



CATHEDRAL

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CATHEDRAL ENERGY SERVICES LTD.

ANNUAL INFORMATION FORM

For the year ended December 31, 2018

Dated March 7, 2019

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GLOSSARY OF TERMS

The following are defined terms used in this Annual Information Form: "**ABCA**" means the *Business Corporations Act* (Alberta), as amended, including the regulations promulgated thereunder;

"**Arrangement**" means the plan of arrangement pursuant to Section 193 of the ABCA, on the terms and conditions set forth in the Plan of Arrangement whereby the Trust converted into a growth-oriented corporation;

"**Arrangement Agreement**" means the amended and restated arrangement agreement dated November 16, 2009 among the Trust, Cathedral, SemBioSys, 1491265 Alberta Ltd. and New SemBioSys;

"**Board of Directors**" or "**Board**" means the board of directors of Cathedral;

"**Cathedral Energy Services Inc.**" means Cathedral Energy Services Inc., a corporation incorporated under the laws of Delaware;

"**Cathedral**" or "**Corporation**" or "**Company**" means Cathedral Energy Services Ltd.;

"**Common Shares**" means common shares in the capital of Cathedral;

"**Declaration of Trust**" means the declaration of trust dated as of June 24, 2002 among Rod Maxwell, H. S. Hartley and Jay Zammit, as the initial Trustees, as amended, who created the Trust;

"**DPI**" means Directional Plus International Ltd., a corporation incorporated under the laws of Barbados;

"**EM**" means Electro Magnetic;

"**EM-MWD**" means Electro Magnetic - Measurement While Drilling;

"**FUSION™ MWD**" means Cathedral's proprietary customizable modular MWD platform which is designed with the choice of EM transmission, positive mud pulse transmission or dual telemetry transmission;

"**G1**" means the first generation EM-MWD;

"**G2**" means the second generation EM-MWD;

"**G3**" means the third generation EM-MWD;

"**LP**" means linear pulse;

"**LWD**" means Logging-While-Drilling;

"**MWD**" means Measurement-While-Drilling;

"**New SemBioSys**" means 1491277 Alberta Ltd., a corporation incorporated under the ABCA;

"**Plan of Arrangement**" means the plan of arrangement in the form and content set forth in Schedule "A" to the Arrangement Agreement;

"**Preferred Shares**" means the preferred shares in the capital of Cathedral;

"**RDS**" means the Remote Drilling System;

"**RPM**" means revolutions per minute;

"**SemBioSys**" means SemBioSys Genetics Inc., a corporation incorporated under the laws of Canada;

"**Shareholders**" means the holders from time to time of Common Shares;

"**Trust**" means Cathedral Energy Services Income Trust, the predecessor entity to Cathedral, an open-ended mutual fund trust that was established under the laws of Alberta pursuant to the Declaration of Trust;

"**Trustees**" means the former trustees, from time to time, of the Trust;

"**TSX**" means the Toronto Stock Exchange;

"**TSXV**" means the TSX Venture Exchange; and

"**USD**" means U.S. dollars.

FORWARD LOOKING INFORMATION

This Annual Information Form ("**AIF**") contains certain forward-looking statements and forward-looking information (collectively referred to herein as "**forward-looking statements**") within the meaning of applicable Canadian securities laws. All statements other than statements of present or historical fact are forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "anticipate", "achieve", "believe", "plan", "intend", "objective", "continuous", "ongoing", "estimate", "outlook", "expect", "may", "will", "project", "should" or similar words, including negatives thereof, suggesting future outcomes.

In particular, this AIF contains forward-looking statements relating to: projected capital expenditures and commitments and the financing thereof; geographic allocation of equipment; ability to remain competitive; tax provisions are adequate; access to tax pools and investment tax credits; intention to continue relationships with customers; expected benefits from capital expenditures; amounts paid pursuant to the settlement of litigation; ability to compete and expand; benefits associated with in-house MWD and mud motor design; benefits associated with financial results, including cost reductions; activity levels; technology advances, including anticipated future developments of Cathedral's technology; timing of bringing technology to market; benefits of focusing on U.S. market; intent to remain active in Northeast U.S.; deploying equipment to other Cathedral U.S. locations facilitates further growth opportunities in those areas in addition to potentially gaining overall cost and organizational efficiencies; introduction of products into the market in 2019; intention to provide services similar to those provided by entities with rotary steerable systems; availability of insurance coverage; future dividend determinations; and effects of proposed changes to environmental regulations.

Cathedral believes the expectations reflected in such forward-looking statements are reasonable as of the date hereof but no assurance can be given that these expectations will prove to be correct and such forward-looking statements should not be unduly relied upon.

Various material factors and assumptions are typically applied in drawing conclusions or making the forecasts or projections set out in forward-looking statements. Those material factors and assumptions are based on information currently available to Cathedral, including information obtained from third party industry analysts and other third party sources. In some instances, material assumptions and material factors are presented elsewhere in this AIF in connection with the forward-looking statements. You are cautioned that the following list of material factors and assumptions is not exhaustive. Specific material factors and assumptions include, but are not limited to:

- the performance of Cathedral's business
- impact of economic and social trends;
- oil and natural gas commodity prices and production levels;
- capital expenditure programs and other expenditures by Cathedral and its customers;
- the ability of Cathedral to retain and hire qualified personnel;
- the ability of Cathedral to obtain parts, consumables, equipment, technology, and supplies in a timely manner to carry out its activities;
- the ability of Cathedral to maintain good working relationships with key suppliers;
- the ability of Cathedral to retain customers, market its services successfully to existing and new customers and reliance on major customers;
- risks associated with technology development and intellectual property rights;
- obsolescence of Cathedral's equipment and/or technology
- the ability of Cathedral to maintain safety performance;
- the ability of Cathedral to obtain adequate and timely financing on acceptable terms;

- the ability of Cathedral to comply with the terms and conditions of its credit facility;
- the ability to obtain sufficient insurance coverage to mitigate operational risks;
- currency exchange and interest rates;
- risks associated with future foreign operations
- risks associated with acquisitions, dispositions and business development efforts;
- environmental risks;
- risks related to legal proceedings;
- business risks resulting from weather, disasters and related to information technology
- changes under governmental regulatory regimes and tax, environmental and other laws in Canada and the United States ("U.S."); and
- competitive risks.

Forward-looking statements are not a guarantee of future performance and involve a number of risks and uncertainties some of which are described herein. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause Cathedral's actual performance and financial results in future periods to differ materially from any projections of future performance or results expressed or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, the risks identified by Cathedral's management discussion and analysis for the year ended December 31, 2018 (the "**MD&A**") and contained herein under the heading "Risk Factors". Any forward-looking statements are made as of the date hereof and, except as required by law, Cathedral assumes no obligation to publicly update or revise such statements to reflect new information, subsequent or otherwise.

All forward-looking statements contained in this AIF are expressly qualified by this cautionary statement. Further information about the factors affecting forward-looking statements is available in Cathedral's current MD&A and annual report which have been filed with Canadian provincial securities commissions and are available on www.sedar.com.

CATHEDRAL ENERGY SERVICES LTD.

Name, Address and Incorporation

Cathedral Energy Services Ltd. is a corporation governed by the ABCA and was amalgamated pursuant to a Certificate of Amalgamation filed on December 18, 2009 in connection with the Arrangement. Prior thereto, Cathedral's predecessor entity, the Trust, was an open-ended mutual fund trust governed by the laws of the Province of Alberta and created pursuant to the Declaration of Trust. The principal and head office of Cathedral is located at 6030 – 3rd Street S.E., Calgary, Alberta, T2H 1K2. The registered office of Cathedral is located at 1600 Dome Tower, 333 - 7th Avenue S.W., Calgary, Alberta, T2P 2Z1.

The Common Shares are listed and posted for trading on the TSX under the trading symbol "CET".

Inter-Corporate Relationships

The following table provides the name, the percentage of voting securities owned by Cathedral and the jurisdiction of incorporation of Cathedral's sole subsidiary, either direct or indirect, as at the date hereof.

	Percentage of securities held (directly or indirectly)	Jurisdiction of Incorporation
Cathedral Energy Services Inc.	100%	Delaware

GENERAL DEVELOPMENT OF THE BUSINESS

Three Year History

2016

- On January 27, 2016, Cathedral announced it again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. The amended credit facility had less restrictive financial covenants than the prior facility terms. The amended credit facility provided for credit availability of \$45 million, representing a \$15 million decrease from the prior amended credit facility.
- On January 27, 2016, Cathedral announced that, as part of strategy to deal with the current low commodity price environment and current uncertainty in the oilfield services sector, its staff had accepted additional wage rollbacks effective January 1, 2016. Aggregate wage and cash benefit rollbacks for 2015 and 2016 ranged from 17% to 28% for staff and management and up to 50% for field positions. Cathedral's full-time employee head count had been reduced from 716 at the end of December 2014 to 356 at the end of December 2015. Cathedral also reduced its number of field sub-contractors during 2015 which has traditionally been a significant component of the Company's workforce. Selling, general and administrative expenses excluding bad debts, non-cash depreciation and share-based compensation had been reduced 20% from December 31, 2014 to December 31, 2015 resulting from employee attrition, wage and benefit rollbacks and other cost cutting measures.
- Cathedral further announced on January 27, 2016, that one of its U.S. clients had filed a statement of claim against Cathedral's U.S. subsidiary, Cathedral Energy Services Inc., indicating damages in the amount of USD \$3.7 million in connection with the previously disclosed allegation of a down-hole drilling incident made by such client. Cathedral has vigorously defended this action.

