

2018 CORPORATE RESPONSIBILITY REPORT

# OPERATING WITH INTEGRITY

**BIRCHCLIFF**  
ENERGY



**“Respecting and supporting the people and communities surrounding our operations is important to the development of our resources.”**

A. Jeffery Tonken  
President & Chief Executive Officer

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This Corporate Responsibility Report contains references to “adjusted funds flow” and “total debt”, which do not have standardized meanings prescribed by GAAP and therefore may not be comparable to similar measures presented by other companies where similar terminology is used. For further information, see “Advisories – Non-GAAP Measures” in this report and in the management’s discussion and analysis for the year ended December 31, 2018 (the “MD&A”). Boe amounts in this report have been calculated by using the conversion ratio of 6 Mcf of natural gas to 1 bbl of oil.

# MESSAGE TO STAKEHOLDERS

Dear fellow stakeholder,

Birchcliff prides itself on being an innovative and environmentally friendly developer of our resource base. We are committed to all aspects of our environmental, social and governance responsibilities and strive to be a leader in respecting and supporting the people, communities and environment surrounding our operations. It is critical to the social fabric of our employees and our stakeholders.

Birchcliff's stakeholder engagement begins in-house with the many employee and family programs we offer to our staff. We provide a platform for personal and professional growth to all of our employees. All Birchcliff employees are encouraged to participate in seminars, courses, workshops and conferences to enhance their knowledge of Birchcliff's operations. Furthermore, annual reviews of our employees along with candid discussions between our executive and management teams provide the opportunity for all levels of staff to be heard. We understand that by fostering a family environment in-house, we equip our staff with the tools and training to responsibly operate in the field.

Birchcliff continues to support the people and communities within the areas in which we operate. Over the last three years, Birchcliff has donated to more than 100 local community groups and organizations with donations and sponsorships totaling over \$3,000,000. By understanding and contributing to the values and priorities within the communities surrounding our operations we can all succeed together.

Birchcliff views corporate responsibility and our environmental, social and governance practices as an ongoing process that underpins everything we do. We look forward to continuing to work with the local communities, indigenous groups and all stakeholders as we develop our business in the Peace River Arch area of Alberta. We will continue to communicate our accomplishments on an annual basis. Together, we truly believe we can make the world a better place.



**A. Jeffery Tonken**  
President & Chief Executive Officer



## ABOUT BIRCHCLIFF

Birchcliff Energy Ltd. is a Calgary, Alberta based intermediate oil and gas company that explores for, develops and produces natural gas, light oil and natural gas liquids.

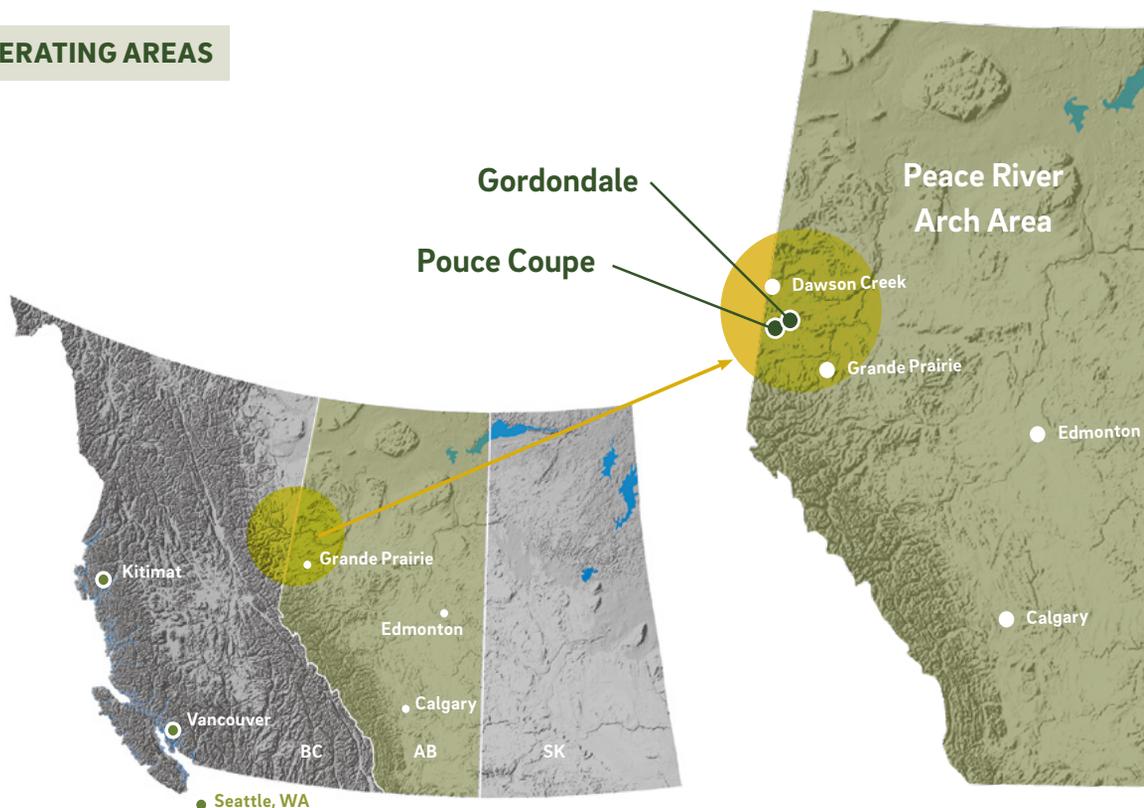
All of Birchcliff's operations are concentrated in the Peace River Arch area of Alberta, which is considered by management to be one of the most desirable natural gas and light oil drilling areas in North America. Within the Peace River Arch, Birchcliff's operations are primarily concentrated in the Pouce Coupe and Gordondale areas of Alberta where we operate the vast majority of our production, own large contiguous blocks of high working interest land and own and/or control our infrastructure.

Birchcliff's common shares are listed on the Toronto Stock Exchange ("TSX") under the symbol "BIR" and are included in the "S&P/TSX" Composite Index. 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.



2019 EPAC Award Winner:  
Top Intermediate or Senior Producer  
– Birchcliff Energy Ltd.

### OPERATING AREAS



## 2018 OPERATIONAL, FINANCIAL & RESERVES HIGHLIGHTS



AVERAGE PRODUCTION  
**77,096 boe/d**

DRILLED  
**36 Wells (100% WI)**



O&G REVENUE  
**\$621.4 MM**

ADJUSTED FUNDS FLOW  
**\$312.9 MM**

TOTAL DEBT  
**\$626.5 MM**



PDP RESERVES  
**203.6 MMboe**

2P RESERVES  
**1,002.1 MMboe**

PDP FD&A<sup>(1)</sup>  
**\$8.75/boe**

(1) Please see "Advisories - Oil and Gas Metrics" for additional information regarding FD&A costs.





## ABOUT THIS REPORT

- This report is intended for **all company stakeholders** and provides **performance detail** on subsets of Birchcliff's operations.
- To determine the content for this report, Birchcliff executives and several departmental leaders were **engaged in November 2018** to identify and prioritize topics that are most relevant to our key stakeholder groups.
- This report was created using the **Global Reporting Initiative ("GRI") Standards**. This report contains standard disclosures from the GRI guidelines but has not fulfilled all of the requirements to qualify as fully 'in accordance' with the GRI.
- Unless otherwise stated, **this report covers the years 2016-2018**.
- 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, 2018 on our **website [www.birchcliffenergy.com](http://www.birchcliffenergy.com)**.
- The terms **Birchcliff, our, we, the company, and the Corporation**, refer to Birchcliff Energy Ltd.

# FOUNDATIONS OF RESPONSIBILITY

Birchcliff is committed to constantly evolving and improving our Health, Safety and Environmental (“HSE”) Management Program and conducting our activities in a manner that safeguards our employees, contractors, representatives, the environment and the public at large.

As part of our fundamental values, we recognize the importance of our responsibility for environmental stewardship.

We endeavour to maintain excellence in environmental reporting and response, and to take proactive steps to eliminate or reduce our environmental impact.

As an organization which strives for continuous improvement, we continue to look for and develop new technology, systems and processes that will help improve efficiency, reduce our environmental footprint and create a safer work environment.

