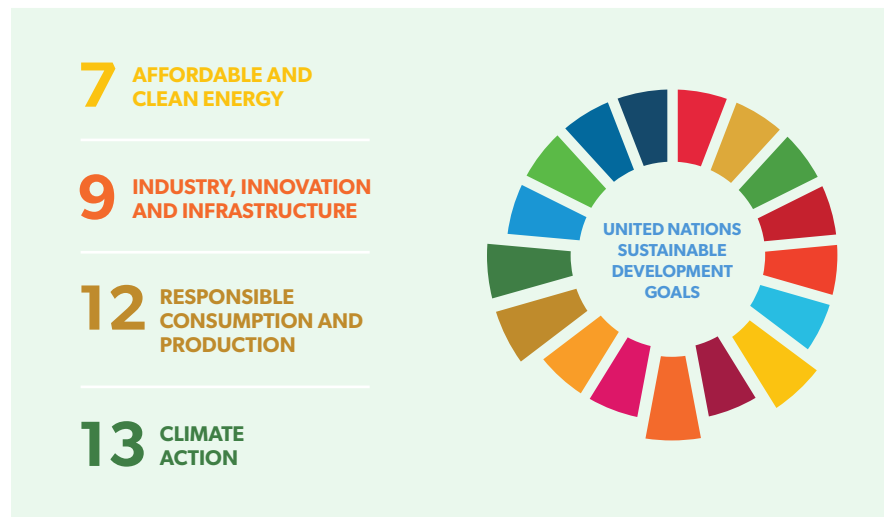
## Alternative Water Source Development

Birchcliff has a 10-year term water licence on three non-saline, non-potable (not fit for human consumption) water source wells, which produce up to an aggregate of 994 m<sup>3</sup>/day when required. As a result of the construction of an adjacent water storage reservoir in 2018, the wells have provided Birchcliff with over 140,000 m<sup>3</sup> of a sustainable alternative water source.

## Industry Collaboration

We are active in the Alberta Water Operators Group and CAPP Water Committee. Both are industry collaboration groups where information is shared on new recycling and reuse technologies, intercompany water sharing opportunities are discussed and work occurs with the provincial regulators to improve our ability to transfer non-fresh water within our operating areas. Birchcliff engages with neighboring third-party producers to explore opportunities to share available water and existing infrastructure when possible.

## 2.5 COMMITMENT TO INNOVATION



Birchcliff team reviewing model of multi-well cube development.

### Technical and Operational Innovation

Since inception, Birchcliff has focused on continuous improvement. This stems from a relentless focus on efficiency and innovation, as well as safety and our commitment to ESG excellence. Birchcliff uses a rigorous approach in all aspects of our business, both at strategic and operational levels, which results in a competitive advantage in our operations and leads to significant advances in our environmental efficiency and best practices.

In 2021, Birchcliff significantly progressed its use of machine learning for field development optimization. Using data driven models to predict well performance and assess key performance drivers allows the technical teams to refine and optimize pre-spud planning and ensure appropriate well spacing and design, sustainable deployment of capital, and responsible extraction of resources. In combination with physics-based modelling, which has been a long-standing technical strength, these techniques allow for insights and confidence into a very dynamic and complex subsurface system.

Birchcliff's focus on continuous improvement is highlighted by our multi-well pad drilling. The drilling of multiple wells from a single pad significantly reduces the environmental footprint. We use leading edge practices including the use of speed bowls and walking rigs to reduce time spent preparing for drilling. State of the art bit technologies, directional motors and drilling fluids are used to increase drilling performance, thus reducing the time to drill our typical wells. Additionally, we have replaced all our standard diesel-powered generators and light towers with more energy efficient equipment. We source state of the art drilling rigs, equipped with bi-fuel capabilities, programable drilling logic and machine learning technologies to improve drilling performance and cost efficiency. These initiatives have significantly lowered our fuel requirements, resulting in reduced GHG emissions in our drilling operations. They also decreased non-productive time as well as reduced the nighttime lighting impacts on our nearby stakeholders.

On our completion operations, we only utilize stimulation providers, who provide CNG capabilities, thus lowering our diesel fuel requirements. Birchcliff is committed to sourcing water for our completions requirements only in the spring during high periods of flow and runoff. Our water storage reservoirs were designed and constructed to ensure a consistent water supply is available for our operations without adversely affecting the surrounding watershed and impacting wildlife.





Drilling Rig at 13-29-77-12W6 pad

### Natural Gas Innovation Fund (“NGIF”) and NGIF Cleantech Ventures Equity Fund

Birchcliff is investing financial resources and time to support its commitment to further reduce its impact and the impact of the oil and gas industry as a whole on the environment. **Birchcliff is proud to be a partner in the NGIF Capital Corporation, (“NGIF”), through two of its divisions: NGIF Industry Grants and NGIF Cleantech Ventures.** Birchcliff has been a member of NGIF Industry Grants since 2018, when it was expanded to include natural gas producers. NGIF Industry Grants was originally the Natural Gas Innovation Fund created by the Canadian Gas Association (CGA) as a project to support the funding of cleantech innovations in the natural gas value chain. NGIF Industry Grants has approved grant funding to over 65 projects, committing approximately \$17.7 million, and have leveraged federal and provincial grant funding of over \$35 million to help early-stage clean technology companies develop solutions to reduce emissions, increase energy efficiency and accelerate the use of natural gas to support environmental goals in Canada. NGIF Industry Grants anticipates that the technologies supported by these grants will result in an estimated 7 megatonne reduction in emissions by 2030 as the technologies are commercialized.

**On April 1, 2021, Birchcliff became a founding limited partner in the NGIF Cleantech Ventures, a \$55 million industry-led seed fund that will leverage the experience and expertise of the eight-energy sector limited partner investors to support early-stage clean technology companies through equity investments.**

NGIF Cleantech Ventures investments will include solutions that lead to emissions reductions and other environmental benefits in the existing natural gas production, transmission, distribution network through carbon capture utilization and storage, end-use applications, as well as projects that will lead to the expanded production of emerging fuels like renewable natural gas and hydrogen.

# Interview with Nicole Mitchell

Health and Safety Analyst

## What does it mean to work for Birchcliff?

Working for Birchcliff means joining the Birchcliff family. The Birchcliff family is led by a thoughtful and generous executive team that takes care of their workers, and is filled with individuals who are happy to share their knowledge, collaborate and work together to make a difference. I am privileged to work with so many wonderful individuals everyday. We have lots to be grateful for here.

## When asked, what does “Birchcliff Proud” mean to you?

I am proud to work for a company that cares for their workers, our communities and the environment.

## What part does Birchcliff play in the community?

There are so many worthy organizations out there, and although Birchcliff supports a number of them, STARS Air Ambulance stands out for the amazing work they do. Being a first responder is one of the toughest careers out there due to the mental and physical demands they face everyday. They are our everyday heroes! I think our CEO Jeff Tonken said it best, “an investment in STARS benefits everyone.” STARS has saved many lives and impacted far more, years ago they helped a member of my family.

## Why did you choose to come to Birchcliff?

I have always loved team building activities and working collaboratively, and that is very much the environment here at Birchcliff. Prior to Birchcliff, I worked with a wonderful individual whose husband works at Birchcliff, and she couldn't recommend the company enough and thought it would be a great fit for me. Thankfully a role came up in my desired field and I am grateful to have joined the team / Birchcliff family.

## Since starting at Birchcliff, what opportunities and support have you received in your own personal development, education or growth?

I started with Birchcliff shortly after everyone transitioned to working from home due to the pandemic, so many of my first sources of support were virtual, but I'm grateful there was still a sense of community. There were weekly company-wide phone calls led by our CEO Jeff Tonken, lunch hour games on Fridays and a team member even took the time to hang a welcome poster in the office I wouldn't see for months. On top of that, I have a great team of mentors who I frequently met with via WebEx, and we started the day with greetings in our online group chat! As we transitioned back to the office fulltime and the pandemic winds down, I am looking forward to getting to know our broader team and resuming group activities.

In terms of education and opportunity, Birchcliff is supporting me with my continuing education programs and helping me gain the experience needed to further develop in my career. Birchcliff has a formal mentorship program and I have a wonderful mentor who shares their expertise to help me broaden my understanding of our operations. I am also privileged to have many informal mentors in Calgary and in the field, who are happy to share their knowledge.

## What does sustainability mean to you as a Birchcliff employee?

I believe that sustainability means responsible development and doing things right. Here at Birchcliff, we care about the health and safety of our team, our extended workforce, our surrounding communities and our impact on the environment.







SECTION 3

# SOCIAL



## 3.1 HEALTH & SAFETY

**3** GOOD HEALTH  
AND WELL-BEING

**4** QUALITY  
EDUCATION

**8** DECENT WORK AND  
ECONOMIC GROWTH

**17** PARTNERSHIPS  
FOR THE GOALS



Snubbing unit running production tubing into a live well



Sunrise at 07-29-78-11W6 site

## Looking Back

In 2021, we:

- Conducted mental health awareness program, “The Working Mind” (TWM) for all of our Field Operations team members.
- Excelled with reporting performance in our tracking of leading indicators such as positive observations, hazard recognition and near hit reporting. In 2021, we recorded a **155%** increase in positive observation reporting and an overall increase in pro-active reporting of **138%** with a **17%** reduction in incidents from 2020.
- Changed our contractor registry provider recognizing the increasing costs of our previous provider to our contractors. This change created new opportunities for Birchcliff and reduced the costs for our contractors.
- Continued to meet the challenges posed by the COVID-19 pandemic by leveraging technology to create virtual events that allowed for consistent engagement of our employees, while looking at new ways to incorporate such advancements into our programs.
- Our Safety Recognition Program that was created to promote safety awareness and to recognize individuals who have demonstrated exceptional safe behaviours by contributing to the safety culture at Birchcliff. Fourteen (14) employees received awards during 2021 and each of these awards were presented by the CEO at staff meetings.
- In an effort to support Energy Safety Canada’s, Life Saving Rules (“**LSR**”) initiative, our Joint Health and Safety Committee (“**JHSC**”) visited our worksites and identified potential hazards and associated risks. Using the LSR icons, these hazards and risks were identified with appropriate signage.

## Looking Forward

- Continue to manage our Certificate of Recognition (“**COR**”) action plan items to ensure our Health and Safety programs develop in accordance with changing industry and regulatory requirements and stay best in class.
- Implement a formal Office Ergonomic program that will include internal new hire assessments, workstation assessments, and thorough follow up. This program will be managed and administered by Birchcliff Health and Safety Professionals.
- Work with Industry Peers on a new Rural Crime reduction initiative in areas in which we operate. This program will include monitoring, awareness for our employees, contractors and stakeholders as well as liaising with authorities and governments in an effort to positively affect change and reduce risk.
- All employees and contractors will be invited to participate in an anonymous survey focusing on Birchcliff’s health and safety culture. This survey will help us to gain a better understanding of the perceptions of health and safety across our organization’s operations so we can systematically measure the maturity of our safety culture and reveal leading indicator insights on our strengths, opportunities and risks.

Birchcliff is committed to continually evolving its health and safety program and instilling **“a culture of unconditional dedication to safety”**.



## Supporting Employee Safety

Birchcliff's nationally recognized Health, Safety and Environment ("HSE") Management Program provides a framework to safeguard our employees, contractors, visitors and the people in the communities where we operate, from personal injury and health and safety hazards. Birchcliff maintains a safe work environment with policies, processes, standards, training, equipment and emergency response procedures that meet or exceed government regulations and industry practices. Birchcliff's executives, managers, employees and others engaged on its behalf, are responsible for upholding the HSE Programs' requirements.

As we strive for continuous improvement and take pride in a very strong health and safety ("H&S") culture, we recognize that as we grow, there needs to be updates and enhancements to our HSE programs. The one common factor with all our programs is our people. At Birchcliff, we recognize that our H&S culture depends entirely on our people's level of engagement and program ownership. We continually look to find new ways to support and improve behaviors that will positively impact our safety performance and culture.