- On January 27, 2016, Cathedral also announced that it had adopted a minimal capital expenditure program for 2016 which was to be reviewed quarterly. Cathedral's 2016 capital budget was \$1 million with \$0.2 million for growth capital and \$0.8 million for replacement or maintenance capital. The growth additions were primarily for additional pulse MWD systems and the maintenance capital was primarily to replace items which have been lost-in-hole. Cathedral intended to finance its 2016 capital budget from cash flow from operations and proceeds from redundant asset sales or assets lost-in-hole.
- On February 29, 2016, Cathedral announced it had closed the sale of its wholly-owned Barbados subsidiary, DPI. DPI held Cathedral's investment in Venezuela and this sale completed Cathedral's exit from carrying on a business in Venezuela. Net proceeds from this sale were nominal. In 2013/2014 Cathedral recorded a write-down of its Venezuela investment in the amount of \$12.9 million. As a result of the sale, there was a non-cash gain on sale of DPI of approximately \$10.8 million. Cathedral also announced that, as a result of the sale, its working capital was expected to increase by approximately \$12.3 million due to previously recorded liabilities being assumed by the purchaser of DPI.
- On July 4, 2016, Cathedral announced it had again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. The amended credit facility has less restrictive financial covenants than the prior facility terms, and the total available credit facility was reduced to \$35 million, representing a \$10 million decrease from the prior amended credit facility.
- On August 9, 2016, Cathedral announced it had entered into a Settlement Agreement and Release (the "**FLSA Settlement Agreement**") in respect of two collective actions (the "**Collective Actions**") that were filed against Cathedral's wholly owned U.S. subsidiary, Cathedral Energy Services Inc., in November 2014 and April 2015 in Houston, Texas and Denver, Colorado, respectively, by former employees of Cathedral. In both Collective Actions the employees and consultants (collectively "**Claimants**") alleged that they were improperly classified as exempt under the *Fair Labour Standards Act* ("**FLSA**") and therefore entitled to unpaid overtime or additional compensation because overtime was improperly calculated. Following August 2016, additional claimants joined the Collective Actions. Legal actions involving similar alleged violations were filed in the U.S. against a number of other oilfield service companies. Cathedral denied the allegations, and vigorously defended the litigation leading up to entering into the Settlement Agreement. The FLSA Settlement Agreement provided a mechanism for finally resolving and releasing the claims for all Claimants. Under the terms of the FLSA Settlement Agreement, the parties established a settlement fund of up to USD \$3.4 million. The final settlement fund amount was based on the number of Claimants that participate in the settlement and Cathedral estimates such amount will be approximately USD \$2.9 million. The FLSA Settlement Agreement contemplated structured quarterly payments which are subject to Cathedral's financial condition and Cathedral not being in violation of its credit facility covenants. All claims in both Collective Actions have been settled and the United States District Court for the Southern District of Texas, Houston approved the settlement of the Houston Action on August 8, 2016. Any payments made by Cathedral pursuant to the FLSA Settlement Agreement were subject to the approval of Cathedral's banking syndicate.
- On August 10, 2016, Cathedral announced it had again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. The amended credit facility provided for credit availability of \$33 million, representing a \$2 million decrease from the prior amended credit facility and provided for a further reduction to \$30 million by September 2016. The

lending syndicate has required Cathedral provide a plan by September 15, 2016 to get the amended credit facility within more typical industry covenant levels based on cash flow the business is able to generate in this current environment. This plan was intended to be considered in the context of extending the maturity of the amended credit facility beyond August 2017 or entering into a new credit facility agreement with a term extending beyond August 2017.

- On August 29, 2016, Cathedral announced it had again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. Export Development Canada joined Cathedral's banking syndicate, resulting in credit facility availability of \$36 million, representing a \$3 million increase from the prior facility. The amended credit facility provided for reductions to the total credit facility availability to \$33 million by December 31, 2016, and \$28 million by March 31, 2017. Export Development Canada's support of Cathedral was part of a previously announced program, whereby Export Development Canada earmarked financial capacity for Canadian small and medium enterprises in the oil and gas sector. Cathedral was able to demonstrate to Export Development Canada that they have a strong export mandate and a business plan to manage through the current sector challenges and achieve future growth. The maturity date of the amended credit facility was extended to November 2017.
- On August 29, 2016, Cathedral also announced it had initiated a process to identify, examine and consider a range of strategic alternatives available to Cathedral with a view to maximizing shareholder value, including, but not limited to: debt and/or equity financings, joint venture or partnership transactions, the sale of Cathedral or a portion of Cathedral's assets, a merger or other such options as may be determined by the Board of Directors to be in the best interests of Cathedral and Shareholders. Cathedral established a Special Committee of independent directors in order to consider strategic alternatives. The Special Committee retained GMP FirstEnergy (previously FirstEnergy Capital Corp.) as its financial advisor in connection with this review of strategic alternatives.
- On December 19, 2016, Cathedral announced that it entered into a definitive agreement to sell its flowback and production testing assets for total cash consideration of \$17.8 million. The disposition was expected to result in an estimated loss on sale for accounting purposes of approximately \$6.5 million. GMP FirstEnergy acted as exclusive financial advisor to Cathedral in this sale process.
- On December 22, 2016, Cathedral again negotiated certain amendments to its credit facility with The Bank of Nova Scotia, National Bank of Canada and Export Development Canada, extending the maturity date of the amended facility to February 10, 2018.
- During 2016, the Company invested \$899,000 in equipment, excluding non-cash capital lease additions.

2017

- In Q1 2017, the Company entered into a settlement with one of its U.S. clients related to a down-hole drilling incident in December 2013. The terms of this settlement are confidential. The settlement is payable based on an initial payment in 2017 Q1 and the remainder in quarterly installments concluding in 2021.
- During Q1 2017, Cathedral completed the previously announced sale of its flowback and production testing assets. The net proceeds of the sale were \$17.3 million and were used to reduce the amount owing under Cathedral's amended credit facility along with supplementing working

capital and capital investment required to support Cathedral's growing directional drilling business. Post-closing of the disposition, Cathedral's bank debt was approximately \$11.3 million.

- On January 17, 2017, Cathedral announced it has again negotiated certain amendments to its credit facility with the Bank of Nova Scotia and Export Development Canada. Under the amended credit facility Cathedral's total credit facility availability is \$23 million (comprised of an \$18 million revolving term facility and a \$5 million swingline facility), representing a \$10 million reduction from the prior credit facility, and the maturity date of the facility has been extended to December 2018. The amended credit facility bore interest at the bank's prime rate plus 0.50% to 5.00% or bankers' acceptance rate plus 1.75% to 6.25% with interest payable monthly. Interest rate spreads for the facility depends on the level of funded debt to EBITDA (earnings before interest on long-term debt, taxes, depreciation, amortization and non-cash compensation expense – as defined in the amended credit agreement). The amended credit facility had certain restrictions consistent with the prior facilities, including, but not limited to, the paying of dividends, utilization of the accordion feature, enhanced lender financial reporting and a cap on any litigation settlement payments without lender approval. Under this amendment, any payments made by Cathedral pursuant to the FLSA Settlement Agreement exceeding USD \$200,000 were subject to the approval of Cathedral's banking syndicate.
- On February 15, 2017, Cathedral completed a bought deal offering of 11,500,000 Common Shares at a price of \$1.12 per share (including 1,500,000 Common Shares issued pursuant to the exercise in full of the over-allotment option granted to the underwriter) for gross proceeds of \$12.9 million. The bought deal offering was oversubscribed by investors resulting in the Company increasing the offering size. The offering was done by way of short form prospectus in all provinces of Canada other than Quebec and on a private placement basis in the United States. GMP FirstEnergy acted as sole underwriter for the bought deal offering. Cathedral also completed a private placement on February 15, 2017, pursuant to which certain directors and officers of Cathedral purchased a total of 1,116,071 Common Shares at a price of \$1.12 per share for gross proceeds of approximately \$1.25 million. The aggregate gross proceeds to Cathedral of both offerings were approximately \$14.1 million. The net proceeds were used to repay bank indebtedness, and to fund ongoing working capital requirements driven by increased business activity, increase capacity through funding equipment upgrades and capital expenditures, and for other general corporate purposes.
- On December 12, 2017, Cathedral announced that it was entering into a new credit facility with Alberta Treasury Branches and Export Development Canada. Under this new credit facility, Cathedral's total credit availability is \$20 million (consisting of a \$5 million operating facility and a \$15 million extendible revolving credit facility), representing a \$3 million reduction from the prior credit facility. The maturity date of the facility is December 31, 2019. The key financial covenants associated with the new facility include a maximum Funded Debt to Bank EBITDA Ratio (as defined in the facility) of 3.0 to 1.0 and an Interest Coverage Ratio (as defined in the facility) of not less than 2.50 to 1.0, both of which are calculated quarterly. The new credit facility has certain restrictions consistent with the prior facilities, including, but not limited to, the paying of dividends and enhanced lender financial reporting.
- In late 2017 Cathedral's Board of Directors approved funding for Cathedral to develop a next generation Dual Telemetry (DT) MWD tool. The proposed tool design will incorporate a number of improvements over Cathedral's existing FUSION DT platform and over competitive products. A by-product of this technology development program is improvements to Cathedral's standalone electromagnetic (EM) and pulse technology platforms. The launch of the new DT platform is anticipated to occur in 2019.