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

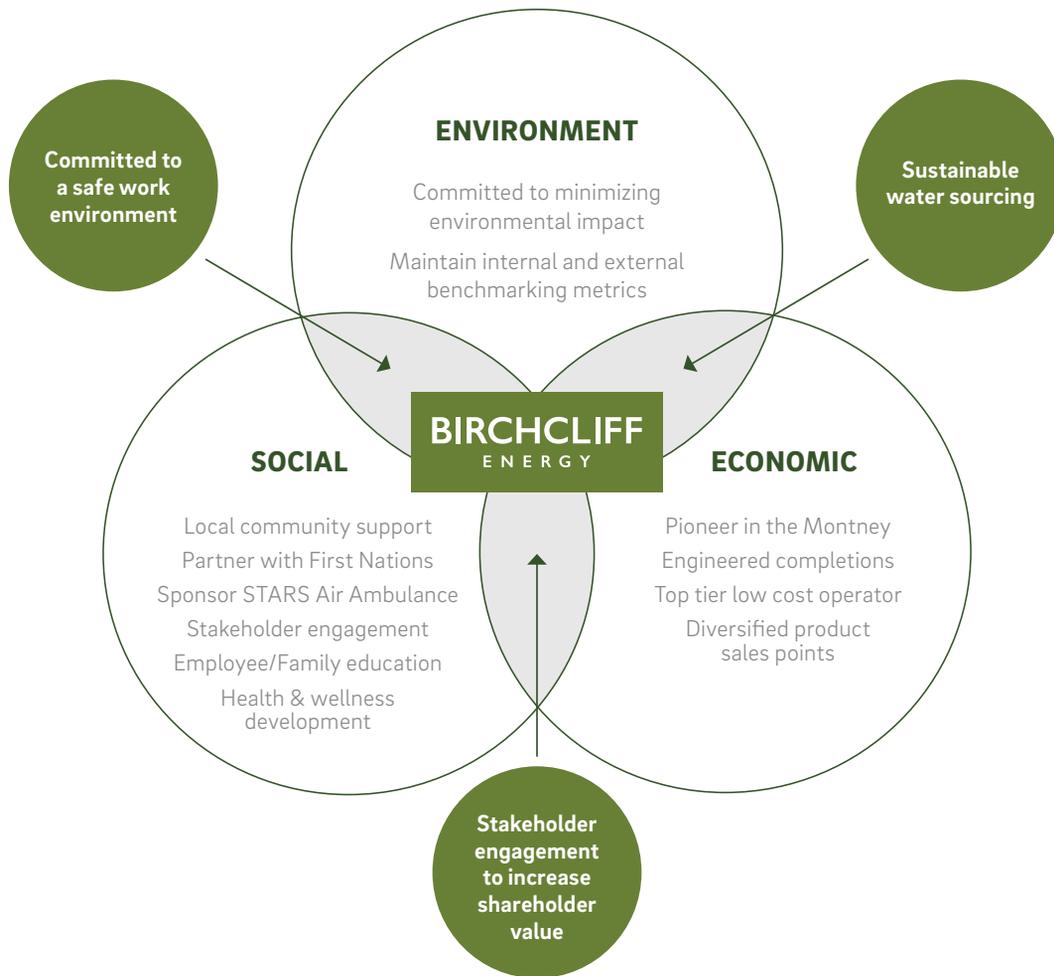
Birchcliff has an experienced team working with local stakeholders to learn their values and priorities and to resolve any issues or concerns that arise.

In addition to the large number of industry groups that Birchcliff supports and engages with, our executives are directly involved as governors or significant members of:

- The Canadian Association of Petroleum Producers – Jeff Tonken
- The Canadian Energy Executive Association – Myles Bosman
- The Explorers and Producers Association of Canada – Dave Humphreys
- Calgary Economic Development – Chris Carlsen
- Dinos Fifth Quarter Association – Bruno Geremia

The table below summarizes our engagement with different stakeholder groups:

STAKEHOLDER GROUP	HOW WE ENGAGE
Indigenous Groups	<ul style="list-style-type: none"> <li>• Direct consultation and communication</li> <li>• Partnerships with local Indigenous group-affiliated service companies</li> <li>• Community and education grant funding</li> </ul>
Local Communities and Landowners	<ul style="list-style-type: none"> <li>• Support of local projects and initiatives through 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>• Development and training</li> <li>• Performance reviews</li> <li>• Quarterly staff meetings</li> <li>• Safety Stand Downs</li> </ul>
Government and Regulators	<ul style="list-style-type: none"> <li>• Obtaining necessary approvals</li> <li>• Provide input in the development of balanced legislation, regulations, best practices and guidelines</li> </ul>
Shareholders	<ul style="list-style-type: none"> <li>• Annual and quarterly reports</li> <li>• Press releases</li> <li>• Annual General Meeting</li> <li>• Corporate Responsibility Reports</li> <li>• Continual one on one communication</li> </ul>
Industry Groups	<ul style="list-style-type: none"> <li>• The Canadian Association of Petroleum Producers</li> <li>• The Canadian Society of Unconventional Resources</li> <li>• The Explorers and Producers Association of Canada</li> <li>• The Canadian Energy Executive Association</li> <li>• Energy Safety Canada</li> </ul>



## GOVERNANCE

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, of which three are independent. The non-independent directors are A. Jeffery Tonken, being the Chairman, President and Chief Executive Officer, and James W. Surbey, who was previously the Vice-President, Corporate Development.

The Board has 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 four committees which include the Audit Committee, Compensation Committee, Nominating Committee and Reserves Evaluation Committee. While each of these committees has specific duties, the Board has oversight responsibility for material risks, including health, safety and environmental risks.

Currently, the number of women on the Board is two, representing 40% of the Board. Although the Board considers the level of representation of women on the Board in identifying and nominating candidates for election or appointment to the Board, the Board has not adopted a written policy relating to the identification and nomination of women directors. As part of the Board’s fiduciary duty to act in the best interests of Birchcliff, the Board believes that it should be able to select and nominate for election or appointment as directors those individuals who will best serve the interests of Birchcliff, regardless of gender.

Our shareholders are given the opportunity to vote on matters affecting Birchcliff 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.

# THE SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals (“SDGs”) were established at the United Nations Conference on Sustainable Development in Rio de Janeiro 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. Achieving the SDGs requires the partnership of governments, private sector, civil society and citizens alike to make sure we leave a better planet for future generations and Birchcliff is proud to contribute towards achieving many of these goals.



Source: International Finance Corporation, the Global Oil and Gas Industry Association for Environmental and Social Issues and the United Nations Development Programme

These 17 SDGs include areas such as climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities. All 17 SDGs interconnect, meaning success in one affects success for others. Dealing with the threat of climate change impacts how we manage our fragile natural resources, achieving gender equality or better health helps eradicate poverty, and fostering peace and inclusive societies will reduce inequalities and help economies prosper. In short, this is the greatest chance we have to improve life for future generations.

Despite a continued push towards renewable energy, renewable energy sources are not a consistent cost effective replacement for hydrocarbons. In fact, with the adoption of the climate plan, the International Energy Agency continues to forecast oil and natural gas to

remain as the dominant sources of global energy demand. Switching from coal to natural gas power continues to be one of the most impactful ways to reduce greenhouse emissions. Natural gas emits significantly less CO<sub>2</sub> compared to coal and is an effective way for nations to move away from carbon-intensive coal power. The increased use of natural gas is part of the SDG 7: Affordable and clean energy. This goal promotes global access to cleaner forms of energy, specifically to less developed nations that are currently using more carbon intensive means to power their country.

Birchcliff operationalizes many of the SDGs into our core business practices by incorporating them into our company policies, standards and management systems, risk reporting and opportunity assessment, engagement of stakeholders, and research and development opportunities. Birchcliff is also primarily a natural gas producer with massive natural gas reserves. As Canada increases its natural gas egress options through additional pipelines and liquefied natural gas (“LNG”) hubs, Birchcliff remains ready to supply the world with clean natural gas for decades to come.