All employees and contractors on Company worksites are required to follow all corporate health, safety and environmental rules and procedures and to participate in appropriate health and safety training. Birchcliff continually promotes practices to improve safety performance proactively and encourages employees, and contractors to participate in these practices to support us in maintaining a culture of continuous improvement and unconditional dedication to safety.

Birchcliff has a dynamic program to monitor and comply with health, safety and environmental laws, rules and regulations applicable to our operations. As per our corporate policies, our operational activities are conducted in a manner that meet or exceed regulatory requirements and industry standards, to safeguard the environment and protect our employees, contractors and all stakeholders. Birchcliff's HSE Management program is comprehensive in nature and includes our Health and Safety manual, Environmental manual, policies, practices and procedures. Roles and responsibilities are clearly laid out for all levels of the company, from our executives to our workers and contractors.

## Employee Training

**As our people are our most important asset**, Birchcliff has developed a comprehensive HSE training matrix for all employees. This matrix is based on the individual's job scope and developed by evaluating the risk and hazards of their role. With this matrix, we can ensure that our employees have the training and knowledge required to complete their job healthy, safe and effectively.

With the challenges over the last two years due to the pandemic, the executive team recognized the importance of Mental Health awareness. In an effort to support our employees in the field, we worked with the Mental Health Commission of Canada (MHCC) to provide a mental health awareness program, "The Working Mind" ("TWM") for all of our Field Operations team members. TWM is an evidence-based program designed to promote mental health and reduce the stigma around mental illness in the workplace.



## Certificate of Recognition

As part of our HSE Management Program evaluation, Birchcliff participates in Alberta's COR Safety Program thru the Alberta Association for Safety Partnerships ("AASP") and has received and maintained our COR certification since 2011. COR certification is awarded to employers who have **successfully developed and implemented a health and safety program** that meets provincial standards. To maintain good standing, Birchcliff's HSE Management Program is audited annually, with an external audit every three years.

The COR audit is an excellent source of information regarding Birchcliff's HSE Management Program; results were presented at the corporate and field HSE meetings. Recommendations were created for each area that did not receive a score of 100% and corrective actions were developed. Our Production Operations JHSC meets regularly to review COR Action Items in an effort to continually improve our program and performance.

The ÇOR program is not a mandatory requirement for Birchcliff to have, however, when the decision was made to strive for this achievement, our Executive Vice President of Operations, Dave Humphreys said, “We want to know that we are continually monitoring, improving and evolving our HSE program”.



## Communicating Health and Safety Messages

Safety messages are communicated from all levels of the organization. Birchcliff’s CEO takes the opportunity at the end of every staff meeting to remind everyone to “Stay Safe” and he means it!

In the field, teams from our core operating areas meet on a monthly basis to discuss topics that impact the health and safety of their workplace. This includes reviews of safe work practices, emergency response plan elements, and internal and industry incident reviews. Our field leadership team meets quarterly to review H&S performance, new initiatives and upcoming regulatory changes.

Corporately, semi-annual meetings are held in our Calgary head office to review our HSE program and performance, as well as bi-monthly Operations HSE management meetings, which discuss Birchcliff’s related H&S positive observations or concerns raised by each operations discipline.

## Safety Stand Down

Every year, members of our executive and management team visit the field and meet with front-line workers to discuss the importance of health and safety. This effort supports our workers and outlines Birchcliff’s H&S expectations. Unfortunately, with the pandemic restrictions we decided to forego the in-person event in 2021. We look forward to continuing our Safety Stand Down program in 2022.



Health & Safety Manager, Ryan Sloan presenting at Corporate HSE meeting



CEO, Jeff Tonken meeting with field personnel



Executive Vice President, Operations, Dave Humphreys, speaking to contractors at Safety Stand Down



## Learning and Incident Management Systems

Birchcliff's Learning Management System ("LMS") and Incident Management System ("IMS") have been developed, implemented and maintained to help ensure consistent and efficient reporting.

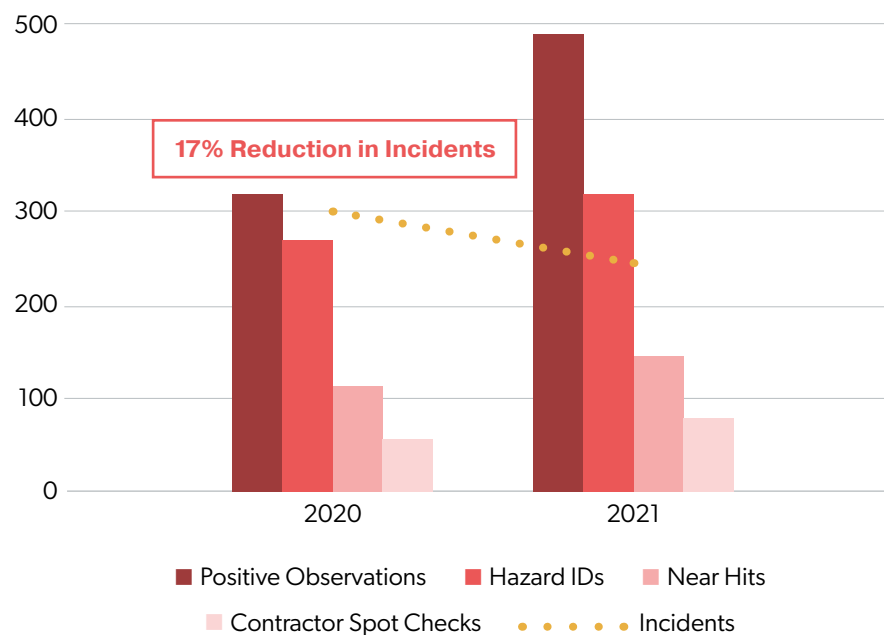
The LMS tracks the development and training of our employees. This system hosts a series of training programs, manages training certificates, tracks HSE meetings and supports competency management.

The IMS program allows us to better categorize, track and conduct trend analysis for incidents, near hits, hazard identifications and positive job observations as well as our internal audit programs.

## Incident Investigations and Reviews

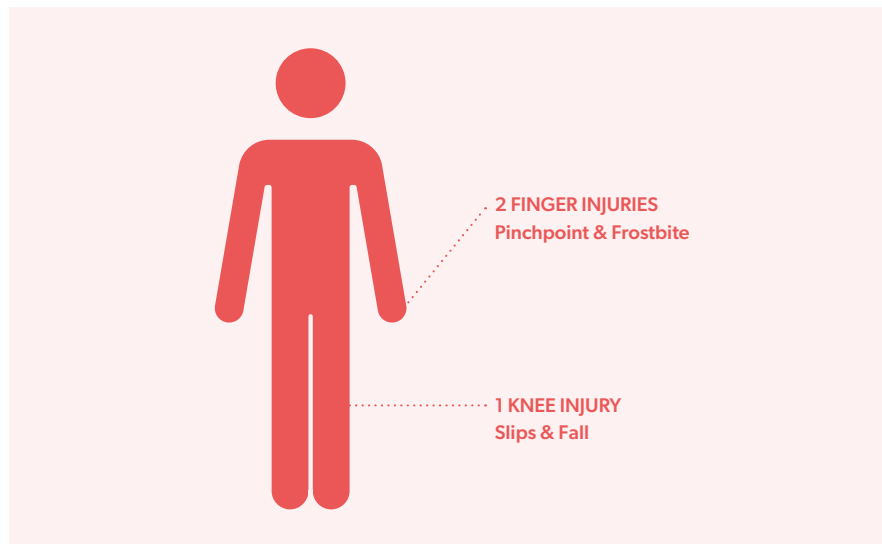
Birchcliff continues to develop processes and programs that reduce risk. We communicate all incidents, near hits, hazards identifications ("IDs") and proactive positive observation reports throughout the field and operations teams. All medium and high-risk incidents, near hits and hazard IDs are reviewed with the executive team and investigated for root cause and the implementation of effective corrective actions. When deemed appropriate, H&S bulletins are sent to the field and industry groups. Birchcliff uses a proven investigation system that is recognized around the world to conduct all significant incident investigations. We fully believe that when effective corrective actions are implemented, the potential for reoccurrence is significantly reduced, resulting in less risk to our employees, contractors and surrounding communities.

Our pro-active reporting programs bring awareness to conditions, hazards and risks before they can have a negative consequence. By recognizing and reporting these, our employees are reducing the actual incident events. **Our excellent 2021 performance in pro-active reporting has resulted in a decline in actual incidents by 17%.**





Three recordable injuries occurred during 2021. Two resulted in lost-time injuries, and one required a modified work accommodation. Below is a summary of the injury types and impacted areas:



## Internal HSE Performance Targets

HSE goals are included in the annual performance review process for operations personnel. These goals include safe driving performance, HSE meeting attendance, leading indicator reporting, inspections, audits and contractor spot checks. Birchcliff believes that these goals will help increase awareness, which will in turn help to create a safer workplace.



Drilling & Completions Manager, Randy Rousson presenting at our annual D&C meeting in the field

## Health and Safety Industry Engagement

2021 was another year of Birchcliff's continued support and engagement with the Explorers and Producers Association of Canada ("EPAC") H&S Committee. EPAC is an association comprised of over 110 oil and gas producing companies in Western Canada. Birchcliff's H&S Manager is the Chair of the committee, whose primary responsibility is to support the information flow and direction for EPAC members. The committee discusses H&S issues and makes recommendations to EPAC members about ways to prevent incidents, injuries, and illness. In 2021, the committee recognized that Mental Health was another significant challenge for our members and their employees. As Birchcliff did, the committee worked with MHCC to bring more awareness and learning opportunities to its members.

Birchcliff continues to be engaged with Energy Safety Canada ("ESC") and their industry leading initiatives. Our Executive Vice President, Operations, Dave Humphreys sits on the ESC Board of Directors and the Safety Standards Council. In the last year, Birchcliff H&S Representatives also sat on the Safety Data Committee and additional task groups of ESC.

In 2021, Birchcliff implemented the use of the ESC Life Saving Rules and have incorporated these into our systems and processes to ensure that we are recognizing the highest risk hazards seen in our industry.

## Improving Contractor Engagement

Birchcliff has implemented a very comprehensive Contractor Engagement program in alignment with our HSE Management Program. This ensures all contractors working for Birchcliff meet or exceed all government regulations and Birchcliff standards, including the requirement for contractors to maintain their COR. This also helps support open communication of performance results from our contractors to us, as well as our expectations for HSE requirements to our contractors.

Due to the COVID-19 pandemic, Birchcliff was not able to hold an in-person joint contractor HSE meeting in 2021, so we held a virtual event to which all Birchcliff contractors were invited. Birchcliff's HSE expectations were communicated, significant incidents were discussed to prevent reoccurrence, and overall HSE related performance was reviewed. It was also an opportunity for contractors to raise issues or concerns of their own to help bring awareness to their industry peers. This is an annual event that we are very much hoping to conduct in-person in 2022.

**Birchcliff's most commonly identified Life Saving Rules in 2021 were:**

## LIFE SAVING RULES

An Industry Accepted Standard



**ENERGY ISOLATION**



**LINE OF FIRE**



**DRIVING**

## Contractor Registry

Birchcliff requires all of our contractors to register with a third-party contractor data management program. This system allows us to consolidate all contractor information into one system. This also helps support constant messaging of performance from our contractors to us, as well as our expectations for HSE requirements. All contractors are notified of Birchcliff's safety requirements when they receive their onsite safety orientation. All changes to these requirements or any safety related updates are sent out via a "Safety Bulletin" through our Contractor Engagement program.

Early in 2021, we recognized that there was an opportunity to further develop and improve our Contractor Engagement program by changing the contractor registry we were using. The transition has been fully implemented and we are seeing significant opportunities with the new program. This system also allows Birchcliff to evaluate contractors based on ESG related criteria and performance.