2018/2019

- In January 2018 a capital budget of \$10 million plus re-investment of proceeds on disposition of equipment was approved by Cathedral's Board of Directors. The \$10 million included a carry forward of \$7.6 million to be expended in 2018. In 2018 Q1, Cathedral announced expanding its anticipated 2018 capital budget to \$14.6 million, which included \$1.4 million for intangible additions related to technology developments and \$3.3 million of equipment commitments from 2017 carried forward to 2018. In 2018 Q2, Cathedral announced that its 2018 capital budget was further expanded to \$18.9 million, which included \$1.6 million for intangible additions. The intangible additions budget was expanded to \$1.7 million in Q3.
- In 2018 Q1, Cathedral was approved for financial contribution from the Government of Canada under its Industrial Research Assistance Program ("IRAP") in connection with Cathedral's next generation DT MWD project. The IRAP grant reimburses Cathedral for certain new technology development costs and has allowed Cathedral to hire additional technical resources and expand the DT project scope. The IRAP grant was initially approved at \$300,000 over 2 years but was expanded to \$500,000 in late 2018.
- In October 2018, Cathedral closed its Washington, Pennsylvania (PA) district office and shop. Cathedral intends to remain active in the U.S. Northeast market; however, both motors and MWD equipment for the area will now be provisioned from its Oklahoma City, Oklahoma facility. Cathedral's MWD equipment for all of its U.S. operations has been provided from Oklahoma City since 2016. This decision was largely based on the lower activity levels in the Northeast U.S. compared to other regions Cathedral operates. In addition, deploying the PA equipment to other Cathedral U.S. locations facilitates further growth opportunities in those areas in addition to potentially gaining overall cost and organizational efficiencies.
- In 2018, Cathedral upgraded 92 drilling motors with power sections which enabled it to deploy an equivalent number of next generation 7" and 7-1/4" CLAW™ high performance drilling motors. Substantially all of this equipment was targeted at the U.S. market. In addition, in 2018 Cathedral introduced a new 5-5/8" motor configuration to be used with Rotary Steerable System ("RSS") applications.
- In late 2018, Cathedral deployed its first series of Cathedral Linear Pulser tools as an add-on to its FUSION MWD platform. This technology is anticipated to be Cathedral's main MWD pulse telemetry platform going forward and is expected to reduce deployment and repair costs compared to Cathedral's current third party adapted High Temperature Retrievable linear pulse tool. In 2018, the Company also continued to deploy upgrades to its existing Dual Telemetry MWD tool in its operations which are aimed at improving the Company's MWD equipment performance and reliability.
- On November 8, 2018 Cathedral extended its credit facility to December 31, 2020 under the same terms and conditions as the prior credit facility. As at December 31, 2018, Cathedral had \$7.0 million drawn on the revolving portion and \$188,000 drawn on the operating portion of its credit facility.
- On November 28, 2018, Cathedral announced the retirement of Michael Hill from the position of Chief Financial Officer and the appointment of Scott MacFarlane in the same role on an interim basis.

- In December 2018, a capital budget for 2019 of \$5.7 million was approved by the Board of Directors. The capital budget is comprised of \$4.0 million in equipment additions plus additional re-investment of proceeds on disposition of equipment, and \$1.7 million of intangible additions related to technology developments. In addition to the above budget amount, subject to operating results and industry outlook, equipment lost-in-hole will be replaced and funded from the proceeds received.

For further details, please see "*Description of the Business and Operations*" below.

DESCRIPTION OF THE BUSINESS AND OPERATIONS

Business of Cathedral

General

Cathedral is engaged in the business of providing directional drilling services to oil and natural gas companies in western Canada and the U.S. Cathedral carries on its activities in Canada and the U.S. under the name "Cathedral Energy Services". In 2017, Cathedral divested its Flowback and Production Testing division. See "*General Development of the Business - Three Year History - 2017*" for further details.

Directional Drilling

Cathedral's provides horizontal and directional drilling services. These services are provided in conjunction with the use of drilling rigs provided by drilling contractors who deal independently with Cathedral's customers.

Directional drilling is the controlled drilling of a wellbore to a prescribed bottom hole location. Horizontal drilling involves drilling a vertical wellbore with a horizontal leg extending from the vertical wellbore. By drilling horizontally into a formation, contact with the hydrocarbon bearing formation is significantly increased, allowing for substantially better production of hydrocarbons from the reservoir. In situations where low reservoir permeability exists, horizontal drilling allows operators to increase pay zone exposure resulting in increased production and recovery. As a result of advancements in well completion technologies by the way of combining horizontal drilling with multi-stage fracturing, the percentage of horizontal wells drilled in Canada and the U.S. has increased significantly.

Horizontal drilling can also occur from an existing vertical well as an economical method of increasing the recovery from an existing well. Through utilizing the existing wellbore, the costs of drilling down to the "kick-off point" (point where direction deviates) are saved, while the existing surface facilities may be re-utilized. The efficiency of drilling horizontal re-entry wells increases dramatically as the depth of the horizontal target increases.

Horizontal and directional drilling operations require three distinct and separate systems to steer the drill bit below the earth's surface to a pre-determined target – a mud motor, MWD technology and may include LWD systems such as gamma ray and resistivity systems.

The use of horizontal and directional drilling equipment allows for previously unattainable bottom hole targets to be accessed. In addition, horizontal and directional drilling is used when:

- (a) it is necessary to reach a specific subsurface target that is not accessible using conventional vertical drilling practices;

- (b) the desired target zone is located directly beneath an extremely complex surface obstacle such as a mountain, lake, river and swamp or, in some instances, towns or environmentally sensitive areas;
- (c) it is desired to increase wellbore exposure to the reservoir frequently resulting in increased production volumes and recoverable reserves; and/or
- (d) in the case where multiple wells are drilled from the same location, as in the case of pad drilling where multiple wells are drilled from the same location.

The economic performance of horizontal and directional drilling results in a significant advantage over conventional vertical drilling in environments of low permeability or in situations where producers want to accelerate production from a reservoir. Increased production results from the increased exposure of the reserves to the producing wellbore. Since 2010, there has been an increasing shift towards the redevelopment of older, mature basins and targeting zones both which were previously not viable until the introduction of new completion technologies that employ the use of horizontal, multi-stage fracturing technology. Hence, improved lifecycle economics of the well are realized due to the more efficient production of available reserves. The number of non-vertical wells drilled in Canada and the U.S. as a percentage of the total number of wells drilled has increased significantly over the years and in 2018 represented approximately 93% of wells drilled in Canada and 94% of the wells drilled in the U.S. on average throughout the year¹.

Tools and Equipment

To facilitate directional and horizontal drilling operations a number of tools are often supplied by Cathedral as part of the Bottom Hole Assembly ("**BHA**"):

Measurement While Drilling Systems

MWD systems are installed in the drill string as part of the BHA to provide real time measurements of basic trajectory parameters such as inclination, direction, tool-face and temperature. Additional sensors such as pressure, gamma-ray and resistivity may be added depending upon the specific application to provide LWD capabilities. The MWD/LWD system generally consists of three basic sections:

- Power Supply - Most tools are powered by batteries, however, Cathedral's MWD tools also use a downhole electricity generator to provide supplemental power.
- Sensor Section - Hole trajectory is measured by a sensor stack that contains accelerometers and magnetometers. The inclination and roll of the tool is obtained using accelerometers. Magnetometers measure the earth's local magnetic field and provide a reference direction relative to magnetic north. Other sensors such as pressure, gamma-ray, and resistivity are typically housed in separate dedicated tool sections.
- Transmitter - MWD tools transmit in two basic manners, by sending pressure waves through the drilling mud (mud pulse) or by transmitting EM signals through the earth to surface. These signals are decoded at surface and used to determine the BHA trajectory parameters. The selection of mud pulse or EM transmission depends on a number of factors related to downhole conditions.

¹ Source: Baker Hughes Rig Count data

The number of MWD systems in Cathedral's fleet may change over time as the fleet is upgraded or optimized to meet market conditions or if tools are lost during drilling operations or significantly damaged. Typically, Cathedral is reimbursed by the customer for tools that are lost-in-hole.

As at December 31, 2018 Cathedral had a fleet of 103 active MWD kits which were allocated between Canada and the U.S. based on current and projected job demand. Typically each directional drilling job requires one MWD kit which generally consists of an active tool and a backup tool. Of this fleet, approximately one third of the kits are regularly being maintained or refurbished as they are typically shipped to each new job in like new condition. Kits that are in transport to and from jobs also reduce the fleet's effective utilization. In 2018, Cathedral's active MWD fleet size declined from 107 kits at the end of 2017 to 103 kits due to equipment damage and equipment lost down hole on client jobs. In 2018, Cathedral deferred adding additional MWD kits to its active fleet due to new technology upgrades to its FUSION MWD Platform. These technology upgrades began to be deployed into the MWD fleet in late 2018. During 2019 Cathedral intends to increase its MWD kit fleet size based as part of its capital expenditure program.