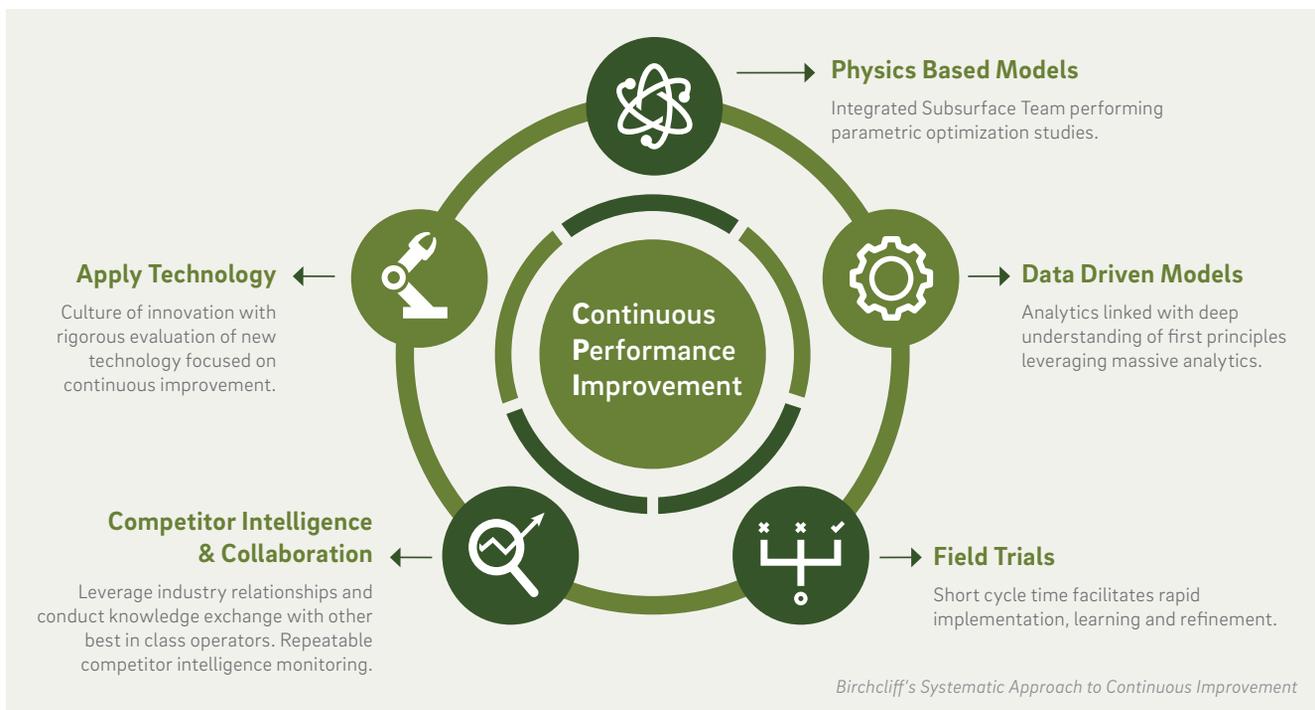
# COMMITMENT TO INNOVATION

## TECHNICAL AND OPERATIONAL INNOVATION

Since inception, Birchcliff has worked to continually improve our corporate performance, demonstrated by our financial and operational metrics. This continuous drive for improvement stems from a focus on efficiency and innovation, which are ingrained in the corporate culture. Birchcliff uses a rigorous approach to improve in all aspects of our business, both at strategic and operational levels.

This approach (summarized in the below figure) drives advancements both above and below ground by applying:

- Physics based and data driven models
- Field trials
- Competitor intelligence & collaboration
- Technology with a specific focus on Digital Transformation



Birchcliff collaborates actively with industry and academia to further the operational and technical teams' understanding and to stay abreast of the latest technology and novel workflows. Currently, Birchcliff is participating in the following consortiums:

- Tight Oil Consortium (U of C)
- EOR Weatherford Consortium
- Microseismic Consortium (U of C & U of A)
- Natural Gas Innovation Fund (NGIF)
- Lead 2 Perform Leadership Network

Birchcliff advocates for cleantech innovation and promotes innovation in that space by participating in the NGIF. The fund supports targeted clean technology projects led by technology enterprises with solutions in the upstream, midstream and downstream natural gas industry with the goals of emission reduction and environmental performance, affordability, safety and resiliency. Birchcliff's commitment to responsible and sustainable resource development aligns directly with these goals.

# ENVIRONMENT



## LOOKING BACK

- Strong focus on emission reduction initiatives and an active reclamation program.
- Developed a corporate long-term water strategy to secure water for our future development plans.
- Strong regulatory and liability management.

## LOOKING FORWARD

- Development of an Environmental Management Program.
- Continue to identify, manage and implement practices to address our changing regulatory landscape.

## Minimizing Environmental Impacts

Birchcliff is committed to minimizing the impact our operations have on the environment. As an organization which strives for continuous improvement, we look for and develop new technology, systems and processes that will help improve efficiency and reduce our environmental footprint.

### AIR

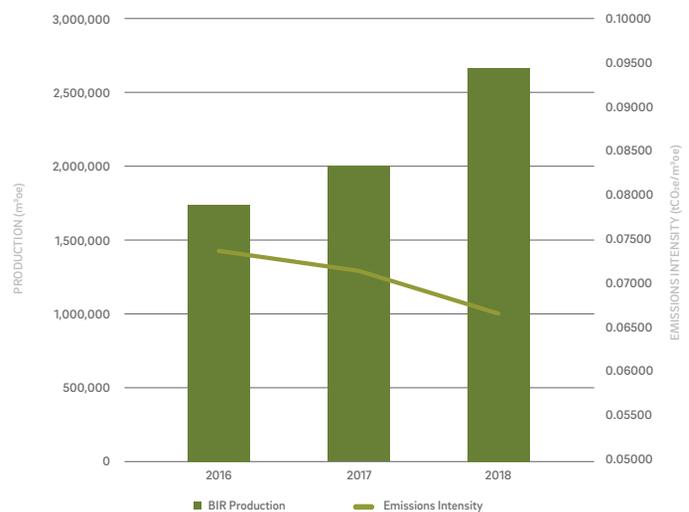
#### Air Emission Reduction

We comply with provincial and federal GHG emission and reporting regulations. We are currently monitoring the changing regulations regarding climate change management and our staff continually looks to identify and implement efficiency opportunities that can be applied across our business.

#### Reduction Initiatives

- Birchcliff uses minimal methane pneumatics on all new Birchcliff facilities and plans to have all high bleed methane pneumatics replaced by January 1, 2020.
  - » As a company, Birchcliff employs minimal amounts of fuel gas driven pneumatics that routinely vent methane to the atmosphere as most of those small controllers are driven from instrument air or are electric. We are currently replacing our fuel gas pneumatics with electric or instrument air. Each wellsite designed in this fashion is the equivalent of taking 142 passenger vehicles off of the road.
- Emissions Performance Credits ("EPCs") at our 100% owned and operated natural gas plant located in our Pouce Coupe operating area (the "Pouce Coupe Plant").
  - » Due to all of the measures taken at the Pouce Coupe Plant to reduce our emissions, Birchcliff is expecting to generate a significant number of EPCs in the fall of 2019 due to our 2018 emissions data. Of all the natural gas producing facilities governed under the Carbon Competitiveness Incentive Regulation in Alberta, only the top few generate EPCs rather than paying into the system, and the Pouce Coupe Plant is included in that short list. The facility's Total Regulated Emissions were tens of thousands of tonnes less than our calculated Output Based Allocation.
  - » Waste Heat Recovery Units – Four waste heat recovery units at the Pouce Coupe Plant capture residual heat energy from compressors to be used in other applications in the plant. This has allowed us to operate some of our process and utility heaters at minimal load which results in more than 15,000 tCO<sub>2</sub>e reduced emissions per year, the equivalent of taking >5,000 passenger vehicles off the road annually.

Emission Trends for the Pouce Coupe Plant





12-28-077-13W6M multi-well pad site with zero vented emissions and solar and wind electrified power generation

- » Vapor Recovery Units (“VRU”) – We have installed VRUs at a number of facilities, which allow us to conserve vented gas. This increases our sales volumes and reduces our GHG emissions at our facilities with VRUs.
- Greenhouse Gas Regulatory Compliance Committee (“GHGRCC”)
  - » The GHGRCC is an internal Birchcliff committee with a charter to ensure that there is corporate-wide awareness and compliance with the latest provincial and federal greenhouse gas legislation requirements. The committee was formed collaboratively and strives for understanding, communicating and complying with the various greenhouse gas emission regulations which impact Birchcliff’s operations.
- Acid Gas Injection – Our acid gas injection wells allow us to store CO<sub>2</sub> and H<sub>2</sub>S in a safe reservoir rather than incinerate and emit SO<sub>2</sub> or use an energy intensive desulfurizing process to capture these GHGs. We injected 6,120 tonnes of CO<sub>2</sub> into our acid gas wells in 2018, thus significantly reducing potential GHG emissions.
- Solar/Wind Power at wellsites – Birchcliff equips wellsites with solar panels and wind turbines to help power the instrumentation and controls of the associated equipment. This replaces the use of thermoelectric generators and helps to create zero-vented emission wellsites.
- Birchcliff recovers 99.1% of our Alberta Energy Regulator (“AER”) permitted flare volumes during completion operations by flow testing in-line. This takes the equivalent of >3,000 passenger vehicles off the road, annually.

### Emission Trends for the Pouce Coupe Plant

YEAR	PRODUCTION (m <sup>3</sup> oe)	REGULATED EMISSIONS (tCO <sub>2</sub> e)	CARBON EMISSIONS PER M3OE (tCO <sub>2</sub> e/m <sup>3</sup> oe)
2016	1,739,567.49	127,269.79	0.07316
2017	2,013,152.69	143,684.69	0.07137
2018	2,641,649.64	176,026.76	0.06664

## LAND

### Asset Retirement & Reclamation

As part of our continuing environmental stewardship, we actively maintain our abandonment and reclamation programs to ensure non-producing assets are retired and the surface leases are restored to their natural state.

Here at Birchcliff, 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 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.

Since the commencement of our reclamation program in 2006, we have received 30 reclamation certificates and we are currently moving numerous sites through the reclamation process.