Birchcliff operators performing a two person carry during an emergency response exercise

## Emergency Preparedness and Response

Birchcliff has developed an extensive Emergency Response Plan ("ERP") in conjunction with local authorities, emergency services and the communities in which we operate, to ensure preparedness and response to a potential emergency. We rigorously conduct emergency response exercises and training for our staff that far exceed regulatory requirements. Birchcliff's ERP covers all areas of our business, including environmental spills/releases, injuries, area resident concerns, security issues, rig blowouts or acts of nature. Management, along with the HSE team and field staff, are involved in the annual update of the ERP. Regulatory bodies are invited and encouraged to participate in our annual training sessions to ensure a cohesive relationship between Birchcliff and our regulators in the unlikely event of an emergency.

To ensure all new employees are properly trained and informed of updates to the company ERP, sections of the ERP are reviewed at monthly field safety meetings. Birchcliff stewards to hold full mobilization exercises and tabletop communication exercises annually, as continuous training, even though regulation stipulates full-scale exercises are only required to be conducted every three years.





## Joint Health and Safety Committee

Canada's health and safety legislation recognizes that the employer and worker have a shared responsibility for worksite H&S. The JHSC enables the workers to exercise their rights to know about hazards and to participate in their health and safety. The committee enables H&S issues to be resolved quickly and co-operatively.

To maintain compliance with the Occupational Health and Safety Act, Birchcliff has two active JHSCs, one in the field and one in our Calgary corporate office. These JHSCs include members from management and workers from various operational areas. The JHSCs meet on a regular basis to discuss pertinent H&S related issues. Prior to each meeting the field JHSC works collaboratively to conduct site inspections together and look for hazards or opportunities to increase learnings.



## Canada's Safest Employer Award

For 12 years now, the annual Canada's Safest Employers Awards (CSEAs) has been recognized as the leading independent awards program in the occupational H&S profession. The awards recognize outstanding companies for their achievements, leadership and innovation each year. Companies are judged on a wide range of occupational health and safety elements, including employee training, OHS management systems, incident investigation, emergency preparedness and innovative HSE initiatives in the workplace and the communities in which we live.

In 2021, Birchcliff is proud to have been awarded Excellence awards for **"Best Health, Safety and Environment Management Program"**, **"MSA Safety Award for Canada's Safest Oil & Gas Employer"**, and **"The WSPS Award for CEO of the Year"**.



## Interview with Todd Sajtovich

Senior Field Operator and Local Landowner

### What is your role and how long have you been with Birchcliff?

I have been at Birchcliff working as a Senior Field operator for the past 11 years.

### What does it mean to work for Birchcliff?

For me working at Birchcliff means that I can be proud of where I work. I can feel safe about going to work for a company like Birchcliff because I know they have the same values when it comes to my safety and the safety of our community as what I do.

### What does Birchcliff's culture look like?

I feel the culture here is great, everyone's input is always valued and taken into consideration no matter their position.

### From your experience with other producers and organizations, is there anything that makes Birchcliff stand out?

The family atmosphere is what truly sets it apart.

### From an HSE perspective, can you tell us in your words, what Birchcliff's HSE culture is?

Birchcliff makes sure that the HSE culture is deep-rooted by involving, engaging and encouraging input from everyone throughout the Company.

### What community support do you see that Birchcliff provides to the areas in which it operates?

We are very involved in the community by donating and participating with school reading programs, the building of the Baytree Park playground and to the Bonanza & District Agricultural Society for the bowling alley to mention a few.



## 3.2 ASSET INTEGRITY

### Pressure Equipment

Birchcliff is committed to the safe design and operation of all its pressure equipment. Through our employees, contractors and our Pressure Equipment Integrity Management (“**PEIM**”) program, Birchcliff exercises every reasonable effort to ensure that our pressure equipment is safe to operate and that our operating practices reflect our commitment to safety and to continually improve the program’s effectiveness.

Our PEIM program is internally audited every year and only three non-conformance issues were found in 2021 from 915 vessel, piping, and pressure safety valve inspections.

Additionally, our PEIM was audited by the regulatory body, Alberta Boiler Safety Association (“**ABSA**”) and **received an industry leading audit score of 92%**.

In 2021, we successfully completed a planned major preventative maintenance outage at our Pouce Coupe Gas Plant and no issues or concerns were found.

Birchcliff has approximately 1,500 ABSA registered pressure vessels at its production sites.



Piping Inspection



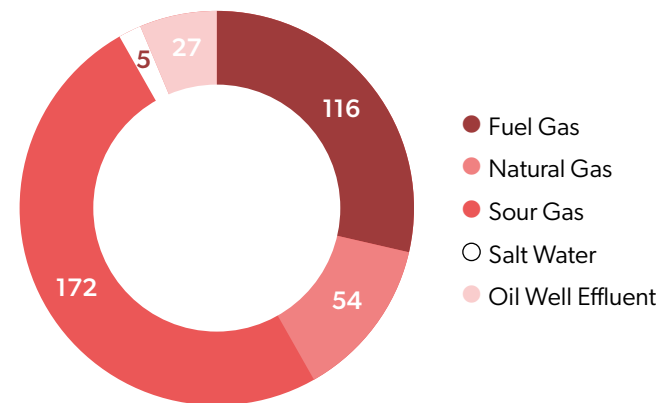
14-21-076-09W6 Pipeline Integrity Dig

### Pipelines

Birchcliff designs, installs and operates pipelines in such a way as to maintain the value of its pipeline assets, to protect people and the environment and to ensure compliance with regulatory requirements (primarily CSA Z662). Birchcliff currently has 374 operating pipelines, ranging in size from 33 mm (1.5”) up to 406 mm (16”) with a combined total length of 678km. The lines transport various combinations of natural gas, hydrocarbon liquids, produced water, and fuel gas.

**Various pipeline integrity parameters are continuously monitored and evaluated to identify any potential risks to the system and to ensure the gathering network has adequate protection.** In 2021 Birchcliff had a single minor release of fuel gas from a 2” diameter pipeline. Birchcliff proactively inspects a number of pipelines, selected based on risk assessments, with state-of-the-art “smart pigs” to directly confirm that integrity programs are effective before there is an issue. Five pipelines were internally inspected as part of our ongoing integrity program in 2021. Quarterly pipeline integrity review meetings were initiated in 2021 in addition to an annual full review.

### Breakdown of Operating Pipelines by Service Type





### 3.3 INDIGENOUS RELATIONSHIPS

**1** NO POVERTY

**2** ZERO HUNGER

**3** GOOD HEALTH AND WELL-BEING

**4** QUALITY EDUCATION

**8** DECENT WORK AND ECONOMIC GROWTH

**10** REDUCED INEQUALITIES

**12** RESPONSIBLE CONSUMPTION AND PRODUCTION

**15** LIFE ON LAND

**16** PEACE, JUSTICE AND STRONG INSTITUTIONS



Birchcliff's operations are focused in the Peace River area of Alberta, which is within the traditional area occupied by the Treaty 8 First Nations members and by the Metis people. Birchcliff recognizes and respects these Indigenous groups, their rights and their culture. Birchcliff is committed to open, honest and straightforward communication with the Indigenous groups who have been formally recognized as having rights within the areas in which we operate. Currently, those groups consist of the Horse Lake First Nation, Duncan's First Nation, East Prairie Metis Settlement and Gift Lake Metis Settlement.



**We have long-standing agreements with the key Indigenous communities in our operating areas. We are proud of the good relationships we have with these communities and the reputation we have worked hard to build and maintain.**

#### Consultation

**Birchcliff believes that consultation is a two-way street with the Indigenous groups, and the relationships that we have built with the communities are a testament to that.**

Alberta has rigorous standards for formal consultation with Indigenous communities potentially impacted by oil and gas development. At Birchcliff, we see the regulatory requirements as just the starting point of our collaborative consultation and inclusive engagement process. We engage with the communities, sharing information about our planned projects and activities, and listen to and address any concerns that arise through this consultation process.

To Birchcliff, engaging in meaningful consultation also requires that we conduct our business activities in a respectful manner. We work hard to ensure that we are mitigating risks to the environment and people to the fullest extent possible in order to maintain the trust that we have been granted through the consultation process.



Birchcliff's original logo on teepee at Horse Lake First Nation celebration

## Engagement

Through our agreements with Indigenous groups, we make funds available on an annual basis for the purpose of supporting education, cultural and economic development initiatives. In 2021, Birchcliff supported various initiatives with Indigenous groups totaling over \$85,000. As of December 31, 2021, Birchcliff has provided just under \$1,100,000 towards these initiatives. We ensure that our support is aligned with the key philosophies of the communities and is based upon the principle that all individuals must be treated fairly and with respect. This principle includes the belief that the success of our children and future generations is critical. For this reason, we are strong supporters of education initiatives, from early childhood programs, adolescent support programs, post-secondary scholarships, upgrading and equivalency programs and trade and technical training programs.

We believe that everyone should be aware of and take pride in their identity and cultural, ceremonial, or spiritual aspects of Indigenous Peoples. At Birchcliff, we take pride in our support of many cultural events in the Indigenous communities we partner with. These include round dances, formal events such as Treaty 8 Days and cultural camps that bring youth and elders together for traditional learning and sharing opportunities. We believe that communities are most successful when their members are the ones responsible for decision making. A key to maintaining Birchcliff's strong relationships with our Indigenous partners is that we look to the communities to set their goals, take the initiative to plan, prepare budgets, submit requests for support and organize their events, while providing assistance when needed.

## Summer Student Program, Duncan's First Nation

In partnership with Duncan's First Nation, Birchcliff is the sole sponsor of an on-reserve summer student program. The continued focus of this initiative supports student success while providing students with meaningful community experiences that create and enhance understanding of Nation culture, governance, programs and services. Each year, students are given the opportunity to experience working for the Nation in all areas, including office administration, band programs, maintenance and community events. Students benefit from earning a wage, learning about their community, and building a variety of skills for different aspects of the band business. Due to the ongoing COVID-19 pandemic, the summer student program was not available again in 2021. However, Birchcliff is excited to continue to sponsor this program annually going forward.



## Youth & Elders Camps, Horse Lake First Nation

Birchcliff sponsors a week of camping at Pink Mountain in British Columbia, for Horse Lake First Nation youth and elders. This event is a terrific opportunity for the youth and elders to connect as they gather together in a traditional setting. Traditional knowledge and skills such as hunting, medicinal plants, language and stories are shared and relationships are strengthened.

This type of sharing builds close relationships between the youth and their elders, helping them to understand their cultural heritage. Birchcliff has been the sole sponsor of this event, which has been held seven times since 2013 and has been a very successful program that has cultivated positive results. After having to postpone the event in 2020 due to COVID-19, Horse Lake First Nation was able to run a successful event in 2021. Birchcliff will continue to sponsor this on-going event on an annual basis.

## Other Community Projects

- Scholarships for advanced education: In 2021, Birchcliff provided \$31,500 in scholarships and bursaries to Indigenous students. Since 2009, Birchcliff has provided over \$270,000 in educational funding to Indigenous students.
- We have provided employment opportunities to band members and hire band-owned businesses when possible. Several of these companies have become a contractor of choice for Birchcliff.



Winter in Saddle Hills





## Interview with Mercedes Mwemera

As part of our ongoing engagement with Indigenous groups, Birchcliff makes available education scholarships for First Nation members that choose to pursue further education upon graduation from High School. Birchcliff believes that having this support in place is vital to encouraging members to pursue opportunities that might otherwise be cost prohibitive. Mercedes (Kent) Mwemera is originally from Horse Lake First Nation, AB., and is one of the members that has benefited from these scholarships.

Mercedes previously attended Norquest College and earned her Early Learning Child Care Diploma and Addictions Recovery Practitioner Certificate, and is currently enrolled at Northern Lakes College where she is pursuing a Diploma in Social Work. Mercedes is also setting her sights on obtaining her Master's degree in Social Work.

Mercedes began her journey when she was the Headstart Coordinator for Horse Lake. She was required to get her Level 3 in Early Learning and Childcare Diploma program and funding from Birchcliff enabled her to achieve this. Mercedes said "by taking a huge burden off my shoulders, as its quite expensive to live off the reserve and attend full-time school. Without the financial support, it brings a lot of stress on a student."