Cathedral's MWD fleet consists of the following technologies:

- FUSION EM (Electro Magnetic) is a proprietary EM transmission that allows continuous transmission of data from the BHA to surface which provides a number of benefits to customers related to drilling time savings and the ability to more efficiently retrieve additional downhole information. Cathedral's EM system also provides for the ability for information to be transmitted downhole to manage power levels and other tool functions. Cathedral has demonstrated that this technology works in formations where many conventional third party EM systems do not have the same performance capabilities.
- FUSION RP (Rotary Pulse) is Cathedral's proprietary mud pulse data transmission system that uses a direct drive rotary valve assembly which significantly reduces the chance of plugging in high-viscosity or lost circulation applications compared to traditional hydraulic-assist linear pulse systems. Loss control materials are often added to the drilling mud to overcome mud circulation problems. These loss control materials have the potential to plug off rotary and linear pulse tools.
- FUSION DT (Dual Telemetry) offers a data transmission system that uses both the FUSION EM and FUSION RP data transmission systems. The talk-down capabilities (from surface) of the FUSION platform enables the operating mode of the system to be quickly changed from its baseline EM setting to dual transmission mode in which EM and rotary pulse are both operating. The dual telemetry configuration captures the benefits of pulse or EM depending on drilling and formation conditions.
- FUSION LP (Linear Pulse) – is Cathedral's proprietary mud pulse data transmission system which uses a direct drive linear valve assembly for pulse transmission. The LP system can also be equipped with a hydraulic assist feature to increase pulse amplitude. The direct drive feature allows for better clearance of loss control materials along with the capability to produce large pulses which are better detected at surface. This pulse transmission and detection capability allows for drilling in longer wellbores, with a larger range of drilling mud formulations and conditions and often at higher data transmission rates than most third party available pulse transmission tools. FUSION LP was introduced into Cathedral's MWD fleet in late 2018 and is anticipated to be Cathedral's main MWD pulse telemetry platform going forward. The LP tool can be retrieved from the wellbore using wireline in the event the BHA gets stuck downhole.

- HTR (High Temperature Retrievable) Linear Pulse is a Cathedral modified third party pulse MWD tool used in situations that are not favorable to EM transmission or based on specific customer drilling requirements. This tool can be retrieved from the wellbore using wireline in the event the BHA gets stuck downhole.
- FUSION EMc2 Downhole Generator – this technology supplements Cathedral’s FUSION EM platform by using the mud flow in the drill string to generate electricity. The downhole generator FUSION EM add-on allows for higher EM transmission performance, allows drilling longer without concern over depleting batteries thereby saving battery costs and non-productive time and mitigates safety concerns arising from use of lithium batteries.

Of the active MWD fleet, approximately 76% of the systems incorporate Cathedral’s proprietary technology, a common technology platform referred to as FUSION.

Cathedral occasionally rents or purchases third party MWD equipment to satisfy specific customer and technical requirements.

Positive Displacement Mud Motors

Positive displacement drilling mud motors are designed to drill without drill string rotation by converting hydraulic energy (flow and pressure) into mechanical energy (torque and rotational speed). The drilling motor turns the drill bit. A bend in the mud motor is used to steer the wellbore trajectory in directional and horizontal drilling applications.

A drilling motor consists of a power section and a bearing section. The power section consists of a rotor and a stator which convert the hydraulic energy from the mud flowing through the drill string into rotational energy to turn the drill bit. The bearing section houses a mandrel which is stabilized by radial and thrust bearings and is connected by threads to the drill bit. The bearing section utilizes a drive shaft which transmits the torque and rotation from the power section to the mandrel in addition to accommodating the eccentricity resulting from the bend in the motor. The drill bit, bearing and power sections are all interchangeable allowing the entire motor assembly to be optimized for wellbore size, drilling and formation conditions.

The drill bit used with the motor assembly is typically specified and purchased by Cathedral’s clients. Cathedral typically influences the choice of drill bit to optimize the drill bit performance with the motor.

Cathedral utilizes a combination of third party supplied bearing sections and its own proprietary bearing section which is branded as nDurance®. Cathedral’s current bearing section is a sealed bearing design. Cathedral expects to introduce a mud lube bearing section design into the market in 2019. The choice of mud lube or seal lubed bearings depend on drilling conditions. Introducing a mud lube bearing assembly is aimed at facilitating better motor performance in areas of high downhole temperature and with higher mud flow and pressure situations.

Cathedral undertakes the design and manufacture of its nDurance bearing section in its Nisku, Alberta facility. Cathedral also conducts the repair and refurbishment of all bearing sections at its motor shop facilities in the U.S. and Canada. Over the last 3 years the vast majority of the bearing sections purchased by Cathedral have been nDurance bearing sections.

Cathedral purchases power sections from independent suppliers that also provide power sections to Cathedral's competitors. Cathedral works with the power section suppliers to develop power section specifications that best suit Cathedral client's drilling parameters. As such, in many cases the power section specifications are unique and proprietary to Cathedral. The key power section design parameters which impact motor performance are the mud pressure and flow rate and the resulting torque and revolutions per minute generated by the power section. Cathedral typically works with between 2 and 4 power section suppliers from time-to-time depending on their product offerings and other capabilities.

During the drilling operation all the components of the drilling motor are subject to wear and tear resulting in them needing to be regularly repaired or refurbished. The frequency of repairs and maintenance of these components largely depends on the downhole drilling environment coupled with client drilling practices. Energy companies are demanding wells be drilled, cheaper, longer and faster than wells drilled prior to the industry downturn in 2014. As a consequence, drilling equipment is being pushed harder and faster than in the past resulting in equipment being damaged, more frequent equipment repairs and higher equipment lost-in-hole frequency.

Depending on the drilling application, the power section stator must be replaced frequently meaning it is effectively a consumable. The power section supplier provides the service associated with refurbishing the stator and the cost of replacement is typically borne by Cathedral's customer. Rotor repair and refurbishment is also conducted by the power section vendor, however, in most cases Cathedral undertakes the repair and refurbishment of the rotors. Due to the power section repair and refurbishment requirements, along with transport time considerations, different quantities of rotors, stators are needed to support a directional drilling job. In Cathedral's fleet, on average, there are 1.6 rotors and 2.7 stators for each bearing section. Cathedral and most other directional drilling companies measure their motor fleet size based on the number of bearing sections available, however, the characteristics of the motor fleet can change depending on the power section configurations.

The number and type of motors in Cathedral's fleet changes over time as the fleet is upgraded or optimized to meet market conditions or if motors and assemblies are lost during the drilling operation or significantly damaged. Typically, Cathedral is reimbursed by its clients for tools that are lost-in-hole.

In 2018, Cathedral spent the majority of its motor related capital expenditures on new power sections. These new power sections allowed Cathedral to deploy 92 new motor configurations in the 7 and 7-1/4 inch size range which is the most commonly used size range in the U.S. market. These new motors use nDurance bottom ends previously available in Cathedral's fleet and are branded as the CLAW motor series. Through higher torque ratings and formation suited RPM configurations, these new motors aim to achieve higher wellbore penetration rates than standard industry motors.

In addition, in 2018 Cathedral introduced a new 5 5/8" motor configuration to be used in RSS applications. Rotary steerable technology is an alternative to the bent motor steering technique used by Cathedral and the majority of its directional drilling competitors. RSS is more applicable in certain drilling environments particularly with extended reach wellbores (horizontal wellbores exceeding 2 times vertical depth).

As of December 31, 2018, Cathedral had a motor fleet, measured in terms of bearing sections, consisting of 745 (741 in 2017) motors ranging in sizes from 3-1/2" to 9-1/2" which is consistent with the vast majority of customer applications. Of the total motor fleet, 65% (65% in 2017) incorporate Cathedral's proprietary nDurance bearing section design. At the end of 2017, Cathedral wrote off a portion of its non-nDurance motor fleet due to low customer demand for these assets which did not support their book value. The 2017 write-off reflected approximately 141 motors, however, these motors still are included in the total motor fleet number as there may be uses for them at a future date depending on the type of work and markets Cathedral targets.

Cathedral occasionally rents or purchases third party motors to satisfy specific customer and technical requirements.

Drilling Jars

Drilling jars are tools typically run in the BHA to aid in the recovery of the drill-string in the event of it becoming stuck. Although there are several configurations of jars available (mechanical, hydraulic, hydra mechanical) the basic function remains the same. Once stuck the drill-string is pulled into tension, storing elastic energy in the pipe (stretch). When the tension exceeds a pre-set limit (known as the latch setting) the jar "fires" by releasing an internal mandrel allowing the drill string to slip by approximately 1/2 meter, delivering a slide-hammer impact to the stuck section of drill-string. The jar may be reset and the process repeated until the drill-string section is freed.

Shock Subs

Shock subs are used in the BHA to cushion heavy axial loading and bit vibrations that are encountered in rough drilling operations. These tools assist in extending the drill string life by reducing vibration and shock that can cause failures in the drill string. Additional benefits include extending the life of bits by reducing "bit bounce" and increased rate of penetration as a result of consistently keeping the bit in contact with the drilling surface.

Cathedral occasionally rents or purchases third party motors, drilling jars, shock subs and other BHA equipment to satisfy specific customer and technical requirements.

Drill Collars

Drill collars are used as part of the BHA assembly to house the MWD equipment and to allow the BHA to flex to facilitate steering the wellbore. Drill collars are made from non-magnetic materials in order to reduce the interference with the MWD tool magnetometer sensors.

Drilling Optimization Services

Cathedral's Drilling Optimization Group provides technical insight into clients' drilling performance to deliver comprehensive recommendations for efficient and accurate wellbore placement. The Drilling Optimization Group also supports Cathedral's operations teams to enable them to achieve higher drilling performance and service quality.

The Drilling Optimization Group is structured to combine the expertise of well planning, drilling operations, and engineering and technology personnel to provide analysis and recommendations to improve drilling performance.

The role of the Drilling Optimization Group is to:

- achieve the most efficient well design by minimizing the effects of torque and drag;
- achieve the most effective well design by maximizing pay zone contact;
- provide BHA design, analytics and recommendations to clients on operational parameters during drilling to maximize drilling performance for the different sections and formations of the well using Cathedral or third party technology;
- structure a continuous improvement processes with customers and internally to ensure short and long term drilling performance goals and metrics are achieved; and

- provide technical feedback within Cathedral to enhance Cathedral's proprietary motors and MWD technology.