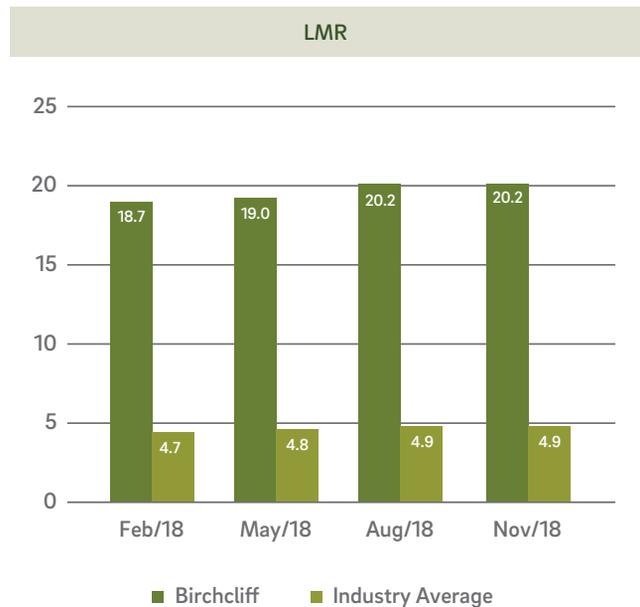


### Liability Management Rating (“LMR”) Program

The AER LMR program is the liability management program governing conventional upstream wells, facilities, and pipelines. The liability assessment is a measure of deemed assets to liabilities. It is designed to assess a licensee’s ability to address suspension, abandonment, remediation, and reclamation liabilities.

Birchcliff is proud to report that our LMR was approximately 20.2 as of January 5, 2019, compared to the approximate industry average of 4.9. This demonstrates that our deemed assets significantly outweigh our deemed liabilities.

The higher a company’s LMR, the more deemed assets that company has compared to its deemed liabilities. The purpose of the LMR program is to help the AER assess a company’s ability to address its abandonment, remediation and reclamation obligations. This helps protect Albertans from potential environmental issues and costs associated with the closure of energy projects.



Source: AER Website

## Wildlife Protection

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

The following measures outline some of our efforts towards protecting wildlife:

- Our multi-well pad drilling has allowed us to increase our production while significantly reducing surface disturbance.
- We conduct wildlife sweeps on proposed developments and the surrounding area to identify important wildlife features.
- When storing flowback or produced water in above-ground storage systems (i.e. C-rings), we install fully-enclosed netting and monitor daily to prevent wildlife from coming into contact with the fluid.
- We install wire fencing and amphibian fencing around the perimeter of our lined water storage reservoirs to prevent wildlife from entering.
- We participate in the Stream Crossing & Aquatic Resource Inventory ("SCARI") through Woodlands North with other operators in a collaborative effort to assess and mitigate structural risks and threats to fish passage on each of our watercourse crossings.
- From March 1<sup>st</sup> to November 30<sup>th</sup>, Birchcliff equips flaring operation sites with additional firefighting equipment to mitigate the risk of a forest fire.

## BEYOND BEST PRACTICE

As an environmentally conscious student completing his chemical engineering degree, Birchcliff's Facilities Manager Jeff Rogers spent two summers working on industrial site cleanup projects. He came to realize that he could have more of a positive effect on the environmental impacts of industry from the inside out, by working to improve processing facility designs rather than cleaning up messes.

"At Birchcliff, environmental responsibility is intrinsically part of infrastructure design," says Rogers, noting that safe, low emission, energy efficient, designs are generally the best in terms of long-term economic value despite higher install costs.

"We have recently implemented waste heat recovery systems at our main gas plant," says Rogers. "Our wellsite facilities are designed to have zero methane emissions and very low exhaust emissions from auxiliary equipment. We have been building them like this for over 10 years."

He finds the area of asset integrity particularly compelling, as it focuses on mitigating impacts from the get-go instead of simply repairing damage after the fact. Rogers also notes that Birchcliff empowers the team to take reclamation efforts above and beyond what is merely required or mandated.

"We don't have to wait for somebody to tell us to do the right thing," says Rogers. "At Birchcliff, the philosophy is to just do what should be done."

## WATER

At Birchcliff, we are committed to responsible water use for all of our operations and minimizing our impact on the watershed.

We recognize the value of water and the importance of preserving the natural environment. Water is used for many of Birchcliff's energy development activities including drilling, hydraulic fracturing and dust control. Birchcliff uses a combination of surface water, saline and non-saline groundwater, recycled fluid from hydraulic fracturing (flowback) and produced water for our operations. We continually look for opportunities to further minimize our impact on the watershed and maximize the use of lower quality water and alternative sources.

In recent years, changing hydraulic fracturing techniques have led to increased water usage which prompted Birchcliff to develop a long-term strategy to mitigate risk and minimize impacts associated with water usage. The water strategy is reviewed annually to ensure it is aligned with corporate goals and development plans. By being proactive, we are able to secure the volume necessary for future development while meeting or exceeding regulatory requirements and ultimately minimizing our environmental impact. Recent water management initiatives include:

### Implementing Strategic Water Storage Sites

In 2018 we added four freshwater storage reservoirs to our Pouce Coupe and Gordondale operating areas. Birchcliff currently has a total of 920,000 m<sup>3</sup> of water storage at 10 strategically-located sites providing water security and availability for hydraulic fracturing. This storage capacity allows us to divert water from water sources using temporary surface pipelines. Water can thus be diverted to storage sites during periods of high flow conditions which protects the environmental flow needs of the watershed. Birchcliff's water storage sites have also benefited other operators in our areas through providing access to an adequate supply of source water for their operations.

Since 2017, these measures have effectively removed 20,000 truck loads of water from Alberta roads. The benefits of pumping water through these temporary pipeline systems include reduced vehicle emissions, reduced landowner disturbance and reduced traffic.

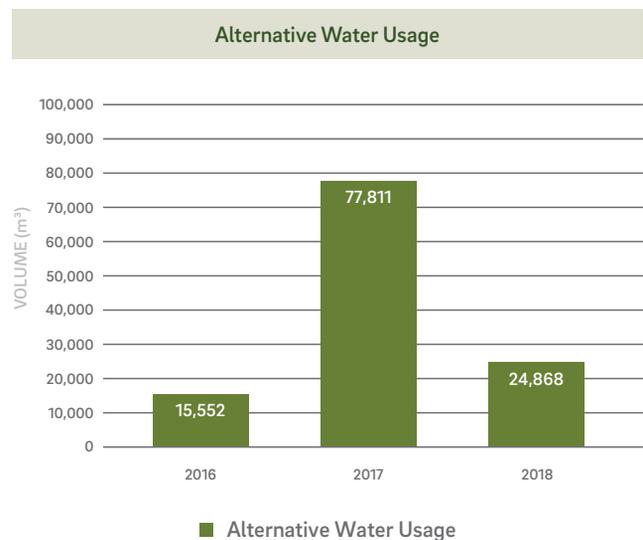
In addition, many safety benefits were also realized with the reduction of tank trucks entering and exiting a location which minimized hazards from water delivery.

### Alternative water source development

In 2017 we drilled three non-saline, non-potable water source wells on our 4-8-77-12W6 pad which produce a combined 994 m<sup>3</sup>/day. With 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 to sourcing quality surface water.

### Flowback management and produced water usage

Since 2016, Birchcliff has used over 118,000 m<sup>3</sup> of recycled flowback and produced water for completions. Birchcliff strives to recycle flowback wherever feasible to reduce fresh water usage and supply water for the next hydraulic fracturing operation. Birchcliff has also established water sharing agreements with other operators to further minimize flowback disposal volumes and fresh water consumption.



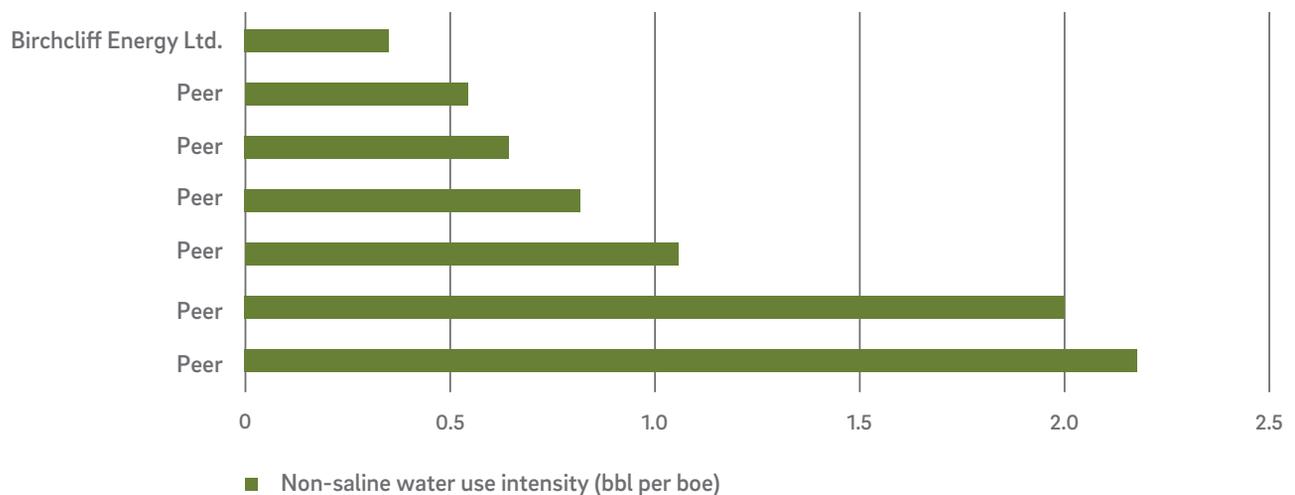
*Note: Alternative water usage varies from year to year depending on total water demand and timing of hydraulic fracturing operations. Our total water requirement in 2017 was higher than 2018 as a result of our completions activity level, therefore more alternative water was used.*