When speaking about other companies that engage with Horse Lake, Mercedes says that "Birchcliff has a passion to see Indigenous people be successful, they create a strong, trusting relationship with the members that allows them to be easy to approach. From past dealings with other companies, I didn't have that same experience." Mercedes feels that "Birchcliff is very dependable and having that one on one relationship with the people of Horse Lake is key to maintaining that strong relationship."

Birchcliff will continue to make funds available on an annual basis to support members with their pursuit of further education. Mercedes has put her education to good use and will continue to share her learnings with other members in her community.



Bee Calliou Schadeck and Birchcliff employees during presentation to commemorate the National Day of Truth and Reconciliation

## National Day for Truth and Reconciliation

In Canada, September 30, 2021 marked the first National Day for Truth and Reconciliation. This day is an important step in the reconciliation process as it honors the survivors of the residential school system, their families, and communities. This day is also represented as “Orange Shirt Day” signifying support and bringing awareness.

To commemorate the National Day for Truth and Reconciliation, Birchcliff was honored to have an Indigenous speaker Bee Calliou Schadeck come to our Calgary office and educate our staff about the history of colonialism and residential schools, and the impacts that they have on Indigenous communities today. Birchcliff believes that education for our staff will go a long way in helping people understand the importance of reconciliation and the role that it has in our business.

Birchcliff plans to host similar events on an annual basis to commemorate this important day. We also encourage our staff to reflect on the importance of this day, every day, not just on September 30, to better understand how we can move forward together.

**“Having witnessed the profound changes in attitudes from both Aboriginal and non-Aboriginal people, I realized that learning more about Aboriginal history creates a bridge to understanding and compassion. I feel blessed to be able to share my knowledge to help create peace in this world.”**

**- Bee Calliou Schadeck**

## Business Relationships

Birchcliff believes that one of the most impactful ways to build solid and sustainable relationships with the First Nations and Metis communities is to build strong business relationships within those communities. We are focused, wherever possible, on hiring local employees and contractors, including contractors that are partnered with or owned by members of the Indigenous communities in the Pouce Coupe and Gordondale areas. In 2021, Birchcliff awarded contracts worth approximately \$2.3 million to Indigenous service providers to support a broad range of our operations, including water management, site preparation activities, safety equipment rentals, medical services, drilling equipment rentals, environmental work and remediation services.



## 3.4 Our People

**1** NO  
POVERTY

**3** GOOD HEALTH  
AND WELL-BEING

**4** QUALITY  
EDUCATION

**5** GENDER  
EQUALITY

**8** DECENT WORK AND  
ECONOMIC GROWTH

**16** PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS



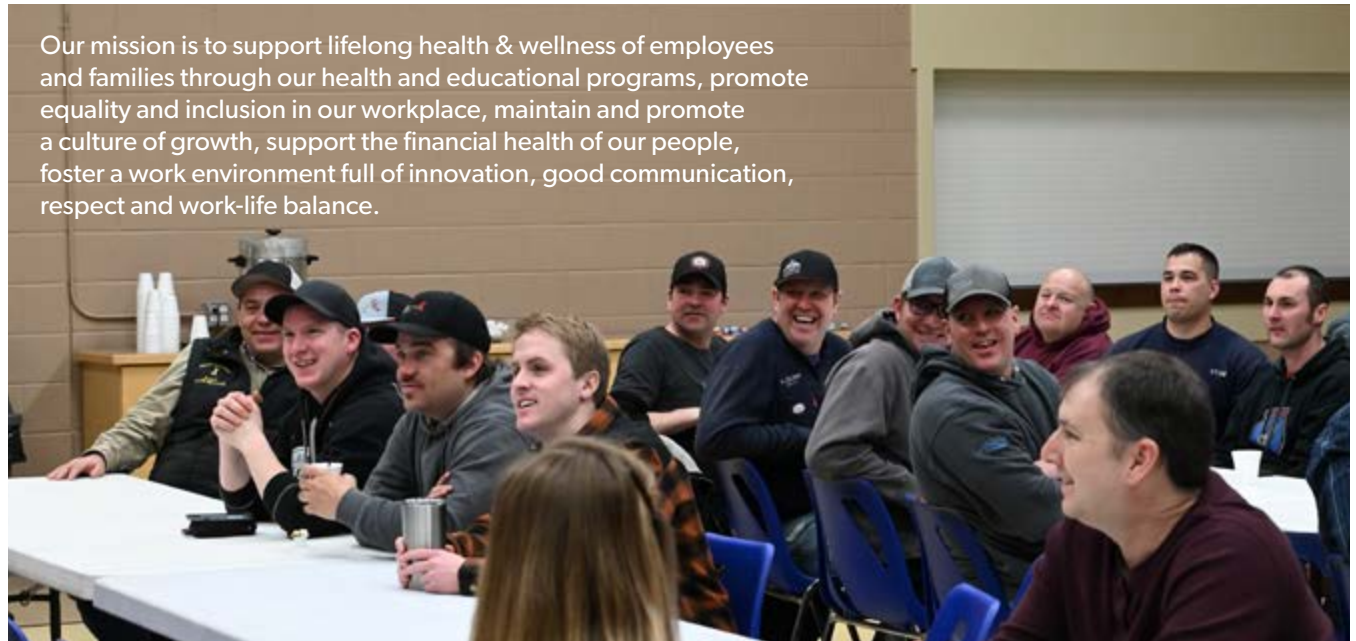
### Looking Back

- Launched the Tutoring Program, the purpose of which is to provide financial aid to employee's dependent children with supplementary assistance to support their primary education.
- Increased Scholarship amounts to better support our employee's dependents in educational programs with tuition costs. Additionally, a new scholarship category was created for trades and apprenticeship programs.
- Implemented the Birchcliff Medical Concierge in our Calgary head office, designed to enhance and simplify our employees' and their families' access to health care necessities and services.

### Looking Forward

- Continue supporting the health & wellness of employees and families through our health and educational programs.
- Continue our rigorous annual employee performance review process of two-way constructive feedback and goal setting.
- Continue to invest in employee talent with training and education opportunities.
- Increase access of the Birchcliff Medical Concierge to our field employees to foster the quality of life and health of our employees and families.

Our mission is to support lifelong health & wellness of employees and families through our health and educational programs, promote equality and inclusion in our workplace, maintain and promote a culture of growth, support the financial health of our people, foster a work environment full of innovation, good communication, respect and work-life balance.

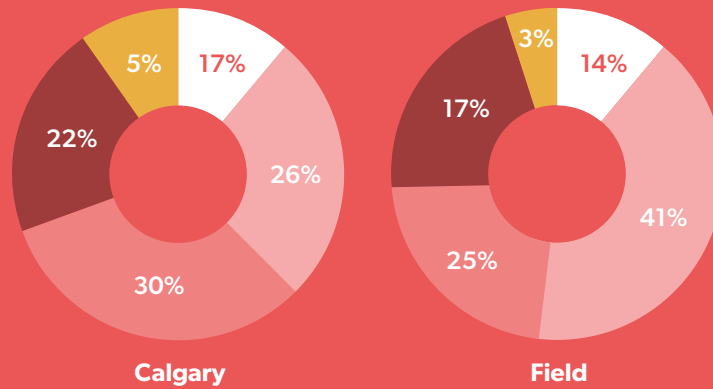


Field personnel at a safety meeting held at Bonanza Community Hall



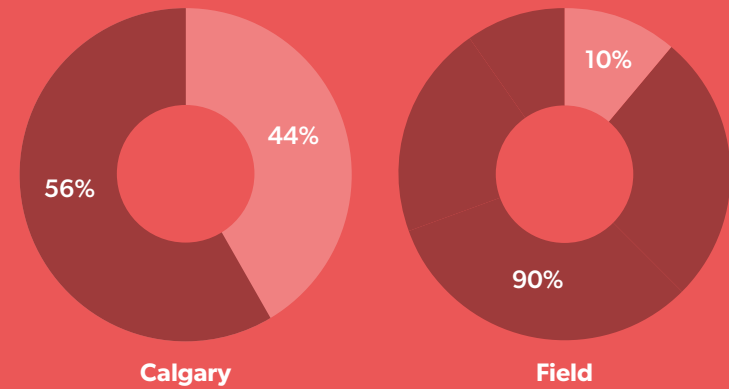
## Corporate Statistics

### Age of Employees



● 20-29    ● 30-39    ● 40-49    ● 50-59    ● 60+

### Gender of Employees



● Male    ● Female

## Calgary Corporate Office

**118**  
Employees

83 Staff  
35 Supervisors



41 Male Staff  
23 Male Supervisors

+



42 Female Staff  
12 Female Supervisors

**5.9%**

Birchcliff's voluntary  
turnover percentage  
in 2021

Supervisors includes: executives, managers and supervisors, who all have direct reports.

# Birchcliff believes that outstanding people, combined with great corporate culture, creates a winning environment.

At Birchcliff, we understand that our business success is directly attributed to the contribution of every member of our team working together to increase shareholder value and ESG performance. In order to ensure that we are able to attract and retain the best people, Birchcliff is continually working to ensure that our corporate culture is second to none. We achieve this through our workplace programs, our commitment to employee development and our extensive employee benefits programs.



## Birchcliff Mentorship Program

The Birchcliff Mentorship Program was launched in 2019 with the goal of continuing to build our strong corporate culture through the exchange of skills, knowledge and experience. Through the program, senior employees, managers and executives are thoughtfully matched with more junior employees in different areas of the business in order to continuously improve cross-discipline knowledge transfer.

The mentoring meetings take place regularly, based on a set of best-practices and guidelines, and the program is facilitated by a specialized consultant. The Mentorship Program helps to foster a strong unified team and helps develop leadership skills. It also develops our internal talent and maintains employee engagement.

Birchcliff launched the 2021/2022 mentorship class with carefully selected 25 pairings matched by a dedicated internal multi-disciplinary committee lead by our company's President and COO, Chris Carlsen.

## Birchcliff Equality and Advocacy Committee ("BEAC")

Since its inception, BEAC has championed many initiatives designed to support our work environment where our people feel comfortable discussing all topics and elements of equality here at Birchcliff. The BEAC maintains the goal of providing a forum for Birchcliff employees to participate in a critical analysis of issues affecting our people in the workplace and beyond. The committee has a mandate to advocate for equality and leadership by providing inclusive and meaningful support, mentorship, education, volunteer and team-building opportunities.



President and COO, Chris Carlsen presenting at our annual Inhouse Technical Training Forum

## Employee and Family Education

### EMPLOYEE EDUCATION AND PROFESSIONAL DEVELOPMENT

All employees are encouraged to participate in seminars, courses, and conferences to enhance their knowledge and skills that relate to Birchcliff's business, and managers and supervisors are expected to be actively involved in the professional development of those reporting to them. If an employee has a professional designation, Birchcliff will provide them with the support necessary to remain in good standing with their governing organization. Birchcliff will pay for approved training and provide employees with time off to attend training and educational development. As guidance, we recommend five to ten days per year of education and training per employee.

Since 2016, Birchcliff has hosted an Inhouse Technical Training Forum for many of our employees in technical roles. The purpose of this forum is to reflect on key projects and new technologies that have been implemented during the past year, with a focus on continuous improvement. It is a great opportunity to see highlights and lessons learned from internal groups that some individuals may not directly work with. The two-day session is full of numerous presentations, almost all of which are presented by our own staff who consist of, engineers, technologists, geoscientists, data scientists, managers and executives.

Birchcliff also encourages employees to seek educational opportunities outside of their specific work areas at Birchcliff and may financially assist employees with educational courses taken on weekends, evenings or during their vacation time. As guidance, Birchcliff may fund educational initiatives that would assist them in better understanding Birchcliff's business or help them transition to a different role within Birchcliff's business.



### OPERATOR PROGRESSION TRAINING PROGRAM

The Operator Progression Training Program matrix was created to provide Birchcliff with a detailed understanding of where each employee sits within our skills matrix and creates a road map for advancement. The road map, in turn, ensures our field operators know what education and accreditation is required for them to progress in their careers here at Birchcliff.