Well Planning Services

Cathedral's Well Planning team in conjunction with its Drilling Optimization Group develops comprehensive plans for clients on how to drill specific directional and horizontal wells. A complete well plan includes:

- a trajectory/directional profile that defines the well geometry;
- anti-collision and torque and drag analysis to confirm the drill-ability of the well; and
- BHA recommendations for each section of the well.

The main goal of Cathedral's Well Planning and Drilling Optimization Group is to provide our customers with a plan to achieve an accurately placed, efficiently drilled wellbore that meets their objectives and any other regulatory constraints.

With the dramatic shift towards horizontal wells in the past decade, well planning has emerged as one of the most critical aspects of a drilling project. Cathedral's well planning team relies on its accumulated knowledge and experience, reliable technology and innovative design solutions to achieve the most optimal well trajectories and BHA designs.

Market for Services

Cathedral's revenues are directly impacted by the level of capital expenditures of oil and natural gas exploration and production entities in western Canada and the U.S. In turn, these levels of capital expenditures are affected by factors including, but not limited to, oil and natural gas prices, access to capital markets, government policies and weather.

Activity levels in the Canadian oilfield industry are subject to a degree of seasonality. Cathedral's operating activities are generally lower in April and May due to spring break-up, and activity levels increase in the fall, peaking during the winter months of December through to late March inclusive depending weather conditions and other factors. Typically the most active drilling activity in Canada is in January and February each year.

Activity levels in the U.S. are not subject to the degree of seasonality as in western Canada. Weather conditions such as winter storms and prolonged wet periods in the summer which impact site access, and localized major weather events such as hurricanes may also impact activity levels for shorter periods.

The active rig count is a good proxy for oilfield activity levels in the industry in which Cathedral operates. In 2015 and into mid-2016 there was a significant decline in drilling activity in North America largely related to declining oil price levels. The average number of active drilling rigs in the U.S. declined 73% from 1,862 on average in calendar 2014 to 512 on average in 2016 (source: Baker Hughes Rig Count data). After hitting a low of 404 active rigs in May 2016, the U.S. rig count grew to 658 active rigs at the end of December 2016. This improvement in rig drilling was largely attributable to improvements in oil and natural gas pricing in the second half of 2016 which continued into 2017. In 2017 the active U.S. rig count grew from 658 at the beginning of the year to 929 rigs at the end for an average rig count of 876. Most of the growth in rig count occurred in the first half of 2017 coinciding with West Texas Intermediate ("WTI") oil prices firming up into the USD \$50 bbl range. U.S. rig count continued to grow to 1,083 active rigs at the end

of 2018 for an average rig count of 1,032 during the year. The 2018 U.S. rig count growth was largely driven by oil price increases in 2018 from the USD \$60 bbl range at the beginning of 2018 to the USD \$75 bbl range by mid-year. Starting in October 2018 there was a sharp decrease in WTI pricing into the \$50 bbl range by the end of the year. This price drop resulted in many energy companies reviewing their drilling budgets for 2019 and likely precipitated a modest drop in the U.S. rig count in early 2019.

The active U.S. rig count as at February 22, 2018 was 1047 compared to 978 active rigs drilling on February 23, 2017.

The average number of active drilling rigs in Canada declined 220% from 363 on average in 2014 to 116 on average in 2016. (source: CAODC Rig Count Data) Similar to the U.S., the Canadian rig count improved in the second half of 2016 compared to the first half as a result of an improved outlook for energy commodity prices. In 2017, the average Canadian rig count was 188; an improvement of 62%. The average rig count in Canada in 2018 was comparable to 2017 at 191 average rigs (source: Baker Hughes Rig Count Data). Coinciding with the WTI price drop in late 2018, the Canadian industry was further impacted by high oil price differentials resulting from oil take-away capacity from Canada being constrained. At the end of 2018 many Canadian energy companies were reviewing their drilling budgets with a view to reduce them in 2019. Since the end of 2018 pricing for Canadian oil has improved, however, drilling activity levels in Canada remain very uncertain at least in the first half of 2019.

The active Canadian rig count as at February 22, 2019 was 212 compared to 306 active rigs drilling on February 23, 2018.

Throughout 2017 and 2018, industry commentators and analysts have noted the Canadian energy industry is having challenges based on the political climate (tax regime and support for energy projects) and available take away capacity for both oil and natural gas. As such Cathedral's focus since 2015 has been on the larger U.S. market where Cathedral believes it has better growth prospects and can achieve better pricing for its services. In 2018, 81% (78% in 2017) of Cathedral's revenues in Canadian dollars were derived from the U.S. market.

Sales and Marketing

Cathedral's sales and marketing group identifies customers by way of monitoring historical, current and potential drilling activities in western Canada and the U.S. Information on current and prospective customer drilling programs is often obtained through industry reports or through meeting with existing or prospective customers. A sales representative of Cathedral then contacts potential customers that are identified as potential targets. In some instances, contacts are made with engineering firms that provide drilling and completions advice to the oil and natural gas producers. Cathedral's strategy is to have a diversified portfolio of customers. At present, Cathedral's customers include large, intermediate and junior oil and natural gas exploration and development entities which are diversified by geography, producing or exploration basin and petroleum target type (e.g. conventional and non-conventional source and oil and gas focus). However, at any one time Cathedral may have single customers that represent a large portion of its consolidated revenue (see "Risk Factors").

Cathedral does not enter into long-term contracts with customers which is typical and industry standard for Cathedral's business line. The working relationship between Cathedral and its customers is often governed by a master services agreement. See "Risk Factors – Performance of Obligations".

Competition

Cathedral's competition ranges from large multinational companies to companies that are smaller than Cathedral. In addition to directly competing with Cathedral in providing horizontal and directional drilling services, many of the multi-national competitors carry out extensive research and development and

manufacture their own drilling equipment or components thereof. Smaller directional drilling companies are often regional and procure or rent their equipment (e.g. motors and MWD equipment) from third party providers who also provide this equipment to other companies. In the last few years, competition has also come from contract drillers (rig providers) who have entered into the business by purchasing directional drilling companies.

Cathedral believes it will remain competitive in its markets by capitalizing on:

- (a) the high quality of the state-of-art equipment including its proprietary MWD and drilling motor technology;
- (b) the ability of its personnel to effectively supervise all aspects of the services provided;
- (c) having a presence in all of the key North American oil and natural gas producing basins along with the size and scale to offer equipment, personnel and services to larger customers with multi-well drilling programs;
- (d) providing customers with additional value-added services such as well planning and drilling optimization;
- (e) the reputation of the Company and management to secure important relationships and to ensure the highest possible quality for the services provided;
- (f) the ability to provide safe, consistent, reliable and effective service and personnel performing the service; and
- (g) continued investment in new technology development to provide a competitive advantage over that of our competitors.

Access to Equipment and Technology

Cathedral's business strategy and competitive differentiation is based on it having access to state-of-the-art horizontal and directional equipment. Prior to the third quarter of 2002, Cathedral did not develop its own equipment, instead it relied on external suppliers to design and supply, at a reasonable price, the equipment it required to be competitive in the marketplace. The following is a chronological summary of advances in Cathedral's proprietary technology:

MWD Technology

- In the third quarter of 2002, Cathedral commenced, with the assistance of third parties, to develop its own MWD platform.
- In November 2003, the Trust announced that its G1 system had reached commercial status.
- In November 2005, the Trust announced its positive pulse MWD system (which is based upon the same MWD platform as the EM-MWD system) had reached commercial status.
- In December 2007, the Trust announced that its G2 system had achieved commercial status. The G2 system included bi-directional (talk down) communication which allowed for surface control of the tool to change data rates, power levels and data formats. This resulted in increased efficiency and power management which allowed for greater depth capability.

- In January 2008, Cathedral announced the commercial introduction of its RDS platform. RDS allows the secure transmission of drilling data from the rig site to Cathedral's Calgary and Oklahoma operations centers, which permits the full experience of MWD supervisors and directional coordinators to manage directional drilling activities in real time from a central location. This system allows Cathedral to reduce the number of field personnel required on a job, thereby reducing the costs to both Cathedral and its customers. RDS is also used for remote site supervision and to ensure on-site quality assurance policies are enforced.
- In late 2008, the G3 system was launched. The G3 system improved formation impedance matching and concurrently increased the data signal encoding, detection and filtration. The result has allowed the EM-MWD system to operate effectively in the southeast Saskatchewan market where competitors had not been able to deploy their own EM-MWD systems. In conventional markets, these improvements allowed the EM-MWD system to operate at depths greater than the G2 modifications made during 2007.
- In March 2010, Cathedral announced its intention to gradually convert its EM-MWD fleet to its next generation system (ultimately called FUSION MWD system) that provides for improved packaging of electronic and other components within the EM-MWD tool, which will improve the durability in high shock and vibration environments.
- In May 2011, Cathedral launched its FUSION MWD system. The FUSION MWD system is based on a customizable modular platform which provides operators with enhanced performance, reliability and accuracy in drilling environments that are challenging and of greater depth. The FUSION MWD system is designed to be fully customizable by the operator with the choice of EM transmission, mud pulse transmission or dual telemetry transmission. The operator has the option of telemetry type that best suits their drilling requirements and offers the most economical alternative. In the EM transmission mode the FUSION MWD system provides for increased power capabilities and enhanced filtering over previous designs, resulting in a more efficient signal and thereby allowing for successful data transmission at greater drilling depths. The modular design not only allows for standard and focal gamma logging capabilities as well as "resistivity" logging as an add-on. This enabled Cathedral to offer what is considered as a "LWD" (logging while drilling) package.
- In 2013, Cathedral introduced design enhancements to the FUSION based EM tool that significantly enhanced EM telemetry as compared to the predecessors. The Company has built new tools with the design enhancements and has an upgrade program to convert older (G2) systems as they attrition.
- In 2013, Cathedral initiated field testing of near bit inclination and gamma sensors that sense those parameters adjacent to the bit allowing customers to change trajectory faster than conventional MWD sensor placement. Two variations of design were pursued: a separate sub that would be placed between the drilling motor and bit and a drilling motor with sensors placed within the bearing section. In 2015 a decision was made to abandon the separate sub design and focus on the smart motor design. This project was deferred in 2016 due to Cathedral's focus on expense rationalization and was further deferred in 2017 and 2018 due to other technology development priorities.