## AER Industry Water Use Performance Report – Hydraulic Fracturing

In 2019 the AER released the Hydraulic Fracturing Water Use Summary which measures industry water use performance in 2017 for hydraulic fracturing. This summary, which is part of the AER's industry performance program, discloses how much water energy companies in Alberta use and how much water is being recycled. The data includes, on a per well basis, water license allocation and reported water volumes (non-saline or alternative) as well as production data for the first 12 months following the fracture date of the well. From this information the AER ranked company performance based on non-saline water use intensity which equals the total non-saline water used during fracturing operations divided by the total boe for 12 months' production following the most recent fracture date.

The results show Birchcliff is efficient and effective in the use of water to fracture our wells. Overall, Birchcliff's 2017 water use intensity is 0.35 bbl/boe compared to the industry average of 0.59 bbl/boe. This effectively means that Birchcliff used 40% less water to produce one boe than the average of other operators with hydraulic fracturing operations in Alberta in 2017.

Non-saline Water Use Intensities, 2017, Companies with >20 million boe/year, Doig & Montney



Source: AER – 2017 Hydraulic Fracturing Water Use Summary

# COMMUNITY INVOLVEMENT



*Birchcliff staff installing new playground in the Bay Tree community*

## LOOKING BACK

- Birchcliff was integral to the establishment of the Wapiti Area Synergy Partnership, its bylaws, organization of meetings, promotion within the community and development of its website.
- We partnered with the County of Saddle Hills, entering into a road monitoring agreement that monitors speed on several public roads used extensively in our operations.

## LOOKING FORWARD

- Maintain strong working relationships with local communities and support initiatives which promote education, employment and cultural preservation.
- Continuing to contribute to a number of local community initiatives that elevate and enhance quality of life at the local level, including minor hockey and other amateur sports, local schools, agricultural societies and fire departments.

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 cooperative, sincere and responsive consultation efforts with stakeholders in the areas in which we operate creates a solid foundation for our business. 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.

Examples of Birchcliff's ongoing commitment to community social responsibility include the following:

### **SUPPORT TO LOCAL COMMUNITIES**

We maintain an annual fund to provide support to local groups and organizations within our operating area. On average, we allocate between \$10,000 and \$20,000 annually to our local communities. 2018 field donations and sponsorships totaled \$12,280.

We empower our field staff to make the decisions regarding their community. Our employees are local to the area and part of the community, it is important for us to fund and support local community projects.

#### **Kindergarten Class at Bonanza School – Smart Board Donation**

Birchcliff installed new video conference systems in our field offices to better improve our communication. This left a virtually new smart board without a home. Pictured below are two of our field leaders donating the smart board to the kindergarten class of the Bonanza School.



## Play Park Construction, Bay Tree Community

In 2018, Birchcliff provided a donation of \$25,000 in support of a new playground to be constructed at the Bay Tree Community Park. We were approached by the association who were looking to upgrade the park and include safe modern playground equipment. We provided the funding for this project and, in late July 2018, we also provided a number of our staff to assist with the installation of the new equipment.



## United Way of Calgary and Area

Birchcliff holds an annual fundraising campaign for the United Way of Calgary and Area. In 2018, Birchcliff raised over \$94,000 and has raised over \$1,250,000 for the organization to-date.

## Stars Golf Tournament

We host an annual event to raise local awareness and funds for STARS Air Ambulance through donations and a silent auction. In 2018, this tournament along with matching funds from Birchcliff raised over \$137,000. To date, Birchcliff has donated over \$1,000,000 to STARS Air Ambulance in Grand Prairie.



## Together ... We are ALL STARS

*It all began with a vision and humble beginning. Birchcliff and STARS have a lot in common; from first introduction we recognized shared values for excellence in health and safety. Birchcliff and STARS are allies in saving lives!*

*In November of 2006, the STARS base in Grande Prairie opened for service. Early in January of 2007, Birchcliff was one of the first companies to knock on the door; to offer donations collected during a holiday gathering, praise the long-awaited life-saving critical care brought to the region, and to ask how they could help STARS. It is through Birchcliff's commitment to the communities in which they operate, and a genuine can-do spirit, that the Birchcliff and Friends Charity Golf Tournament supporting STARS was born. Now in its 13th year, the Annual Birchcliff & Friends Charity Golf Tournament continues to shine with vast support from businesses and individuals, all in the spirit of a partnership to save lives. The 2018 Birchcliff and Friends Charity Golf tournament raised over \$137,000!*

*Birchcliff has surpassed **\$1 million dollars** in funds raised to support STARS operations and we are proud to have the Birchcliff and Friends logo flying high on all of the STARS helicopters serving Alberta and eastern B.C.*

*We are truly grateful to Birchcliff for the inspiring and valued relationship that we share. Thank you for being our ally in the fight to save lives. Together, we are a beacon of hope for critically ill and injured patients.*

*Thanks so much,*

*Glenda Farnden, STARS*

The following is a list of the organizations that we provided funding to in 2018:

<b>ORGANIZATION</b>	<b>PURPOSE</b>
Spirit River Rangers	Atom Provincial – Silver Sponsorship
Dawson Creek Senior Canucks	League Playoffs
Bonanza Ag Society	Bonanza Fair
Whispering Ridge Society	Silent Auction Item
Dawson Cr Elementary Curling Club	Hot Shots Event Sponsorship
Rycroft Winter Frolic	Silent Auction Item
Bonanza Fire Department	Firemen’s Dinner Event – Prize
AB NW Regional Skills Competition	Sponsor Refreshments
Rycroft Agricultural Society	Race The 8 – Silver Sponsorship
Spirit River Curling Club	Prizes For Oilmen’s Classic
Sorrentino’s Compassion House	Golf Tournament Sponsorship
Central Peace Oilmen’s Golf	Golf Tournament Sponsorship
Dawson Creek Oilmen’s Golf	Silent Auction Item
Dawson Creek Slow-pitch League	League Entry Fee
Savanna Ag Society	Fall Fair Sponsorship
Savanna School	Yearbook Silent Auction Item
Spirit River Kinettes	Hole in one Golf Sponsorship
South Peace Secondary School (D.C)	Water Bottles For Graduation
Girl Guides of Canada	Silent Auction Item
Shriners Care for Kids	Silent Auction Item
Savanna Minor Hockey	Foam Dividers for Rink
Grande Prairie CSHM	Sponsor Training Course
Rycroft School	2019 Calendar Sponsor
Dawson Creek Seals	Swim Club Operations
Dawson Creek Senior Canucks	Advertising Sponsorship
Central Peace FCSS	Social Services Program
STARS Air Ambulance	Hangar Dance Friends Sponsorship
STARS Air Ambulance	Golf Tournament Sponsorship
Central Peace Fire & Rescue Commission	Fundraiser Sponsorship
Hythe & District Food Bank	Christmas Food Bank
Big Brothers Big Sisters of GP	Sponsorship Level – Volunteer Voice
Town of Spirit River	Festival of Trees – Silent Auction
Spirit River Rangers	Initiation Tournament
United Way of Calgary and Area	Corporate Fundraising Campaign



## First Nation Groups

Birchcliff's activity is 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. Much of our activity takes place upon the unoccupied crown lands which are administered by the Province of Alberta. We are committed to open, honest and straight forward communication with the Indigenous groups who have been formally recognized as having rights within the areas in which we operate. Currently those groups include Horse Lake First Nation, Duncan's First Nation, East Prairie Metis Settlement and Gift Lake Metis Settlement.

We provide support to these communities and their ventures to enhance their human, economic and cultural development. Our support is aligned with several key philosophies and based upon the principle that all individuals should be treated fairly and with respect.

This principle includes the belief that the success of our children and future generations is the key. For this reason we are strong supporters of all education initiatives from early childhood programs, programs that support adolescents, post-secondary courses, upgrading and equivalency programs and trade and technical training programs.

We believe that everyone should be aware of and proud of their culture and heritage. We support many cultural events including round dances, formal events such as Treaty 8 Days and cultural camps which bring youth and elders together for traditional learning and sharing opportunities.