This program is offered virtually to our field operations staff through a partnership with the Southern Alberta Institute of Technology (SAIT). The programs offered are focused on Production Field Operations, Gas Plant Operations and Power Engineering and are used to accelerate on the job technical learning for our field operators.

### Over 18% of our field operations staff enrolled or graduated from educational modules in 2021.

Completion of course certification allows operators the opportunity to transfer to different worksites, including from field operating to gas plant operating, allowing our employees to develop new skills and progress their careers.

### SCHOLARSHIPS

The Birchcliff Scholarship Program awards dependents of Birchcliff employees enrolled in an accredited educational institution as full-time students, with an annual tuition award, to encourage and promote higher and progressive education amongst our families.

In 2021, the Scholarship Program award was raised from \$6,000 per school year to \$12,000 per school year for dependents enrolled in a university program, to better align with current tuition costs in our province. Additionally, a new category was created for dependents enrolled in trades or apprenticeship programs, with awards up to \$7,000 per school year.



Since the start of the program in 2013, Birchcliff has granted scholarships to over 80 students, helping them pay for tuitions, books, fees and other associated costs of their secondary education.

### BIRCHCLIFF TUTORING PROGRAM

In 2021, Birchcliff created and implemented the Birchcliff Tutoring Program the goal of which is to provide financial aid up to \$2,000 per school year to dependent children of employees who would like supplementary assistance to support their primary education with the purpose of increasing the likelihood of future academic success.

The program is offered to dependent children in primary education, including early childhood development, elementary and secondary education up to and including grade 12. It includes supplementary learning resources that directly support their primary education, including tutoring classes, after-school programs, supplementary educational materials and supplies, amongst others.



Sarah Kinzner, recipient and graduate of Birchcliff Employee Scholarship Program

## ADDITIONAL EMPLOYEE COMMUNICATION

To ensure that our employees all have the opportunity to keep up to date with the latest industry news affecting Birchcliff, an internal email created by our Investor Relations team is sent to the entire Company each morning summarizing oil and gas industry highlights, relevant commodity price and market updates. Birchcliff also offers our employees subscriptions to publications relevant to their specific work areas or industry in general.

Birchcliff encourages interdepartmental information sharing in the form of “Lunch & Learn” information sessions. Different departments at Birchcliff regularly offer to present on their department functions, general information, directives and/or new technologies to all of Birchcliff’s employees. These events, which continued to be well attended, both in-person and virtually in 2021 (due to COVID-19 restrictions), have successfully created a greater understanding between co-workers and departments and a greater respect for the what each department does.

## ANNUAL PERFORMANCE REVIEW

In the fourth quarter of each year, employees are asked to pursue self-discovery and analysis by setting goals for the following year and reviewing their current year’s goal achievements, successes and areas for improvement, in order to understand their contribution to Birchcliff’s success. Each employee’s supervisor or manager then takes the time to constructively consider the employee’s contribution and achievements to evaluate and mentor them in the required direction to achieve both individual and corporate goals. In addition, during this process employees are asked to provide feedback directly to the executive team to offer their views on themselves, management and the business as a whole. The objective and benefit of this process is it gives employees a forum to address their accomplishments, as well as provide constructive feedback to their supervisor or manager and the executive team. The executive team deems this process as critical to the efficient execution of Birchcliff’s business as well as the development of an inclusive, welcoming and open corporate culture.

## COMPANY MATCHING SAVINGS PROGRAM

To assist our employees in meeting their savings goals, Birchcliff offers a savings program, where Birchcliff matches the contribution made by the employee to a self-directed investment account, up to a maximum percentage. Birchcliff provides a third-party investment manager to assist the employee in meeting their savings or retirement goals, but the employee has the flexibility to direct the savings plan funds entirely at their discretion.

## Employee Health & Wellness

### EMPLOYEE HEALTH BENEFITS

We support and encourage lifelong health and wellness of our staff. We believe wellness is an active process and aim to help our staff become more aware of, and make choices toward a healthier existence. Our employee health benefits and wellness package is designed to help achieve a state of well-being by providing services focused on the promotion and maintenance of good health.

Birchcliff aims to provide the best health benefit package available to our employees. The employee group benefits provide coverage for health, dental, vision care and para-medical support for each employee and their families.

In addition to the employee group benefits coverage, Birchcliff offers:

- Annual Healthcare Spending Account for employees and families;
- Extended diagnostic and imaging coverage;
- Access to an online mental health counselling platform;
- Birchcliff Medical Concierge Program;
- Employee and Family Assistance Program;
- An annual stipend for fitness & wellness programs; and
- A comprehensive employee insurance program.

## 3.5 Community Involvement

**1** NO  
POVERTY

**2** ZERO  
HUNGER

**3** GOOD HEALTH  
AND WELL-BEING

**4** QUALITY  
EDUCATION

**10** REDUCED  
INEQUALITIES

**16** PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS



### Looking Back

- Adapted to the changing environment from COVID-19 to continue our giving spirit despite limitations on in-person gatherings.
- Continued our involvement in the Wapiti Area Synergy Partnership through virtual meetings.

### Looking Forward

- Maintain strong communication and working relationships with local communities.
- Support initiatives that promote education, employment and cultural preservation.
- Continue to give back to the communities we work in and to invest in programs that will enhance quality of life at the local level, including youth health and education opportunities, agricultural societies, and local emergency services.



Beaver Dam on Moffat Road, SE-11-78-13-W6

**“We recognize the role that communities play in Birchcliff’s success and we are a committed supporter of the communities where we operate.”**

Fostering a strong relationship with the community and our stakeholders is as integral to the success of our projects as obtaining the required regulatory approvals. At Birchcliff, we believe that cooperative, sincere and responsive consultation with stakeholders in the areas where we operate is a foundational part of our operations. We are committed to keeping lines of communication open with the area residents, and to support this, we have updated our procedures to provide weekly updates to those residents who are within close proximity to our drilling, completion and facility construction operations. Birchcliff has an experienced team working with local stakeholders to learn their values and priorities and to resolve any issues or concerns that arise in the course of our field operations.





Birchcliff provided funding for the yearly maintenance of the Bay Tree Park including lawn mowing, fire wood replenishing and general maintenance to make the park enjoyable for local residents.

## Support to Local Communities

2021 was another difficult year for many of our communities as many charitable events and giving programs were delayed or cancelled due to the COVID-19 pandemic. At Birchcliff, we recognized the challenges facing our communities and remain committed to continue doing our part to support those in need.

### FIELD OPERATIONS

Birchcliff empowers our field staff to make the decisions regarding their communities. Our field employees are local to the area where we operate and are part of these communities. To Birchcliff, this means that these communities are our own and allows us to see and understand the impact of our support of local community projects. In addition to our corporate funding, we maintain an annual fund managed by our field staff to provide support to local groups and organizations within our operating areas.



Birchcliff employees and family helping build a bike path

## CALGARY AND AREA

We annually provide funds to support Calgary and the surrounding area. Our 2021 corporate donations and sponsorships totaled just under \$715,000. This fund is managed by the executive team and is allocated at their discretion. Our staff are also active in volunteering and supporting the communities and organizations that matter most to them.

In addition, Birchcliff provides ongoing support to community initiatives, like our partnership with the Youth Centres of Calgary to help ensure that children and families dealing with food insecurity in Calgary are provided with nutritious school lunches and meals.

## United Way of Calgary and Area

Birchcliff holds an annual fundraising campaign for the United Way of Calgary and Area. In 2021, Birchcliff raised \$112,810 (50% employer match) for the organization and has raised a total of \$1,584,733 since fundraising began. **Each year, Birchcliff chooses a specific campaign to raise funds for and in 2021, Birchcliff chose The Alex Community Health Centre.** The Alex is a non-profit health and social services organization that has provided integrated and accessible supports and thoughtful, comprehensive care to Calgarians for almost 50 years. With a full complement of health, housing, and community programs, The Alex is a hub of supports and outreach services for people who are experiencing poverty, trauma, social isolation or health challenges, including addiction.

## STARS Air Ambulance

Birchcliff is committed to ensuring that STARS remains in operation, as it is a vital health link for the remote communities in which we operate. As of December 31, 2021, Birchcliff has donated \$1,777,949 to STARS Air Ambulance in Grande Prairie.

We were able to safely host our annual golf tournament in 2021, raising local awareness and funds for STARS Air Ambulance in the Grande Prairie region through donations and a silent auction. In 2021, this tournament, along with matching funds from Birchcliff, raised \$176,236.

**In addition to the fundraising event, Birchcliff continues to fulfill our ten-year \$500,000 commitment to STARS, with another \$50,000 donation.**

This commitment will help enable STARS to purchase nine new Airbus H145 helicopters that offer the latest in safety, technology and avionics, resulting in significantly increased safety measures, reduced crew fatigue, fuel efficiency and increased coverage area with overall cost savings, all the while upholding STARS life-saving mission.

## Local Municipalities

We continue to partner with the County of Saddle Hills on an annual basis for dust suppression in areas where we have high traffic operations. Birchcliff continues to ensure that the local residents have a suitable road to use for their purposes. We continue to have a great relationship with the local municipality and will continue to look for ways to ensure that our operations are least impactful to those that live around them.



Dropping off care packages at The Alex



Birchcliff Energy & Friends hosted another successful golf tournament for STARS





SECTION 4

# GOVERNANCE



# 4.1 Board of Directors



Representation on the Board of Directors



Birchcliff’s Board of Directors (the “**Board**”) is ultimately responsible for the stewardship of Birchcliff and ensuring accountability to our shareholders. The Board currently consists of five directors, three of whom are independent. The non-independent directors are: Jeff Tonken, being the Chairman and Chief Executive Officer, and James Surbey, who is an employee and was previously the Vice-President, Corporate Development.

As the Chairman of the Board is not considered independent, the Board has appointed an independent Lead Director. The primary role of the Lead Director is to act as liaison between the independent Directors of the Board and the management of Birchcliff, to ensure the Board is organized properly, functions effectively and meets its obligations and responsibilities.

The Board has five committees, which include the Audit Committee, Compensation Committee, Environment, Health, Safety and Sustainability (“**EHSS**”) Committee, Nominating Committee and Reserves Evaluation Committee. While each of these committees has specific duties, the Board is ultimately responsible for the oversight of risk and direction of management of Birchcliff. Formal charters for each of the committees can be found at <http://birchcliffenergy.com/investors/corporate-governance/>.

The Board and Nominating Committee consider the level of representation of women on the Board when appointing, nominating, or recommending for nomination, as applicable, candidates for election or appointment to the Board. Although the Nominating Committee and the Board consider the level of representation of women on the Board in identifying and nominating candidates, the Board has not adopted a written policy relating to the identification and nomination of women directors. The directors of the Company have a fiduciary duty to act in the best interests of the Company. As part of that duty, the Board believes that it is required to select and nominate for election or appointment as directors those individuals who will best serve the interests of the Company, regardless of gender. The Board believes that implementing such a policy will potentially restrict the Board’s ability to select those individuals who will best serve the interests of the Company.

Our shareholders are given the opportunity to vote on matters affecting Birchcliff, including the election of directors by attending our annual and, if applicable, special meeting of shareholders (the “**AGM**”) or by using proxies for voting. Shareholders also have the opportunity to raise questions from the floor during the question and answer portion of the AGM and, subject to compliance with applicable laws, may also submit their own resolution for consideration at the AGM.

## Director Profiles

### **DENNIS DAWSON** | Alberta, Canada – Independent Lead Director

Mr. Dawson is a corporate director. He is the independent Lead Director of Birchcliff, the Chair of the Company's Compensation and Nominating Committees and is also a member of the Company's Audit, EHSS and Reserves Evaluation Committees. He has over 35 years of oil and natural gas experience, including nine years as General Counsel for Pan-Alberta Gas Ltd., a major Canadian natural gas export and marketing company. Mr. Dawson was the Vice President, General Counsel and Corporate Secretary of AltaGas from December 1998 to April 2015. He first joined AltaGas as Associate General Counsel in August 1997, after consulting with AltaGas Services Inc. from July 1996. Effective July 1998, Mr. Dawson became AltaGas' General Counsel and Corporate Secretary and effective December 1998, he became Vice President, General Counsel and Corporate Secretary. Mr. Dawson holds a Bachelor of Arts degree from the University of Lethbridge and a Bachelor of Laws degree from the University of Alberta. He is a member of the Law Society of Alberta.