Cathedral initiated design of its FUSION EMc2 downhole power generator in 2013 with the objective of replacing costly lithium batteries and being able to operate the EM-MWD system at higher power levels allowing for increased transmission capabilities. Prototypes of the generator were field tested in 2015 and 2016.

- In 2014, Cathedral introduced a number of new proprietary technologies as follows:
 - Upgraded MWD capabilities – further enhancements of Cathedral's MWD technology platform adding a number of features to reduce cost and improve reliability and accuracy.
 - Downhole monitoring system – introduced downhole sensor technology which enables real time monitoring of critical parameters related to drilling performance which is branded under the HAWK™ name.
 - Gamma Sensor – Cathedral has developed its own Gamma sensor technology aimed at providing improved measurement capability, improved reliability and lower cost relative to previously purchased systems.

- In 2015, Cathedral officially released the following product enhancements to its FUSION MWD technology platform:
 - FUSION EM-G5 – Enhanced EM Transmission – Cathedral's FUSION EM system was improved by incorporating higher power levels and enhanced transmission and detection technologies. In addition, FUSION EM-G5 incorporates a talk-down communications capability to allow transmission power level and other tool parameters to be made while drilling to optimize battery consumption and extend tool run times and enhance other tool performance capabilities. As a result of these enhancements, FUSION EM-G5 now offers a means for Cathedral's customers to realize the drilling time benefits of EM-MWD technology in a wider range of formations in key basins across North America where traditional EM systems have not been successful.
 - HAWK – Downhole Monitoring System – Cathedral's HAWK downhole monitoring system is a recent addition to the FUSION technology platform which records stick-slip, shock and vibration data and transmits this information in real-time to surface. This information can then be used to alter drilling parameters to reduce excessive bit wear and mitigate downhole equipment damage. By using the HAWK system, operators are able to optimize rate of penetration while minimizing unnecessary trips and other non-productive time.
 - Vibration Dampening System - Utilizing data logged by the HAWK system, Cathedral developed specialized mounting systems for gamma ray and directional sensors that can be tuned to greatly reduce the vibration levels experienced downhole. The result is ruggedized sensors that reduce downhole sensor vibration and shock levels significantly. With fewer downhole sensor failures, Cathedral's customers will achieve more productive drilling time and the ability to pursue higher rates of penetration when using aggressive bits and drill string vibration tools.

- In 2016, Cathedral focused its MWD technology development efforts on sustaining operations, improving equipment reliability, and field testing of technologies in development. In the new product development area, the following technologies were further advanced:
 - Downhole power generator - In 2016, Cathedral made numerous improvements to its FUSION EMc2 downhole generator prototype and in 2017 commenced commercial production of these units. Further development efforts in 2017 were focused on improving service intervals allowing the tool to operate in a broader number of applications. The generator is anticipated to have several key benefits:
 - Reducing battery costs related to the use of Cathedral's MWD tools;

- Allowing for full use of the EM transmission power capabilities which will allow for EM use in areas currently not ordinarily applicable for EM MWD;
- Allowing to stay in the wellbore drilling longer without concern over depleting batteries; and
- Mitigation of HSE concerns arising from use of lithium batteries.

Cathedral undertook an initial build of commercial FUSION EMc2 downhole generator units in 2017.

- Linear Pulser - In 2016 Cathedral made significant progress on the development of a new mud pulse MWD technology incorporating a linear pulser design. The linear pulser design largely eliminates drilling mud plug-off and other problems often associated with conventional mud pulse systems. This technology will be included as a component of Cathedral's FUSION MWD technology platform resulting in Cathedral being less dependent on third party technology (such as HTR) for certain drilling applications. During 2016 and 2017 prototypes of the linear pulser tool underwent field testing. Commercial release of the linear pulser tool occurred in 2018.
- In 2017, Cathedral's technology development efforts were focused on improving its existing technology and equipment to meet increasing drilling environment demands. Based on conversations with suppliers, clients and competitive intelligence, Cathedral believes most industry participants are having similar issues with drilling environment challenges.
 - The above demands are largely related to MWD tools being subject to higher shock and vibration loads and other downhole drilling energy forces as a result of customers wanting faster drilling rates and lower overall well costs. These shock and vibration loads and other excessive forces imparted on downhole drilling equipment can often result in equipment failures especially over time as a result of fatigue. The customer goal of faster drilling rates is often at the expense of what was previously considered good drilling practices. For example, a drill bit may be run longer than its optimal life in order to avoid the nonproductive time involved with pulling it out of a long wellbore to replace it. A worn or unsuitable drill bit can result in less energy being devoted to penetrating rock with the remaining energy resulting in increased shock and vibration loading on downhole drilling equipment. Various types of mud formulations are also being used to speed up drilling time, however, they may have negative impacts on both drilling motors and MWD systems.
 - Based on the knowledge gained in 2016 and 2017 related to the more demanding post downturn drilling environment, Cathedral focused its 2017 technology development efforts on design changes to its existing MWD tools and motors with a view to make them more rugged and improve their reliability and performance. There were successes in many areas in 2017 and design upgrades are currently being implemented in our existing equipment fleet.
 - In late 2017 the Board of Directors approved funding for Cathedral to develop a next generation Dual Telemetry (DT) MWD tool. The proposed tool design will incorporate a number of improvements over Cathedral's existing FUSION DT platform and over competitive products. A byproduct of this technology development program is improvements to Cathedral's standalone electromagnetic (EM) and pulse technology platforms. The launch of the new DT platform is anticipated to occur in 2019. This timeline

may be impacted by technical challenges and the ability to test prototypes in wellbores. However, improvements identified under the longer-term DT development program will be introduced into the existing MWD fleet as they become available.

- In 2018, Cathedral continued its focus on design changes to its existing MWD tools with a focus on improving ruggedness, reliability and performance. Significant accomplishments in 2018 were as follows:
 - Redesign of the mechanical aspects of its FUSION MWD platform to withstand the higher shock and vibration loads that are being encountered in the current industry drilling environment as follows:
 - developing an improved suspension system for the MWD tool within the drill collar to better mitigate shock and vibration effects;
 - configuring the MWD tool to be more easily assembled on site or preassembled before it is shipped to site; and
 - changing the method the various MWD tool components are coupled together in order to improve reliability and make the entire system more robust.
 - Improvements to electronics components and circuitry within the MWD tool to:
 - improve reliability, performance and enable operation in higher temperature environments;
 - allow the future MWD tool strings to be shorter than previous generation systems. Reducing the overall MWD tool length reduces its overall mass which mitigates shock and vibration impacts along with reducing equipment capital costs and facilitating tool assembly and transport to site.
 - Improvements to the MWD surface detection equipment to improve detection capabilities along with being able to use one version of the equipment across Cathedral's MWD equipment fleet for both EM and pulse detection.
 - Resign of Cathedral's FUSION RP (Rotary Pulse) system to incorporate a higher torque capability. This capability further resists plugging of the tool and also improves its transmission speed and pulse signal amplitude to improve surface detection.
- All of the above 2018 accomplishments were within the scope of the next generation Dual Telemetry (DT) MWD tool project approved in late 2017. By the end of 2018 Cathedral was testing prototype configurations of its next generation DT tool which incorporated many of the above features. In addition, Cathedral has been able to implement many of the above improvements within the existing Cathedral FUSION MWD fleet including the upgraded RP system, electronic system improvements and the improved surface detection systems.
- In 2018 Q1, Cathedral was approved for financial contribution from the Government of Canada under its Industrial Research Assistance Program (IRAP) in connection with Cathedral's next generation DT MWD project. The IRAP grant reimburses Cathedral for certain technology development costs and has allowed Cathedral to hire additional technical resources and expand the DT project scope. The IRAP grant was initially approved at \$300,000 over 2 years but was expanded to \$500,000 in late 2018.

- Cathedral continued to add FUSION EMc2 downhole generators to its fleet in 2018 and at December 31, 2018, the FUSION MWD fleet consisted of 37 generator units.
- In late 2018, Cathedral fully commercialized its FUSION LP tool as an add-on to its FUSION Measurement-While-Drilling (MWD) platform. This technology will be Cathedral's main MWD pulse telemetry platform going forward and will reduce equipment capital and repair costs compared to Cathedral's adapted third party supplied HTR equipment. In addition, the introduction of the FUSION LP system stems to alleviated current capacity constraints associated with Cathedral's HTR system. Since introducing the LP tool, Cathedral has been able to make a number of additional performance improvements to the tool specifically related to improving transmission speed and pulse detection capabilities.
- In late 2018, Cathedral finalized the design and developed commercial prototypes of a drill bit RPM sensor which will be incorporated into the bearing section of Cathedral's motors. This sensor logs drill bit RPM and the motor usage time. The downhole information provided by this sensor when coupled with analysis by Cathedral's Drilling Engineering Group will provide another means to help Cathedral's customers improve their drilling performance. This additional downhole information will also contribute to further development of Cathedral's motor technology. In addition, the motor usage logging feature will be used to more accurately determine motor hours when Cathedral rents drilling motors to customers. Motors are typically rented on a per hour of usage basis.
- In 2019, Cathedral will continue to focus on making improvements to its MWD fleet and advancing progress on its next generation DT system.