*Cheque presentation to Horse Lake FN for a new Youth Recreation Room*

Communities are most successful when their members drive the programs. We look to community members to set goals and take the initiative to plan, prepare budgets, submit the request for support and organize their events.

We have long standing agreements with the key 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. We believe that our actions must always speak louder than our words.

Through our agreements with Indigenous Groups we make funds available on an annual basis for the purpose of supporting their education, cultural and economic development type initiatives.

### Summer Student Program, Duncan's First Nation

In a 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 and programs/services. The 2018 project was delivered for 6-weeks (July 16 - August 24) for 5 days a week (Monday - Friday) 9am - 4pm with the exception of Treaty Day and conference evenings. This year students were awarded paid lunch based on work ethic and time management. This worked great as a motivation incentive and provided opportunity for educational discussions/teachings about work responsibility, expectations, and consequence when not awarded.

Four students and one mature coordinator were given the opportunity to experience working for the Nation in all areas including office administration, band programs, and 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. Birchcliff has been sponsoring this program annually.



Career Day at Horse Lake First Nation

### Youth & Elders Camps, Horse Lake First Nation

Birchcliff has been the sole sponsor of this event which has been held five times since 2013. Most recently, it has been a weeklong event attended by four elders, 10 additional adults as supervisors and 24 youth. They spend a week camping at Pink Mountain in British Columbia. This is a terrific opportunity for the youth and the 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 young and the old and helps the youth to understand their cultural heritage. This has been a very successful program with positive results. While the program was not held in 2018, Birchcliff plans to continue sponsorship of this event in the years to come.



### Career Fair, 2018

Each year Horse Lake First Nation (“HLFN”) hosts a career fair. They invite their members, the community at large and all the high school students. HLFN kids attend the public high school in Beaverlodge. Several of our field personnel and drilling staff spent the afternoon discussing various careers in the energy industry with the students.

### Other projects include:

- Scholarships for advanced education: in 2018 Birchcliff provided \$25,000 in scholarship bursaries to Indigenous Students. Since 2009, Birchcliff has provided over \$200,000 in scholarship funding to Indigenous students.
- Training sessions on reserve: Life Skills Training Youth Employment, Knowing Your Spirits Conference, Youth Recreation Room and Graduation Recognition Awards. In 2018 Birchcliff provided over \$75,000 for these programs.
- We provide employment opportunities to band members and hire band owned businesses where possible. Several of these companies have become a contractor of choice.



Safety in Schools – Certificate of Recognition

### Safety In Schools

We have collaborated with the Safety in Schools program to fund free workplace safety training to Alberta high schools. Safety in Schools Foundation is a registered non-profit organization committed to providing young workers across Canada with the opportunity to learn the basics about workplace safety. We are committed to helping Alberta's youth get ready to work safely and avoid becoming a statistic.



Traffic Control in Local Community

### Local Municipalities

We partnered with the County of Saddle Hills communities to address traffic issues related to our activity, and have proactively implemented a program to monitor and control traffic.



The Kananaskis 100 Relay Race

The Birchcliff Energizers finished 3rd in the corporate category and smashed their previous best (12:45:01) with a total time of 12:14:02.

### Support the Calgary Community

We maintain an annual fund to provide support to Calgary and surrounding area. Our 2018 corporate donations and sponsorships totaled \$1,038,203. This fund is managed by our Calgary Executive and Management team, they allocate at their discretion.

Annually, Birchcliff staff members participate by volunteering a day of their time for Feed the Hungry held at St. Mary's Hall in Calgary on Sundays. In addition, our staff is active in supporting the communities and organizations that matter most to them.

### Synergy Groups

We were a key participant in the Wapiti Area Synergy Partnership and are a strong on-going supporter of its initiatives. The partnership is designed to bring the community, industry and the regulator together to communicate and address the issues and concerns brought forward by community members regarding energy developments in and around their communities.



# EMPLOYEES



## LOOKING BACK

- Employees, managers and executives pursue rigorous annual review of personal and corporate goals and achievements.
- Support lifelong health and wellness of staff through our Fitness & Wellness Policy, Lunch and Learn Program focusing on all aspects of health and wellness, as well as numerous other initiatives.

## LOOKING FORWARD

- Continued investment in our employees via training and learning opportunities.
- Continue to hold corporate functions and family events to further strengthen our corporate culture.
- Birchcliff created an Equality and Advocacy Committee to provide a safe forum for women employed by Birchcliff to participate in a critical analysis of issues affecting women in the workplace and beyond. The Committee has a mandate to advocate for women's initiatives, equality and leadership, by providing inclusive and meaningful support, mentorship, education, volunteer and team building opportunities.

Birchcliff has a strong record of success, built on our core belief that outstanding people, combined with a great corporate culture, creates a winning environment. Birchcliff has exceptional assets, a strong balance sheet and a well-defined plan to significantly grow our company by the drill bit in the future. Our success is directly attributed to the contribution of every member of our team working together to increase shareholder value.

The following initiatives are helping us achieve great success in employee excellence:

### **Internal Mentoring Program**

This informal program encourages senior employees to work with less experienced employees in training and knowledge transfer, designating time to allow junior employees to learn valuable job and business skills. This helps foster a strong unified team and helps develop leadership skills. This also increases our internal talent and maintains employee engagement.

### **Employee and Family Education**

#### **Education funds and time off**

All employees are encouraged to participate in seminars, courses, and conferences to enhance their knowledge and skills that relate to Birchcliff's business. If an employee has a professional designation, Birchcliff will provide them with the support necessary to remain in good standing with their governing organization.

Managers and supervisors are encouraged to actively review the development of those reporting to them, with a goal of aligning the training and education of employees with Birchcliff's corporate goals.

Birchcliff will pay for approved training and provide employees with time off to attend training and educational development. As guidance, we expect 5-10 days per year of education and training per employee.

#### **Scholarships**

To encourage and promote higher education, the Birchcliff Scholarship Program awards up to \$6,000 per year for employees of Birchcliff whose dependent children are enrolled in an accredited educational institution as full-time students.

### **Field Advancement Program**

Our field leadership team has spent significant time this year to create progression guidelines for our field staff. This is to provide an understanding of where each staff member sits within our matrix, as well as create a "road map" for advancement within the organization. In addition, Birchcliff will be offering additional operator progression training through the Southern Alberta Institute of Technology.

### **Go Above and Beyond Through Supported Education Taken On Your Own Time**

Birchcliff encourages further education 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: (i) assist them in better understanding Birchcliff's business; or (ii) help them transition to a different role in Birchcliff's business.

### **AM Round Up**

An internal newsletter created by our in-house Investor Relations Analyst is sent to the entire company daily. This is a morning summary of oil & gas industry highlights and includes changes in the market. This communication keeps employees engaged in industry and industry activity, educates and provides up-to-date information on trends in an effort to keep employees informed of highlights, material changes or headlines in the industry.

### **Lunch & Learns**

We strive to utilize both third party and internal sources to present information on department functions, general information, directives and/or new technologies. This allows employees or departments to educate other coworkers on their job functions. This initiative creates a greater understanding and optimizing effectiveness for those that work with those teams or departments. In our organization it creates a huge sense of respect, involvement and support.

### **Service Awards**

Birchcliff recognizes employee commitment and loyalty with five and ten year service awards.

### **Giving Back**

On many occasions during the year Birchcliff sponsors programs and encourages staff to give back to the community. Some examples are United Way, Backpack program/Sandwich making for the Drop In Centre, Feed The Hungry, Christmas Family Hamper Program and Stars Air Ambulance.

### **Bench Strength**

As an intermediate-sized company, cross training is a key component of our success. At times there are fluctuations in work activities and projects. Having employees trained in other areas allows us to move an employee from one team to another team with efficiency, without business interruption, to better handle heavier workloads.

### **Annual Performance Review**

Birchcliff employees, managers and executives pursue a rigorous annual review of goals setting, achievement review, department and corporate analysis regarding our best assets, our employees.

Beginning in October, employees are asked to pursue self-discovery and analysis by reviewing their previous goals, successes, changes, annual development and deficiencies to internally optimize and understand their contribution to Birchcliff's success. Their supervisor then

takes the time to constructively consider the employee's contribution, goal setting and achievements to mentor them in the required direction to achieve both individual and corporate goals.

The objective and benefit to this process is it gives employees a voice and a chance to address their accomplishments, as well as concerns to the Executive Team. Employees receive feedback and goals to work towards for the coming year.

### **Additional Employee Health & Wellness Development**

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 health and wellness program is designed to help achieve a state of well-being by providing services focused on the promotion and maintenance of good health.

### **Fitness & Wellness Policy**

Employees of Birchcliff are reimbursed up to \$500 per calendar year for cost incurred pursuing fitness and wellness objectives.