### **DEBRA GERLACH** | Alberta, Canada – Independent Director

Ms. Gerlach is a corporate director. She is the Chair of Birchcliff's Audit Committee and is also a member of the Company's Compensation, EHSS, Nominating and Reserves Evaluation Committees. Ms. Gerlach was a partner with Deloitte LLP from September 1996 to September 2017, where she practiced in the Assurance and Advisory group. Prior thereto, she held various positions within Deloitte LLP from the time she joined the firm in August 1982. During her 35-year career with the firm, Ms. Gerlach worked with numerous public oil and natural gas companies. Ms. Gerlach holds a Bachelor of Commerce degree and a Master of Business Administration degree from the University of Calgary. She is a Chartered Accountant with the Chartered Professional Accountants of Alberta.



#### **STACEY MCDONALD** | Alberta, Canada – Independent Director

Ms. McDonald is a corporate director and an independent businessperson. She is the Chair of Birchcliff's EHSS Committee and is also a member of the Company's Audit, Compensation, Nominating and Reserves Evaluation Committees. She has over 15 years of experience in the energy and financial sectors. From September 2016 to July 2018, Ms. McDonald was a Managing Director – Institutional Equity Research (Energy) at GMP FirstEnergy and its predecessor, GMP Securities, independent global investment banks. She joined GMP Securities in February 2006 as a research associate and began publishing independently as an Equity Analyst in 2009. She is also currently a director of Bonterra Energy Corp., a publicly traded oil and natural gas company, where she is the Chair of the Reserves Committee and is also a member of the Audit, Compensation and Governance and Nominating Committees. Ms. McDonald holds a Bachelor of Commerce degree in Finance from the University of Alberta. She is also a holder of the Institute of Corporate Directors' Director designation.

#### **JAMES SURBEY** | Alberta, Canada – Non-Independent Director

Mr. Surbey is a corporate director, an independent businessperson and an employee of Birchcliff. He is the Chair of Birchcliff's Reserves Evaluation Committee. He has over 40 years of experience in the oil and natural gas industry, including in the areas of executive leadership, business development, engineering, legal, corporate governance, finance and acquisitions and divestitures. Mr. Surbey is one of the founders of Birchcliff and served as the Vice President, Corporate Development and Corporate Secretary of the Company and its predecessor entities from July 2004 to June 30, 2017. Prior to Birchcliff, he served as the Vice President, Corporate Development of Case Resources Inc., the Senior Vice President, Corporate Development of Big Bear Exploration Ltd. and the Vice President, Corporate Development of Stampeder Exploration Ltd. Mr. Surbey was previously a senior partner with the law firm Howard, Mackie (now Borden Ladner Gervais LLP). Mr. Surbey holds a Bachelor of Engineering degree and a Bachelor of Laws degree from McGill University and is a member of the Law Society of Alberta and the Society of Petroleum Engineers. He is also a member of the Alberta Securities Commission's Petroleum Advisory Committee.

#### **JEFFERY TONKEN**

**Alberta, Canada – Non-Independent Director, Chairman of the Board and President and Chief Executive Officer**

Mr. Tonken is the Chief Executive Officer of Birchcliff. He has served as the Chairman of the Board since May 2017 and is a member of the Company's EHSS Committee. Mr. Tonken has over 40 years of experience in the oil and natural gas industry, including in the areas of executive leadership, finance, corporate governance, acquisitions and divestitures, business development, marketing and legal. Mr. Tonken is one of the founders of the Company and served as the President and Chief Executive Officer of Birchcliff and its predecessor entities from July 2004 to December 2021. Prior to Birchcliff, Mr. Tonken founded and served as the President and Chief Executive Officer of Case Resources Inc., Big Bear Exploration Ltd. and Stampeder Exploration Ltd. Prior thereto, he was a partner with the law firm Howard, Mackie (now Borden Ladner Gervais LLP). Mr. Tonken is currently the Vice Chair of the Board of Governors of the Canadian Association of Petroleum Producers (CAPP) and was the Chair in 2019. Mr. Tonken holds a Bachelor of Commerce degree from the University of Alberta and a Bachelor of Laws degree from the University of Wales. He is a member of the Law Society of Alberta.



## 4.2 COMMITTEES

### Board EHSS Committee

Recognizing the ongoing importance of ESG matters to the health and success of Birchcliff, the Board has established its EHSS Committee. The EHSS Committee's mandate clearly sets out the responsibilities that the Board has delegated to it. In fulfilling its mandate, the EHSS Committee receives detailed reports from management on ESG-related matters, including the Company's safety performance, total recordable incident frequency, asset retirement and reclamation activities and the Company's liability management rating. It also reviews the Company's public disclosure of ESG matters, including the annual ESG Report, prior to release.

The formal charter for the EHSS Committee can be found at <http://birchcliffenergy.com/investors/corporate-governance/>.

### ESG Committee

The purpose of this committee is to drive continuous improvement of Birchcliff's ESG-related corporate metrics by:

- Establishing and monitoring ESG-related key performance indicators;
- Developing and maintaining an effective strategy to communicate ESG-related key performance indicators; and
- Working closely with pertinent Birchcliff personnel to identify, prioritize, and implement initiatives to improve ESG key performance indicators within the Company.



### Greenhouse Gas Regulatory Compliance Committee

Birchcliff has a Greenhouse Gas Regulatory Compliance Committee (**GHGRCC**) that was formed in 2018 with a charter to ensure that there is corporate-wide awareness and compliance with the latest provincial and federal GHG emissions legislation requirements. The committee consists of various team members from the operations department, production accounting and finance. Together they strive for understanding, communicating and complying with the various GHG emission regulations that impact Birchcliff's operations.

### Decommissioning, Abandonment, Remediation and Reclamation Committee

In 2020, Birchcliff formed its Decommissioning, Abandonment, Remediation and Reclamation (**DARR**) committee with a charter to reduce our corporate Asset Retirement Obligation (**ARO**) and ensure compliance with all provincial and federal regulations. The committee is comprised of several members of the Operations department who diligently work together to ensure we conduct our asset retirement projects in the most efficient manner possible.







## 4.3 Birchcliff's Corporate Responsibility Strategy

In 2022, Birchcliff plans to develop a comprehensive five-year Corporate Responsibility Strategy ("CRS") by completing the following:

### Birchcliff's CRS will focus on the following four priorities:

1. Climate strategy
2. Increased transparency
3. Social and governance structure
4. Low carbon growth

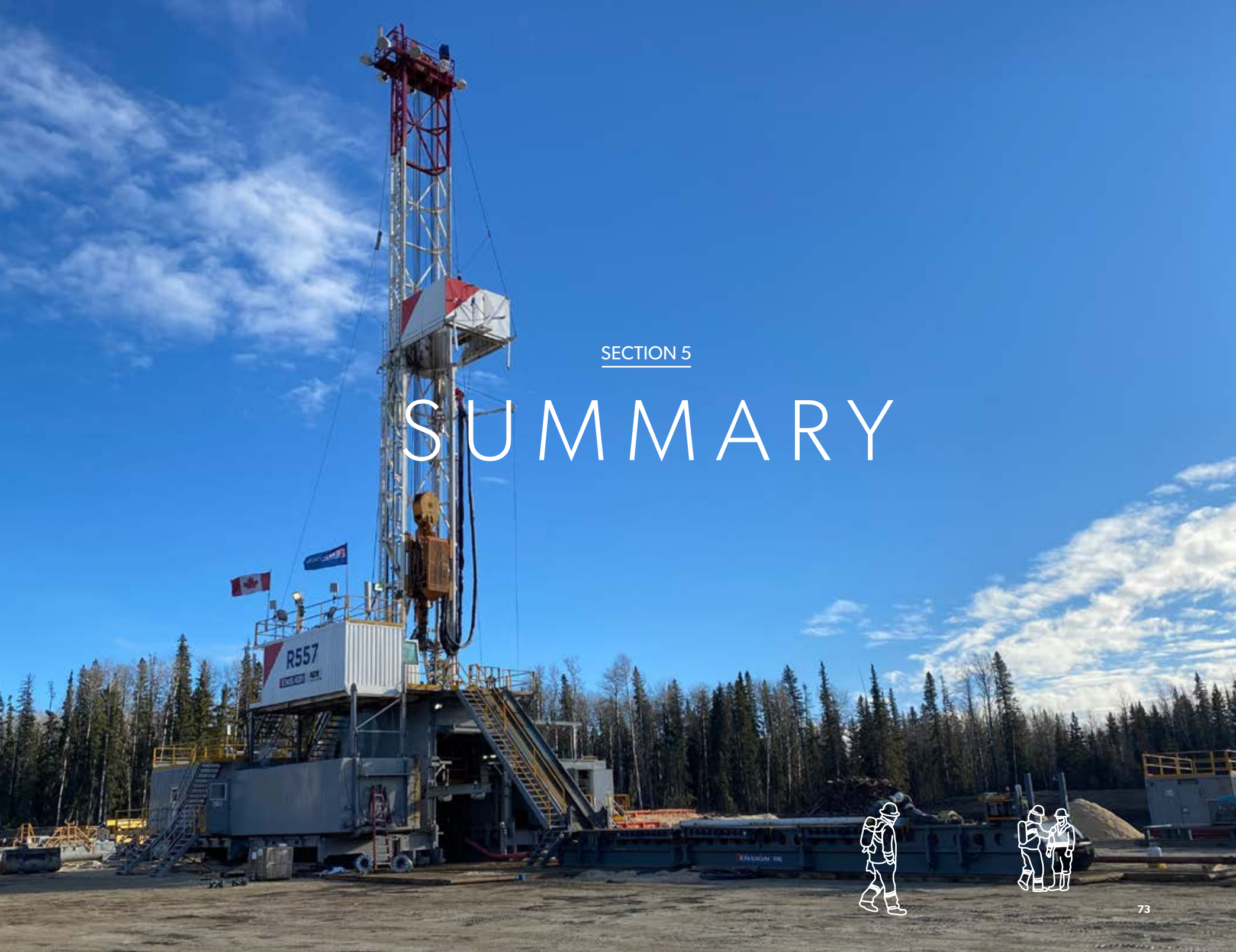
- Birchcliff will conduct a formal materiality assessment to itemize and prioritize those areas that are important to the core business and what is important to internal and external stakeholders. This will be conducted through focus groups and surveys. The materiality assessment will determine which items to focus on addressing in the near-term and the long-term.
- Birchcliff will work towards alignment with the recommendations from the Task Force on Climate-Related Financial Disclosures (TCFD), including:
  - Climate Scenario Analysis - Identifies Birchcliff's climate related risks and opportunities, the impact on Birchcliff's business and the resilience of Birchcliff's strategy.
  - Risk Assessment – Identify climate risks and how Birchcliff plans to mitigate these risks.
  - Target setting – Use a science-based target setting process to identify short, near and long-term climate targets.
  - Quantification of Scope 3 Emissions.
- Create Climate Report for Birchcliff.
- Align disclosure and annual ESG Report with new and emerging frameworks attempting to harmonize global sustainability reporting including the Value Reporting Foundation (VRF) (new standards developed by joint efforts of the Sustainability Standards Accounting Board (SASB), and the International Integrated Reporting Council (IIRC)), the Principles of Responsible Investing (PRI), the Climate Disclosure Standards Board (CDSB), and perhaps most important, the International Sustainability Standards Board (ISSB) which is being developed by the International Financial Reporting Standards (IFRS) Foundation.