Drilling Motors

In December 2011, Cathedral announced that extensive testing of its proprietary mud motor design had been completed and initial capital build out had commenced. The first mud motors from the initial build out were received in 2013 Q1. This represents another step by Cathedral in its vertical integration model and desire to control the majority of its required directional drilling equipment along with reducing costs and improving the capabilities and reliability of its equipment.

In 2014, a new motor design was developed applicable to certain drilling conditions where high revolution per minute drill bit capabilities are required. In addition Cathedral introduced improved designs for shock subs and drilling jars within its fleet.

In 2015, and to a significantly lesser extent in 2016 due to economic conditions, Cathedral continued to apply its proprietary motor design to more sizes within its motor fleet and to replace equipment lost down hole.

In 2016, additional mud motor configurations and designs were evaluated for potential addition to Cathedral's motor fleet in the future.

In 2017, Cathedral began working on a design for a new high performance motor configuration. The motor design improves the mud flow characteristics of the motor along with delivering more energy to the drill bit. As drilling penetration rates have increased there are more cuttings that need to be conveyed out of the wellbore in less time. The high mud flow capability of this motor will facilitate wellbore solids cleaning during the drilling operation and allow for faster rate of penetration.

In 2017, Cathedral also developed a drilling motor for use with RSS applications. Rotary steerable technology is an alternative to the bent motor steering technique used by Cathedral and the majority of our directional drilling competitors. RSS is more applicable in certain drilling environments particularly with

extended reach wellbores (horizontal wellbores exceeding 2 times vertical depth). Based on field testing in 2017, Cathedral's RSS motor design was shown to provide reliability and performance advantages over competitive products. Cathedral is also working on a strategy to allow it to participate more fully in the extended reach wellbore market. Part of this strategy will be leveraging our existing MWD telemetry capabilities.

In 2018, Cathedral deployed new high performance motor configurations in the 7 and 7-1/4 inch size range associated with the design work conducted in 2017 noted above. In addition, in 2018 Cathedral deployed a new 5 5/8" motor configuration to be used in RSS applications.

In 2018, Cathedral introduced two new drilling motor prototypes (Double Bend – Double Pad) for testing with certain U.S. based customers. These motor configurations have the potential to achieve more predictable and stable curve geometries in addition to enabling longer reach laterals compared to a conventional bent housing directional drilling motor. One configuration (double bend) incorporates two opposing bends in the motor geometry as opposed to conventional directional motors which have one bend. The second configuration (double pad) uses two pads on the motor housing to achieve a similar effect as the double bend version. The lower bend or pad controls the tilt of the bit face and influences the motor output and orientation the bit is drilling. The upper bend or pad reduces the projected footprint of the motor reducing interference with the wellbore to reduce drag. Cathedral has been awarded intellectual property ownership in both the USA and Canada on this design (patents US 9,963,938 B2 and CA 2899519 A1).

In 2018, Cathedral worked with a number of RSS suppliers to test their systems in different drilling environments including in extended reach wellbores. At the same time, Cathedral's new high performance motors performed well in extended reach wellbores and often exceeded the capabilities of the RSS Cathedral was evaluating. In 2019, Cathedral will continue to assess its strategy for the extended reach wellbore market including further validating its Double Bend – Double Pad motor configurations. In 2019, Cathedral expects to add a mud lube version of its nDurance bearing section into the market which is intended to improve operating costs on shorter runs, and reliability on hotter well bore applications.

At any one time, Cathedral's technology development strategy and product development backlog may change depending on market conditions, economic considerations, development risk and customer demand.

Geographical Location and Facilities

Cathedral's main office is located in Calgary, Alberta. As the center for oil and natural gas activity in Canada, Calgary provides advantages for Cathedral in terms of availability of key employees and management and proximity to important customers.

Canadian Operations

Cathedral has operations facilities located in strategic locations including Calgary, Alberta, Nisku, Alberta and Emerald Park, Saskatchewan. In Canada, Cathedral mobilizes its equipment and personnel to the drilling locations of its customers from these locations. The operations facility location in Nisku provides a strategic advantage in terms of increasing and maintaining service to the regions of northern Alberta and northeastern British Columbia. The Emerald Park facility provides the same strategic advantage in the southeast Saskatchewan, Manitoba and Northern U.S. markets. Repair and service of Cathedral's drilling motors is performed in Nisku and Emerald Park.

The manufacturing of Cathedral's proprietary motors is largely conducted out of the Nisku facility. Planning, engineering and coordination of Canadian field directional/horizontal drilling operations is largely carried out from Cathedral's "6030 Campus" in Calgary, Alberta. In addition, Cathedral services,

repairs and develops and enhances its proprietary MWD technology at the 6030 Campus. Sales activities are coordinated from Cathedral's office in downtown Calgary, Alberta.

U.S. Operations

Cathedral has operations and motor repair shops strategically located in Casper, Wyoming, Oklahoma City, Oklahoma and Houston, Texas. From these locations Cathedral has the capability to provide its services in all the major U.S. oil and natural gas basins. Each of these locations has the capability to repair and service drilling motors. All U.S. MWD service and repair is centralized in Oklahoma City. U.S. MWD operations are also supplemented from Canada in situations requiring a high level of technical support.

Cathedral maintains an office in Denver, Colorado providing for sales and operations as well as administration support. U.S. sales activities are coordinated from Cathedral's Oklahoma facility.

Employees

As at December 31, 2018, Cathedral had a total of 409 full-time employees (Canada – 158 and U.S. – 251). In addition, as at December 31, 2018, Cathedral employed the services of 81 field and office consultants and subcontractors (Canada – 79 and U.S. – 2).

DIVIDEND POLICY

Cathedral's Board of Directors reviews the amount of dividends paid (if any) from time to time. Cathedral's ability to make dividend payments to Shareholders is dependent upon the operations and business of Cathedral. There is no assurance regarding the amounts of excess cash flow that may be available from Cathedral's operating activities and business on a sustainable basis that could be available to fund future dividends or if dividends will be declared at all. The actual amount of any dividends will depend on a variety of factors, including without limitation, the current performance of Cathedral, historical and future trends in the business, the expected sustainability of those trends, enacted tax legislation impacting future taxes payable as well as required long-term debt repayments, maintenance capital expenditures required to sustain performance, future growth capital expenditures, effects of acquisitions or dispositions on Cathedral's business, and other factors that may be beyond the control of Cathedral or not anticipated by management of Cathedral.

Cathedral has not paid or declared payable any dividends to the Shareholders in any of the three most recently completed financial years.

Based on the reductions in commodity prices, the resulting decline in industry activity levels in 2015 and 2016, and uncertainties around future expected activity levels, the Board of Directors made the decision to suspend the payment of Cathedral's quarterly dividend in late 2015. The decision to suspend the dividend was made in order to preserve cash, manage liquidity, invest selectively in capital asset additions and pursue operational initiatives to better position the Company for improved industry conditions.

The Company's credit facility currently in effect with Alberta Treasury Branches and Export Development Canada provides restrictions with respect to the payment of dividends in the event a Default or Event of Default (as such terms are defined in the credit agreement) has occurred and is continuing, or would result from, the making of such dividend payment. See "*Material Contracts*".

GENERAL DESCRIPTION OF CAPITAL STRUCTURE

The authorized share capital of the Corporation consists of an unlimited number of Common Shares and an unlimited number of Preferred Shares, issuable in series. The following is a summary of the rights, privileges, restrictions and conditions attaching to each class of shares of Cathedral.

Common Shares

The holders of Common Shares are entitled to: (i) receive notice of and to vote at every meeting of shareholders of Cathedral and shall have one vote thereat for each such Common Share so held; (ii) receive any dividend declared on the Common Shares by Cathedral subject to the rights of the holders of Preferred Shares; and (iii) subject to the rights, privileges, restrictions and conditions attached to the Preferred Shares, receive the remaining property of Cathedral on dissolution, liquidation or winding up.

Preferred Shares

Preferred Shares may, from time to time, be issued in one or more series, each series to consist of such number of shares as may, before the issue thereof, be fixed by the directors of Cathedral. The directors may additionally determine the designation, rights, privileges, restrictions and conditions attaching to the Preferred Shares, including, without limiting the generality of the foregoing, the rate or amount of preferential dividends and the date of payment thereof, voting rights (if any), the redemption, purchase and/or conversion price and conditions of redemption, purchase and/or conversion, if any, and any sinking fund or other provisions. The Preferred Shares rank in priority to the Common Shares as to payment of dividends and the distribution of assets in the event of dissolution, liquidation or winding-up.

As of the date hereof, there are **49,468,117** Common Shares and nil Preferred Shares issued and outstanding.

MANAGEMENT'S DISCUSSION AND ANALYSIS

Reference is made to the section entitled "Management's Discussion and Analysis" prepared in connection with the consolidated financial statements for the year ended December 31, 2018. The "Management's Discussion and Analysis" is incorporated herein by reference and is available on SEDAR (www.sedar.com).

MARKET FOR SECURITIES

The Common Shares are listed and posted for trading on the TSX under the trading symbol "CET". The following table sets forth certain trading information in respect of the Common Shares for the most recently completed financial year.