### **Employee and Family Assistance Program ("EFAP")**

Birchcliff's employees and their dependent family members have access to a wide range of health and wellness services as part of our EFAP. Our EFAP includes counselling services and life smart coaching as part of our employee benefits package. The counselling services are available in person, by telephone or online and are designed to assist our employees in a supportive, caring and confidential environment through counselling for any challenge. The life smart coaching provides support for a variety of life balance, health and career issues, including coaching in the areas of: family care, financial, legal, nutrition, smoking cessation and career and pre-retirement planning.

# SAFETY



Birchcliff is committed to building a culture of unconditional dedication to safety.

We conduct our activities in a manner that safeguards our employees, contractors, representatives, the environment and the public at large. Under no circumstances will Birchcliff sacrifice the safety and wellbeing of personnel, the public, or the environment at our worksites.

## LOOKING BACK

- We developed and rolled out a new Health, Safety and Environment program. This program incorporates Birchcliff's high standards of business as well as the latest occupational, health and safety ("OH&S") requirements.
- We established a requirement for all of our contractors to have a Certificate of Recognition ("COR").
- Increased awareness and tracking of leading indicators, such as hazard recognition and near hit reporting.
- We trained on and put into practice safety leadership training. Ensuring cultural alignment and consistency when it comes to safety throughout the organization.

## LOOKING FORWARD

- Continue to manage our COR action plan items.
- We have initiated our "formal investigation training" program for our field leaders and will continue to roll out the program for other staff throughout 2019.
- We continue to implement new technology and initiatives that result in a better prepared and trained workforce.

## **MANAGING EMPLOYEE SAFETY**

Management, supervisors, employees and others engaged on our behalf are all responsible and accountable for the overall health, safety and environmental program requirements and performance.

All employees and contractors on company worksites are required to follow all health, safety and environmental rules and procedures, and are required to participate in pertinent health and safety training. Birchcliff promotes practices to proactively improve safety performance. We encourage employees, contractors and stakeholders to participate in these practices to support us in creating a culture of continuous improvement and unconditional dedication to safety.

## **LEARNING AND INCIDENT MANAGEMENT SYSTEM DEVELOPMENT**

In 2018, we implemented a new learning and incident management system. This system replaced our existing program and helped ensure consistent development and training for our employees. This system houses a series of training programs, tracks training certificates and supports competency management.

This program allows us to better categorize, track and conduct trend analysis for incidents, near hits, hazard identifications and positive job observations.

## **CERTIFICATE OF RECOGNITION**

We received our COR in 2010. Although not a requirement, we viewed this as an excellent example of our dedication and support for continuous improvement of our safety management program. As part of the COR program, we have brought together a COR Action Team with stakeholders at several levels of the organization to manage and identify areas of improvement as identified in the COR audit.

## **HEALTH, SAFETY, AND ENVIRONMENT MEETINGS**

In the field, each area meets on a monthly basis to discuss topics that impact the health and safety of the workplace. This includes reviews of safe work practices, elements of our emergency response plan, and incident reviews.

Our field leadership team meets quarterly to review HSE performance, new initiatives and upcoming regulatory changes.

At a corporate level, semi-annual meetings are held in our head office to review our HSE program and performance, as well as bi-monthly Operations HSE Management meetings, which discuss Birchcliff's related HSE positive observations or concerns by department.

In accordance with new OH&S regulations, we have implemented both a Corporate and Field Joint Health and Safety Committee. Both of these committees meet on a bimonthly or quarterly basis to discuss pertinent health and safety related issues.

## **INCIDENT REVIEWS**

All incidents, near hits and pro-active reports are communicated throughout the field and operations teams. All incidents or significant near hits are reviewed weekly with the Executive Team. For all incidents, corrective actions are put in place to reduce the likelihood of re-occurrence.

## **INTERNAL HSE PERFORMANCE TARGET**

HSE goals are included in the annual performance goals for operations personnel. These goals include: HSE meeting attendance, leading indicator reporting, inspections and contractor spot checks. We believe that these goals help increase awareness, which will in turn help to create a safer workplace.

## **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 helps outline Birchcliff's health and safety expectations.

## FROM THE FIELD

Jeff Rice, a Well Site leader for Birchcliff, has been with the company since 2006 and is based in the field. As a Birchcliff representative on rural well sites, he helps organize logistics, maintain site integrity, and run daily operations. A big part of those operations, he says, is the focus on safety, proper management, and leadership – a focus that the entire company takes very seriously.

"It's mandatory for the leads and supervisors to stay current," he says, in regards to the safety courses that must be renewed every three years, and with respect to safety leadership training that takes place annually. "Even the people in Calgary [the executives and managers] do it."

Birchcliff is committed to providing its workers with necessary training and support, which Jeff then emphasizes in the field. "There are frequent spot checks...[but] the most important thing is keeping everybody educated. Not only with the safety courses, but on-site reinforcement and drills." Furthermore, he knows that the head office will always back him up.

**"Their door is always open. There's no trouble getting heard, or getting what we need."**

With plenty of firsthand experience on the sites, Jeff vouches for the company's reputation for excellence in the area. He points to their environmental policies as evidence, explaining how there are no shortcuts: "They're adamant about following regulations."

He also mentions Birchcliff's contributions to local municipalities, such as their maintenance of the road system. "Any roads that we use, we grade and clear them, and the locals use them, too," Jeff says. "We've gotten bigger, but the company still tries to do things the right way."

## IMPROVING CONTRACTOR SAFETY

Our contractors are an essential part of our organization and often conduct our highest risk work. Over the last several years, we have been working to continuously improve our contractor management program. In an effort to support our Contractor Management Program, Birchcliff hosts an annual joint contractor HSE meeting.

Birchcliff has been a continuous supporter of the creation and implementation of Energy Safety Canada's Common Safety Orientation ("CSO"). We have embraced the CSO and have requested that any employee traveling to the field must have a valid certificate by June 1, 2019. All contractors working on a Birchcliff site must have also taken the training.

## CONTRACTOR REGISTRY

We require all of our contractors to register with a third-party safety data management program, ComplyWorks. 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.

## CONTRACTOR PRE-QUALIFICATION

We require that all of our contractors working in the field attain and maintain their COR. This ensures that contractors we are hiring not only have a safety program, but also are using and proactively managing it.

## EMERGENCY PREPAREDNESS AND RESPONSE

We maintain effective emergency response plans for all of our operations. We have a regulatory requirement to conduct one full-scale exercise every three years, but in an effort to go above and beyond – and to ensure that our teams are trained and prepared for potential emergencies – we conduct these annually. We also conduct communications exercises, tabletops and corporate role specific training annually.



We have also brought in new technology to support our response and training. We are using a cellular phone-based application to allow for immediate notification and monitoring of an emergency. This also includes a web-based dashboard in our emergency command centers.

## ASSET INTEGRITY

### Pressure Equipment

Birchcliff follows the requirements of the Pressure Equipment Rules regulated by Alberta Boilers Safety Association, and is committed to the safe design and operation of all of its pressure equipment. Through our employees, contractors and 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 that commitment to safety and to continually improve the program's effectiveness. Our PEIM program is reviewed by the regulator on a regular basis and our performance continues to be ranked high compared to our peers. This is due to our effective planning of required inspections and training of our personnel – driven by the highly involved senior management team.

### Pipelines

Birchcliff designs, installs and operates pipelines in such a way as to maintain the value of the pipeline assets, to protect the people and the environment, and to ensure compliance with the regulatory requirements (primarily CSA Z662). Birchcliff currently has over 600 licensed pipelines, as small as 33 mm (1.5"), up to 406 mm (16") and in total measuring 1,040 km. The risk profile for each pipeline segment is evaluated on a continuous basis using current corrosion monitoring data to identify any potential risks to the system and ensure the network has adequate protection. Additionally, the risk profile for every pipeline segment is re-evaluated annually. In the last three years, Birchcliff has produced a total of ~3.06 million m<sup>3</sup> (19,289,382 barrels) of combined produced water, oil, and condensate liquid volumes through our pipelines with only two leakage events. This released liquid volume amounts to only 80.8 m<sup>3</sup> or 0.000026% of the total fluid volume shipped in that period and was promptly remediated leaving no lasting environmental impact.