SECTION 5

# SUMMARY



## 5.1 ESG PERFORMANCE SUMMARY

	Unit	2019	2020	2021
<b>Regulatory Compliance</b>				
External regulatory inspections	number/year	21	19	29
<b>Health &amp; Safety</b>				
Lost time injury frequency – employee	LTI*1 MM/exposure hours	2.5	2.4	0.00
Lost time injury frequency – contractor	LTI*1 MM/exposure hours	0.5	0.9	1.43
Lost time injury frequency – combined	LTI*1 MM/exposure hours	0.8	1.1	1.10
Recordable incident frequency – employee	RI*200,000/exposure hours	1.0	0.5	0.00
Recordable incident frequency – contractor	RI*200,000/exposure hours	0.3	0.4	0.43
Recordable incident frequency – combined	RI*200,000/exposure hours	0.4	0.4	0.33
Fatalities – employee	number/year	0.0	0.0	0.0
Fatalities – contractor	number/year	0.0	0.0	0.0
Number and rate of high-consequence work-related injuries (excluding fatalities) - employee	number/year	1.0	1.0	0.0
Main types of work-related injury - employee	type	Falls	Slips and Trips	n/a
Number of hours worked - employee	hours	443,031	410,000	410,000
Number and rate of high-consequence work-related injuries (excluding fatalities) - contractor	number/year	0	1	1
Main types of work-related injury - contractor	type	hands	Slips and Trips	"Slip & fall (knee) Frostbite (hands) Pinched finger (hands)"
Number of hours worked - contractor	hours	2,010,346	2,249,206	1,402,629
<b>Environment</b> <sup>(1)(2)(3)(4)(5)(6)(7)</sup>				
Direct GHG emissions (scope 1)	tCO <sub>2</sub> e	331,636	322,063	353,192
Direct GHG intensity (scope 1)	tCO <sub>2</sub> e/boe	0.01165	0.01154	0.01232
Indirect GHG emissions (scope 2)	tCO <sub>2</sub> e	37,691	38,312	34,693
Indirect GHG intensity (scope 2)	tCO <sub>2</sub> e/boe	0.00132	0.00137	0.00121
Total GHG intensity (scopes 1+2)	tCO <sub>2</sub> e/boe	0.01298	0.01289	0.01353
Other indirect emissions (scope 3)	tCO <sub>2</sub> e	n/a	n/a	n/a
Total methane emissions	tCH <sub>4</sub>	n/a	2,816	2,770
% Methane	%	n/a	21.8	19.6
Stationary combustion emissions	tCO <sub>2</sub> e	327,778	297,912	331,551
Flared emissions	tCO <sub>2</sub> e	3,389	3,837	2,536
Vented emissions	tCO <sub>2</sub> e	31,721	16,691	11,901
Fugitive emissions	tCO <sub>2</sub> e	n/a	4,279	7,187
GHG emissions reduced as direct result of reduction initiatives (scope 1)	tCO <sub>2</sub> e	n/a	n/a	4,122
ODS emissions (ozone depleting substances)	tonnes	0.0	0.0	0.0
Nitrogen oxides (NOx)	tonnes	626.9	480.1	403.5
Carbon monoxide (CO)	tonnes	1244.8	983.3	858.1

	Unit	2019	2020	2021
Volatile organic compounds (VOCs)	tonnes	506.0	437.8	375.1
Sulphur dioxides (SO <sub>x</sub> )	tonnes	219.4	181.9	185.1
Total particulate matter	tonnes	11.5	5.5	4.9
Fresh water withdrawal	m <sup>3</sup> /year	461,950	472,147	508,874
Non-fresh water withdrawal	m <sup>3</sup> /year	0.0	0.0	0.0
Solid wastes disposed	tonnes	26,768	6,423	24,199
Liquid wastes disposed	m <sup>3</sup>	71,962	49,925	36,408
Well abandoned	wells	15	11	19
Reclamation certificates received	count	1	1	5
Alberta licensee liability rating	AER rating	18.7	17.8	17.9
Reportable releases / spills	count	6	1	2
Total volume of releases / spills	m <sup>3</sup>	8.79	25	5.5
<b>Workforce</b>				
Female permanent employees	percent	28	32	32
Female management	percent	4.5	4.8	5
Female senior leadership	percent	0.0	0.0	0.5
Voluntary turnover	percent	8.4	2.4	5.9
Full-time employee workforce	count	202	206	204
Part-time employee workforce	count	6	4	1
Full-time contractor & temporary workforce	count	21	18	16
<b>Communities</b>				
Scholarship awards	\$	159,000	177,250	245,500
Community investment	\$	1,505,783	1,181,798	1,053,030
<b>Economic</b>				
Average daily production	boe/d	77,977	76,401	78,520
Petroleum and natural gas revenue	\$000s	613,599	528,505	932,406
Royalties – percent of sales (after transportation)	percent	6	5	10
Total capital expenditures	\$000s	300,246	276,785	232,480
Operating expense	\$/boe	3.09	2.95	3.19
General & administrative expense (net)	\$/boe	0.94	0.88	0.99
Net income (loss)	\$000s	(55,392)	(57,821)	314,676
Number of onshore sites <sup>(8)</sup>	count	npr	npr	50

1. Gasses included in Scope 1/2 calculations: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC's, PFC's, SF<sub>6</sub>, NF<sub>3</sub>.

2. Source of emission factors and global warming potentials used in calculations: All emission factors used for Scope 1/2 emissions, ODS, Nitrogen Oxides, Sulphur Dioxides, Other Significant Air Emissions, and Biogenic Emissions are provided by the Canadian Association of Petroleum Producers (CAPP), Canada Energy Regulator (CER), Environment Climate Change Canada (ECCC) and Alberta Environment and Parks (AEP).

3. Standards, methodologies, assumptions used in calculations: All standards, methodologies, and assumptions used for air emission calculations are provided by the Canadian Association of Petroleum Producers (CAPP), Environment Climate Change Canada (ECCC), and Alberta Environment and Parks (AEP).

4. GHG trades: All emission figures have excluded GHG trades from the calculation of direct (Scope 1) and indirect (Scope 2) emissions.

5. No ODS, POPs, or Biogenic emissions in any Birchcliff Operations.

6. Detailed CH<sub>4</sub> emissions reporting started in 2020 due to AER Directive 60 requirements.

7. Emissions figures do not include any emissions from drilling or completions activities.

8. Onshore sites include gas plants, compressor stations and oil batteries. All other surface sites excluded including well sites.

npr - not previously reported



## 5.2 GLOBAL REPORTING INITIATIVES (“GRI”) INDEX

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102-5 Legal form	6
102-6 Markets served	6, Annual Information Form
102-7 Scale of the company	7, Annual Report
102-8 Number of employees	77
102-10 Significant changes to the organization and its supply chain	no significant changes
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<b>GOVERNANCE AND ETHICS</b>	
102-16 Values, principles and norms of behaviour	9, Information Circular
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102-19 Delegating Authority	Information Circular
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102-26 Role of board in setting purpose, values and strategy	Information Circular
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102-36 Process for determining executive pay	Information Circular
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205-2 Communication and training about anti-corruption policies and procedures	Information Circular
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303-1 Interactions with water as a shared resource	34
"304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas"	34
"304-2 Significant impacts of activities, products, and services on biodiversity"	30
305-1 Direct (Scope 1) GHG emissions	76-77
305-2 Indirect (Scope 2) GHG emissions	76-77
305-4 GHG emissions intensity (both Scope 1 and Scope 2 intensity)	76-77
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305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	76-77
306-2 Waste by type and disposal method	77
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401-1 New employee hires and employee turnover	58
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405-1 Diversity of governance bodies and employees	69, 72

## 5.3 SUSTAINABILITY ACCOUNTING STANDARDS BOARD ("SASB")

CODE	DESCRIPTION	LOCATION OR ADDITIONAL INFORMATION
EM-EP-000.A	Production volumes	Performance Summary (p.77)
EM-EP-000.B	Number of offshore sites	Performance Summary (p.77)
EM-EP-000.C	Number of onshore sites	Performance Summary (p.77)
<b>Greenhouse Gas Emissions</b>		
EM-EP-110a.1	Gross global Scope 1 emissions, % methane, % covered by emissions-limiting regulations	Performance Summary (p.76)
EM-EP-110a.2	Gross global Scope 1 emissions by activity	Environmental (p. 12), Performance Summary (p.76)
EM-EP-110a.3	Discussion of Scope 1 emissions management strategy and reduction targets	Environmental (p.15-25)
<b>Air Quality</b>		
EM-EP-120a.1	Air pollutant emissions (NOX, SOX, VOCs and particulate matter)	Performance Summary (p.76-77)
<b>Water Management</b>		
EM-EP-140a.1	Fresh water withdrawn and consumed; percentage within high-stress regions	Performance Summary (p.77) - 0% within high-stress regions
EM-EP-140a.2	Produced water and flowback including percentage discharged, injected and recycled. Hydrocarbon content in discharged water	Not currently reported
EM-EP-140a.3	Percentage of hydraulically fractured wells for which there is public disclosure of all fracturing fluid chemicals used	Not currently reported
EM-EP-140a.4	Percentage of hydraulic fracturing sites where ground or surface water quality deteriorated compared to a baseline	0%
<b>Biodiversity Impacts</b>		
EM-EP-160a.1	Environmental management policies and practices	Environmental (p.15-37)
EM-EP-160a.2	Number and aggregate volume of hydrocarbon spills	Performance Summary (p.77), Birchcliff does not have operations in the Arctic or offshore
EM-EP-160a.3	Percentage of reserves in or near protected conservation areas or endangered species habitat	Not currently reported
<b>Security, Human Rights &amp; Rights of Indigenous Peoples</b>		
EM-EP-210a.1	Reserves in or near areas of conflict	0% - Birchcliff does not have operations in or near areas of conflict
EM-EP-210a.2	Reserves in or near indigenous land	A de minimis portion of proved and probable reserves are near Indigenous lands. Birchcliff's operations are within the traditional territory occupied by Treaty 8 First Nations and by the Métis people
EM-EP-210a.3	Discussion of engagement processes and due diligence practices with respect to indigenous rights	Indigenous Relationships (p.52-56)
<b>Workforce Health &amp; Safety</b>		
EM-EP-320a.1	Recordable incident frequency, fatalities, near hit frequency and training	Health & Safety (p.45-47), Performance Summary (p.76), Birchcliff has had no fatalities in the periods reported in this report
EM-EP-320a.2	Safety management systems and culture integration	Health & Safety (p.41-49)



CODE	DESCRIPTION	LOCATION OR ADDITIONAL INFORMATION
<b>Business Ethics &amp; Transparency</b>		
EM-EP-510a.1	Reserves in 20-lowest countries on Transparency International's Corruption Perception Index	0% - Birchcliff operates only in Canada
EM-EP-510a.2	Description of the management system for prevention of corruption and bribery throughout the value chain	Not currently reported
<b>Management of the Legal &amp; Regulatory Environment</b>		
EM-EP-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	See Birchcliff's Annual Information Form for detailed discussion on risks affecting the Company
<b>Critical Incident Risk Management</b>		
EM-EP-540a.1	Process Safety Event (PSE) rates for Loss of Primary Containment (LOPC) of greater consequence (Tier 1)	Not currently reported
EM-EP-540a.2	Description of management systems used to identify and mitigate catastrophic and tail-end risks	Not currently reported

## ABBREVIATIONS AND DEFINITIONS

2P	proved plus probable reserves
bbl	barrel
boe	barrel of oil equivalent
boe/d	barrel of oil equivalent per day
CH <sub>4</sub>	methane
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
D&C	drilling and completions
F&D	finding and development
GAAP	generally accepted accounting principles
GHG	greenhouse gas
HFC	hydrofluorocarbon
km	kilometre
m <sup>3</sup>	cubic metres
m <sup>3</sup> oe	cubic metres of oil equivalent

MMboe	millions of barrels of oil equivalent
Mcf	thousand cubic feet
mm	millimetre
MM	millions
MMcf/d	Millions of cubic feet per day
N <sub>2</sub> O	nitrous oxide
NF <sub>3</sub>	nitrogen trifluoride
NGLs	natural gas liquids
NOX	nitrogen oxides
O&G	Oil and Gas
ODS	ozone-depleting substance
PDP	proved developed producing reserves
PFC	perfluorocarbon
SF <sub>6</sub>	sulfur hexafluoride
tCO <sub>2</sub> e	tonnes of carbon dioxide equivalent

## 5.4 ADVISORIES

### CURRENCY

Unless otherwise indicated, all dollar amounts are expressed in Canadian dollars and all references to “\$” are to Canadian dollars.

### CONVERSIONS

Boe amounts have been calculated by using the conversion ratio of 6 Mcf of natural gas to 1 bbl of oil. NGLs are converted to m<sup>3</sup>oe from m<sup>3</sup> using the following conversion factors: 0.480 m<sup>3</sup>oe per m<sup>3</sup> of ethane (C2), 0.660 m<sup>3</sup>oe per m<sup>3</sup> of propane (C3), 0.750 m<sup>3</sup>oe per m<sup>3</sup> of butane (C4), 0.800 m<sup>3</sup>oe per m<sup>3</sup> of pentane (C5), and 0.860 m<sup>3</sup>oe per m<sup>3</sup> of condensate (C5+). These conversions follow the “Alberta Greenhouse Gas Quantification Methodologies”, version 2.2, published by Alberta Environment and Parks in December 2021. Boe and m<sup>3</sup>oe amounts may be misleading, particularly if used in isolation. These conversion ratios are based on an energy equivalency conversion method primarily applicable at the burner tip and do not represent a value equivalency at the wellhead.

Given that the value ratio based on the current price of crude oil and NGLs as compared to natural gas is significantly different from the energy equivalency ratios, utilizing an energy equivalency conversion may be misleading as an indication of value.

### PRODUCTION

With respect to the disclosure of Birchcliff’s production contained in this report: (i) references to “light oil” mean “light crude oil and medium crude oil” as such term is defined in National Instrument 51-101 – *Standards of Disclosure for Oil and Gas Activities* (“**NI 51-101**”); and (ii) references to “natural gas” mean “shale gas”, which also includes an immaterial amount of “conventional natural gas”, as such terms are defined in NI 51-101. In addition, NI 51-101 includes condensate within the product type of natural gas liquids. Birchcliff has disclosed condensate separately from other natural gas liquids as the price of condensate as compared to other natural gas liquids is currently significantly higher and Birchcliff believes presenting the two commodities separately provides a more accurate description of its operations and results therefrom. Birchcliff’s 2021 annual average production of 78,520 boe/d consists of the following product types: (i) 2,899 bbls/d of light oil; (ii) 5,715 bbls/d of condensate; (iii) 7,705 bbls/d of natural gas liquids; and (iv) 373,217 Mcf/d of natural gas.

### RESERVES

In this report, references to “reserves” are to Birchcliff’s gross reserves (Birchcliff’s working interest (operating or non-operating) share before deduction of royalties and without including any royalty interests of Birchcliff). The information contained herein relating to reserves is based upon the evaluation by Deloitte LLP, independent qualified reserves evaluator, with an effective date of December 31, 2021 as contained in the report of Deloitte dated February 9, 2022 (the “**Deloitte Report**”). The Deloitte Report was prepared in accordance with NI 51-101 and the Canadian Oil and Gas Evaluation (“**COGE**”) Handbook. There are numerous uncertainties inherent in estimating quantities of reserves and the future net revenue attributed to such reserves. See “*Risk Factors – Uncertainty of Reserves Estimates*” in Birchcliff’s management’s discussion and analysis for the year ended December 31, 2021 (“**MD&A**”), a copy of which is available on [www.birchcliffenergy.com](http://www.birchcliffenergy.com) and on [www.sedar.com](http://www.sedar.com).

### FORWARD-LOOKING STATEMENTS

Certain statements contained in this report constitute forward-looking statements and information (collectively referred to as “forward-looking statements”) within the meaning of applicable Canadian securities laws. The forward-looking statements relate to future events or Birchcliff’s future plans, operations or performance and are based on Birchcliff’s current expectations, estimates, beliefs and assumptions. All statements other than historical fact may be forward-looking statements.

Such forward-looking statements are often, but not always, identified by the use of words such as “seek”, “plan”, “expect”, “project”, “intend”, “believe”, “anticipate”, “estimate”, “forecast”, “potential”, “proposed”, “predict”, “budget”, “continue”, “targeting”, “may”, “will”, “could”, “might”, “should” and other similar words and expressions. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking statements. Although Birchcliff believes that the expectations reflected in the forward-looking statements are reasonable, there can be no assurance that such expectations will prove to be correct and therefore the forward-looking statements included in this report should not be unduly relied upon.



In particular, this report contains forward-looking statements relating to the following:

- Birchcliff's plans, operations, focus, objectives, strategies, opportunities, priorities and goals, including that Birchcliff remains ready to supply the world with clean natural gas for decades to come;
- Birchcliff's environmental stewardship, including: that Birchcliff will continue to focus on methane reduction in 2022 to ensure full compliance by its 2023 compliance deadline, that the Company will reduce the number of its compressor packing vents to zero in the near future, the addition and price of an additional Waste Heat Recovery Unit and that Birchcliff expects to generate additional EOCs for up to eight years; management of the changing regulatory landscape; and Birchcliff's long-term strategy to mitigate risk and minimize impacts associated with water usage and that it has been able to secure the volume necessary for future development;
- Innovation, including that Birchcliff will continue to evaluate and implement new technologies, systems and processes that will help to improve efficiency, reduce its environmental footprint even further and create a safer work environment; that Birchcliff is prepared to lead the way with progressive, measurable, and impactful operational practices which will reduce the environmental impact it may have in the areas in which it operates, as well as across the industry; and with respect to the development of the technologies supported through NGIF Industry Grants and NGIF Cleantech Ventures Equity Fund and the benefits therefrom, including that technologies supported by these NGIF Industry Grants will result in an estimated 7 megatonne reduction in emissions by 2030 as the technologies are commercialized;
- Birchcliff's H&S goals, including that Birchcliff will continue to manage its COR action plan items and stay best in class, implementation of a formal Office Ergonomic program; industry collaboration on a new rural crime reduction initiative; and regarding Birchcliff's 2022 safety stand down program;
- Indigenous relations, including ongoing sponsorship of its summer student program, youth and elder camps and the educational scholarship program and future educational commitments with respect to Canada's National Day for Truth and Reconciliation;

- Our people, including that Birchcliff will continue to support employee health and wellness, invest in employee talent, increase access to the Birchcliff Medical Concierge to field employees and continue its annual performance review process;
- Birchcliff's ongoing commitment to maintaining strong relationships with local communities and to continue to give back to the communities it works in, including Birchcliff's commitment to and future support of STARS operations; and
- Estimates of reserves and FD&A costs.

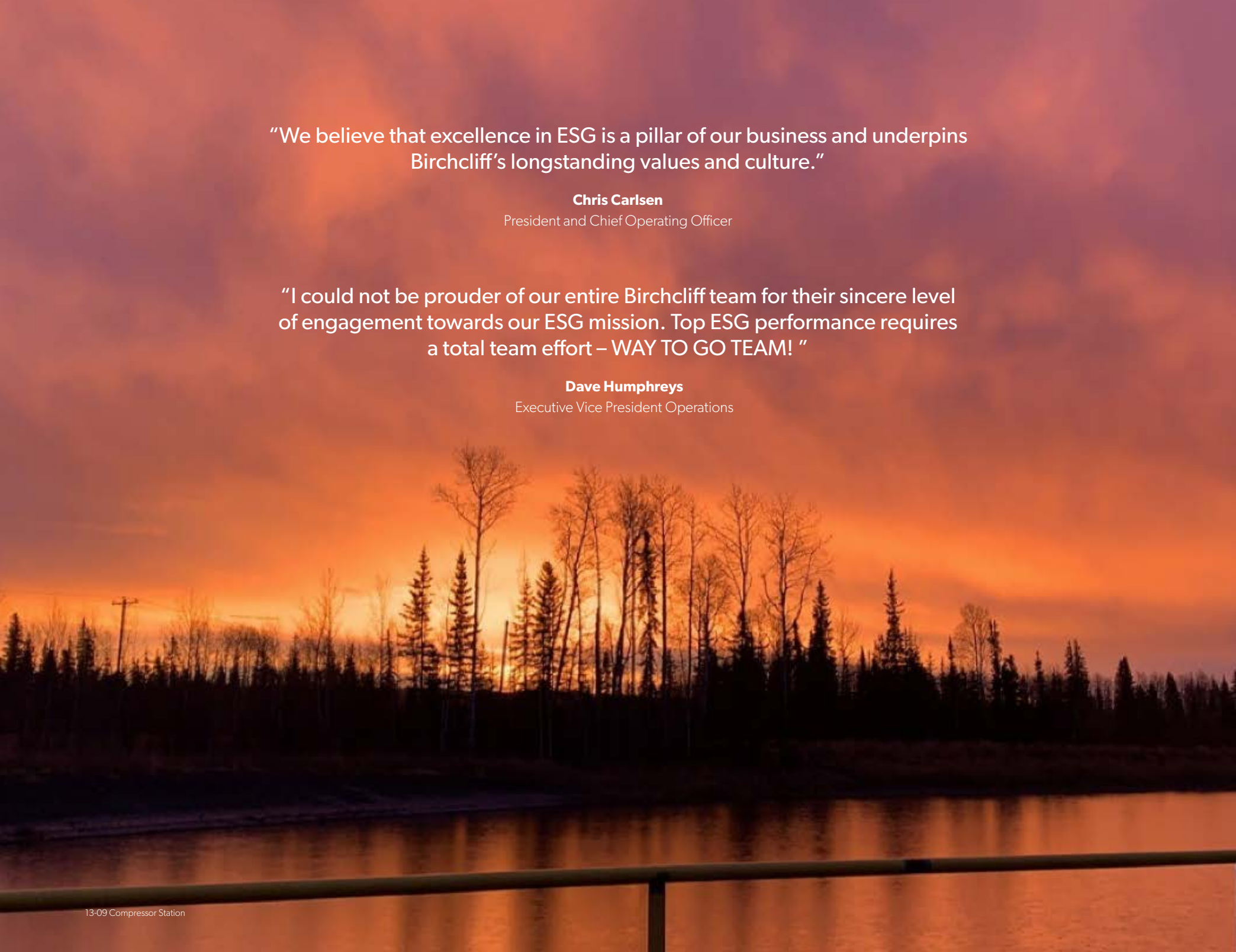
Information relating to reserves is forward-looking as it involves the implied assessment, based on certain estimates and assumptions, that the reserves exist in the quantities predicted or estimated and that the reserves can be profitably produced in the future.

Readers are cautioned that Birchcliff's actual results, performance or achievements could differ materially from those anticipated in the forward-looking statements as a result of both known and unknown risks and uncertainties. The assumptions on which the forward-looking statements are based and the risk factors and uncertainties that could cause Birchcliff's actual results to differ materially are discussed under "Advisories – Forward-Looking Statements" in Birchcliff's MD&A. Readers are cautioned that the list of factors contained in Birchcliff's MD&A are not exhaustive. Additional information on these and other risk factors that could affect results of operations, financial performance or financial results are included in the MD&A, Birchcliff's most recent Annual Information Form and in other reports filed with Canadian securities regulatory authorities.

Management has included the above summary of assumptions and risks related to forward-looking statements provided in this report in order to provide readers with a more complete perspective on Birchcliff's future operations. Readers are cautioned that this information may not be appropriate for other purposes.

The forward-looking statements contained in this report are expressly qualified by the foregoing cautionary statements.

The forward-looking statements contained in this report are made as of the date of this report. Birchcliff is not under any duty to update or revise any of the forward-looking information except as expressly required by applicable securities law.



**“We believe that excellence in ESG is a pillar of our business and underpins Birchcliff’s longstanding values and culture.”**

**Chris Carlsen**

President and Chief Operating Officer

**“I could not be prouder of our entire Birchcliff team for their sincere level of engagement towards our ESG mission. Top ESG performance requires a total team effort – WAY TO GO TEAM! ”**

**Dave Humphreys**

Executive Vice President Operations

# BIRCHCLIFF

ENERGY

## 2021 Environmental, Social and Governance (ESG) Report



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