# PERFORMANCE SUMMARY

	UNIT	2016	2017	2018
<b>REGULATORY COMPLIANCE</b>				
External Regulatory Inspections	Number/yr	13	36	27
<b>HEALTH &amp; SAFETY</b>				
Lost Time Injury Frequency – Employee	LTI x 1 MM / exposure hrs.	0	0	0
Lost Time Injury Frequency – Contractor	LTI x 1 MM / exposure hrs.	0.52	1.22	0.96
Lost Time Injury Frequency – Combined	LTI x 1 MM / exposure hrs.	0.52	1.22	0.96
Total Recordable Incident Frequency – Employee	# x 200,000 / exposure hrs.	0	0	0
Total Recordable Incident Frequency – Contractor	# x 200,000 / exposure hrs.	0.37	0.73	1.14
Total Recordable Incident Frequency – Combined	# x 200,000 / exposure hrs.	0.19	0.73	1.14
Fatalities – Employee and Contractor	Number/yr	0	0	0
<b>ENVIRONMENT</b>				
Direct GHG Emissions	CO <sub>2</sub> e/yr	n/a	281,589	317,805
Direct GHG Intensity	tCO <sub>2</sub> e/boe	n/a	0.01135	0.01129
Flared Gas	e <sup>3</sup> m <sup>3</sup> /yr	n/a	3,820.70	3,338.71
Nitrogen Oxides (NO <sub>x</sub> )	Tonnes	n/a	570.94	633.38
Carbon Monoxide (CO)	Tonnes	n/a	1,086.73	1,235.03
Volatile Organic Compounds (VOCs)	Tonnes	n/a	317.62	421.84
Total Particulate Matter (PM Total)	Tonnes	n/a	14.83	20.65
Fresh Water Withdrawal	m <sup>3</sup> /yr	100,712	599,448	391,845
Non-fresh Water Withdrawal	m <sup>3</sup> /yr	15,552	77,811	24,868
Solid Wastes Disposed	Tonnes	19,523	34,432	24,155
Liquid Wastes Disposed	m <sup>3</sup>	84,602	80,944	65,401
Wells Abandoned	Number of wells	6	4	6
Reclamation Certificates Received	Count	5	8	0
Alberta Licensee Liability Rating	AER rating	11.7	17.1	20.2
Reportable Releases	Count	4	2	1
Total Volume of Reportable Releases	m <sup>3</sup>	603.3	114.9	2.34
<b>WORKFORCE</b>				
Female Permanent Employees	Percent	33	34	32
Female Management	Percent	3.8	4	4.8
Female Senior Leadership	Percent	0	0	0
Voluntary Turnover	Percent	2	8	12
Full-Time Employee Workforce	Count	183	172	185
Part-Time Employee Workforce	Count	5	6	6
Full-Time Contractor & Temporary Workforce	Count	23	27	27
<b>COMMUNITIES</b>				
Scholarship Awards	CAD	180,000	204,000	171,000
Community Investment	CAD	1,401,440	913,706	1,317,619
<b>ECONOMIC</b>				
Average Daily Sales Volumes	boe/d	49,236	67,963	77,096
Royalties – Percent of Sales (after transportation)	Percent	6	5	5
Total Net Capital Expenditures	CAD\$000s	762,030	276,125	298,018
Production Expense	CAD/boe	4.18	4.45	3.52
General & Administrative Expense	CAD/boe	1.19	1.07	0.87
Adjusted Net Profit (Loss)	CAD\$000s	(24,335)	(46,980)	102,212

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## ABBREVIATIONS AND DEFINITIONS

<b>bbl</b>	barrel	<b>m<sup>3</sup></b>	cubic metres
<b>boe</b>	barrel of oil equivalent	<b>m<sup>3</sup>oe</b>	cubic metres of oil equivalent
<b>boe/d</b>	barrel of oil equivalent per day	<b>MMboe</b>	millions of barrels of oil equivalent
<b>CO<sub>2</sub></b>	carbon dioxide	<b>Mcf</b>	thousand cubic feet
<b>CO<sub>2</sub>e</b>	carbon dioxide equivalent	<b>mm</b>	millimetre
<b>e<sup>3</sup>m<sup>3</sup></b>	thousand cubic meters	<b>MM</b>	millions
<b>FD&amp;A</b>	finding, development and acquisition	<b>NGL</b>	natural gas liquids
<b>GAAP</b>	generally accepted accounting principles	<b>NO<sub>x</sub></b>	nitrogen oxides
<b>GHG</b>	greenhouse gas	<b>SO<sub>2</sub></b>	sulfur dioxide
<b>H<sub>2</sub>S</b>	hydrogen sulfide	<b>SO<sub>x</sub></b>	sulfur oxides
<b>km</b>	kilometre	<b>tCO<sub>2</sub>e</b>	tonnes of carbon dioxide equivalent

## ADVISORIES

### CONVERSIONS

Boe amounts have been calculated by using the conversion ratio of 6 Mcf of natural gas to 1 bbl of oil. M<sup>3</sup>oe amounts have been converted by using a conversion ratio of 6.2898 bbl of oil to 1 m<sup>3</sup> of oil. Natural gas is converted using a factor of 0.971 m<sup>3</sup>oe per e<sup>3</sup>m<sup>3</sup> natural gas. 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. These conversions are based on the 2019 AER Natural Gas Processing CCIR Reporting Guidance. 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 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.

### NON-GAAP MEASURES

This Corporate Responsibility Report uses "adjusted funds flow" and "total debt". These measures do not have standardized meanings prescribed by GAAP and therefore may not be comparable to similar measures presented by other companies where similar terminology is used. Management believes that these non-GAAP measures assist management and investors in assessing Birchcliff's profitability, liquidity and overall performance.

For further details on these non-GAAP measures, please see Birchcliff's 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).

### OIL AND GAS METRICS

This Corporate Responsibility Report contains metrics commonly used in the oil and natural gas industry, including FD&A costs. These oil and gas metrics do not have any standardized meanings or standard methods of calculation and therefore may not be comparable to similar measures presented by other companies where similar terminology is used and should not be used to make comparisons. Such metrics have been included herein to provide readers with additional measures to evaluate Birchcliff's performance; however, such measures are not reliable indicators of Birchcliff's future performance and may not compare to Birchcliff's performance in previous periods and therefore such metrics should not be unduly relied upon. For information on how FD&A costs are calculated, please see "Advisories – Oil and Gas Metrics" in Birchcliff's most recent Annual Report, a copy of which is available on [www.birchcliffenergy.com](http://www.birchcliffenergy.com) and on [www.sedar.com](http://www.sedar.com).

### RESERVES

The reserves information contained herein are estimates only and are based upon reports prepared for Birchcliff by two independent qualified reserves evaluators, Deloitte LLP and McDaniel & Associates Consultants Ltd., on 100% of Birchcliff's light crude oil and medium crude oil (combined), conventional natural gas, shale gas and NGLs reserves effective December 31, 2018. Such evaluations

were prepared in accordance with the standards contained in the Canadian Oil and Gas Evaluation Handbook (the "**COGE Handbook**") and National Instrument 51-101 – Standards of Disclosure for Oil and Gas Activities ("**NI 51-101**"). Further information regarding the Corporation's reserves, including the uncertainties and variable factors and assumptions on which such reserves estimates are based, can be found in the Corporation's Annual Information Form for the financial year ended December 31, 2018, a copy of which is available on [www.birchcliffenergy.com](http://www.birchcliffenergy.com) and on [www.sedar.com](http://www.sedar.com).

Certain terms used herein are defined in NI 51-101 and the COGE Handbook and, unless the context otherwise requires, shall have the same meanings in this Corporate Responsibility Report as in NI 51-101 or the COGE Handbook, as the case may be.

## **FORWARD-LOOKING INFORMATION**

Certain statements contained in this Corporate Responsibility Report constitute forward-looking statements and information (collectively referred to as "forward-looking information") within the meaning of applicable Canadian securities laws. Such forward-looking information relates to future events or Birchcliff's future performance. All information other than historical fact may be forward-looking information. Such forward-looking information is 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. This information involves 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 information. Birchcliff believes that the expectations reflected in the forward-looking information are reasonable in the current circumstances but no assurance can be given that these expectations will prove to be correct and such forward-looking information included in this Corporate Responsibility Report should not be unduly relied upon.

In particular, this Corporate Responsibility Report contains forward-looking information relating to the following: Birchcliff's plans, operations, focus, objectives, strategies, opportunities, priorities and goals (including statements in respect of timing of future reporting, innovation, development of an Environmental Management Program, management of the changing regulatory landscape, GHG emission reduction initiatives and future generation of

EPCs, site reclamation, securing water and future water use, local community initiatives, Indigenous relations and community engagement, Birchcliff's 2019 health, safety and environmental goals, implementation of a new formal investigation training program and Birchcliff's investment in our employees and training initiatives); estimates of reserves and FD&A costs; the statement that Birchcliff continues to look for and develop new technology, systems and processes that will help improve efficiency, reduce our environmental footprint and create a safer work environment; and the statement that Birchcliff remains ready to supply the world with clean natural gas for decades to come. 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 estimates 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 information as a result of both known and unknown risks and uncertainties. The assumptions on which the forward-looking information are based and the risk factors and uncertainties that could cause Birchcliff's actual results to differ materially are discussed under "*Advisories – Forward-Looking Information*" 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 information provided in this Corporate Responsibility 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 information contained in this Corporate Responsibility Report is expressly qualified by the foregoing cautionary statements. The forward-looking information contained in this Corporate Responsibility Report is made as of the date of this Corporate Responsibility Report. Birchcliff is not under any duty to update or revise any of the forward-looking information except as expressly required by applicable securities laws.

## 2018 CORPORATE RESPONSIBILITY REPORT

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