	Trading Price (\$)	Price Range (\$)		Trading
	Close	High	Low	Volume
2018				
January	1.57	1.84	1.47	3,364,100
February	1.52	1.68	1.15	2,328,400
March	1.51	1.61	1.39	522,700
April	1.57	1.83	1.33	908,700
May	1.30	1.68	1.15	1,787,200
June	1.16	1.31	1.10	1,056,700
July	1.17	1.31	1.11	914,000
August	0.92	1.21	0.88	1,101,100

	Trading Price (\$)		Price Range (\$)		Trading
	Close	High	Low	Volume	
September	0.73	0.90	0.66	1,327,200	
October	0.76	0.84	0.71	1,442,400	
November	0.73	0.80	0.72	876,100	
December	0.71	0.94	0.71	976,100	

DIRECTORS AND EXECUTIVE OFFICERS

The names, municipalities of residence, positions with Cathedral, and principal occupations of the directors and executive officers of Cathedral, and the number of voting securities of Cathedral and its subsidiaries beneficially owned, or controlled, directly or indirectly, by such directors and executive officers are set out below. The Board presently consists of seven (7) directors. All directors were duly elected at Cathedral's annual and special meeting of Shareholders held on May 10, 2018 to hold office until the next annual meeting of Shareholders or until his successor is duly elected or appointed unless his office is earlier vacated in accordance with the provisions of the ABCA or Cathedral's by-laws.

<u>Name, Municipality of Residence and Position</u>	<u>Director/ Executive Officer Since</u>	<u>Principal Occupation for Last Five Years</u>	<u>Common Shares Beneficially owned or Controlled, Directly or Indirectly</u>
P. Scott MacFarlane Calgary, Alberta <i>Director, President, Chief Executive Officer and Interim Chief Financial Officer</i>	December 19, 2013/April 1, 2001	Chief Executive Officer of the Corporation since October 2013. Prior thereto, Chief Financial Officer of the Corporation since April 1, 2001.	410,552
Randal H. Pustanyk Chestermere, Alberta <i>Director, Executive Vice President and Corporate Secretary</i>	October 30, 2000	Executive Vice President, Directional Drilling Product Lines since July 2016. Prior thereto, Chief Operating Officer of the Corporation since October 2013. Prior thereto, Vice President, Operations of the Corporation since June 2000.	621,842
Rod Maxwell ⁽¹⁾ Calgary, Alberta <i>Chairman and Director</i>	October 30, 2000	Managing Director of StoneBridge Merchant Capital Corp., a private equity investment firm, located in Calgary, Alberta, that invests in growing private companies.	515,878
Jay Zammit ⁽²⁾ Calgary, Alberta <i>Director</i>	November 6, 2003	Chairman and Counsel at the law firm of Burstall LLP in Calgary, Alberta.	50,700
Scott Sarjeant ⁽¹⁾⁽³⁾ Calgary, Alberta <i>Director</i>	April 7, 2003	President and CEO of PremiAx Financial Corp. (" PremiAx ") since April 2003. PremiAx is a non-bank financial institution involved in leasing and other financial businesses targeted at the energy industry, and also invests in equity and debt issued by well-established Canadian companies.	677,998
Ian S. Brown ⁽¹⁾⁽²⁾⁽³⁾ Calgary, Alberta, <i>Director</i>	December 18, 2009	Since January 2006 Mr. Brown has been an independent consultant. Prior thereto, Mr. Brown was the Senior Managing	124,286

<u>Name, Municipality of Residence and Position</u>	<u>Director/ Executive Officer Since</u>	<u>Principal Occupation for Last Five Years</u>	<u>Common Shares Beneficially owned or Controlled, Directly or Indirectly</u>
		Director, Raymond James Ltd. from May 1995 until December 2005.	
Dale E. Tremblay ⁽²⁾ Calgary, Alberta <i>Director</i>	October 6, 2015	Mr. Tremblay is an independent businessman. From December 2009 to December 2013, Mr. Tremblay was the Chairman and Chief Executive Officer of Western Energy Services Corp., an oilfield drilling and well servicing company in western Canada and portions of the U.S.	109,286
David Diachok Okotoks, Alberta <i>Vice President, Sales</i>	May 9, 2005	Vice President, Sales of the Corporation since May 2005. From September 2002 to May 2005 Sales Manager of the Corporation. Prior thereto, Sales Representative at Halliburton Services.	114,599
Michael F. Hill ⁽⁴⁾ Calgary, Alberta <i>Chief Financial Officer</i>	September 1, 2014	Chief Financial Officer of the Corporation since September 2014 until December 31, 2018. Prior thereto, Mr. Hill was Chief Operating Officer at Mosaic Capital Corporation from April 2013 to July 2014. From December 2010 to March 2013, Mr. Hill was President of MISSION Capital Inc. a consulting company providing corporate finance and advisory services. Prior thereto, Mr. Hill was Chief Executive Officer of Evoco Inc. from January 2010 to December 2010, having served as part-time Chief Financial Officer of such company prior thereto.	138,786
Bogdan Piciooreanu Calgary, Alberta <i>Vice President, Technology</i>	June 1, 2009	Vice President, Technology of the Corporation since June 1, 2009.	122,111

Notes:

- (1) Member of the Audit Committee of which Mr. Brown is chairman.
- (2) Member of the Compensation Committee of which Mr. Tremblay is chairman.
- (3) Member of the Governance Committee of which Mr. Sarjeant is chairman.
- (4) Mr. Hill retired from the position of Chief Financial Officer of the Corporation effective December 31, 2018.

Ownership of Common Shares

As at the date hereof, the directors and executive officers of Cathedral, as a group, owned or controlled, directly or indirectly, an aggregate of **2,886,038** Common Shares, being approximately **5.83%** of the issued and outstanding Common Shares.

Cease Trade Orders

To the knowledge of Cathedral, no director or executive officer is, as of the date of this AIF, or was within ten (10) years prior to the date of this AIF, a director, chief executive officer or chief financial officer of any company (including Cathedral) that: (i) was subject to a cease trade order, an order similar to a cease trade order or an order that denied Cathedral access to any exemption under securities legislation and which order was in effect for a period of more than thirty (30) consecutive days while the director or executive officer

was acting in the capacity as director, chief executive officer or chief financial officer of such company; or (ii) was subject to any of the foregoing orders for a period of more than thirty (30) consecutive days after the director or executive officer ceased to be a director, chief executive officer or chief financial officer of such company and which resulted from an event that occurred while that person was acting in such capacity.

Bankruptcies

To the knowledge of Cathedral and other than as disclosed below, no director, executive officer or Shareholder holding a sufficient number of securities to affect materially the control of Cathedral is, as of the date of this AIF, or was within ten (10) years prior to the date of this AIF, a director or executive officer of any company (including Cathedral) that, while such person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver-manager or trustee appointed to hold its assets.

Rod Maxwell acted as a director of Patch International Inc. ("**Patch**") from January 2007 until April 2009. Patch's wholly-owned subsidiary, Patch Energy Inc. ("**Patch Energy**"), of which Mr. Maxwell was not a director or officer, filed a proposal (the "**Proposal**") to its creditors under the *Bankruptcy and Insolvency Act* (Canada) ("**BIA**") on August 20, 2009 which was accepted by creditors at a meeting held on September 9, 2009. Pursuant to the Proposal, Patch Energy subsequently sold all of its assets to its working interest partner and the working interest partner's joint venture partner. The Alberta Securities Commission issued a cease trade order against Patch on October 2, 2009 for failing to make required annual continuous disclosure filings for its financial year ended May 31, 2009.

Dale E. Tremblay was a director of GASFRAC Energy Services Inc. ("**GASFRAC**") between May 27, 2014 and February 13, 2015. Pursuant to court supervised creditor protection proceedings commenced under the CCAA, GASFRAC sold most of its operating assets and intellectual property to a third party service industry competitor on April 7, 2015 and subsequently then completed a court approved CCAA Plan of Compromise and Arrangement pursuant to which a third party service industry competitor acquired 100% equity ownership of GASFRAC as an operating entity on July 7, 2015. Mr. Tremblay was also a director of ATK Oilfield Transportation Inc. ("**ATK**"), a private oilfield services company, until April 1, 2019. ATK was placed into receivership following an application by its creditors on April 1, 2016.

Messrs. Rod Maxwell and Jay Zammit were directors of Iona Energy Inc. ("**Iona**"), a public oil and gas company that held assets in the United Kingdom's North Sea, until November 24, 2015, being the date on which Iona announced that it was highly likely that its wholly owned United Kingdom subsidiaries, Iona Energy (UK) Company plc ("**Iona UK**") and Iona UK Huntington Limited ("**Iona Huntington**") would commence insolvency procedures. All of the board of directors and officers of Iona, including Messrs. Maxwell and Zammit, resigned effective November 24, 2015. On January 6, 2016, representatives of FTI Consulting LLP were appointed as joint administrators of Iona UK and Iona Huntington.

Mr. Zammit was a director of GroundForce Geodrilling Solutions Inc. ("**GroundForce**") a private company that provided services to the oil and gas, mining, geothermal and ground water sectors in Western Canada. Pursuant to the BIA, Deloitte Restructuring Inc. was appointed by the Court as receiver and manager of GroundForce. On November 17, 2015, GroundForce was adjudged bankrupt by the Court and Deloitte Restructuring Inc. was appointed by the Court as the trustee in bankruptcy of GroundForce on such date.

Mr. Ian Brown was a director of Lightstream Resources Ltd., a public oil and gas company that commenced proceedings under the CCAA on September 26, 2016. Effective December 29, 2016, concurrent with the completion of the sale of all of the assets and business of Lightstream Resources Ltd. to a third party, all directors, including Mr. Brown, resigned from the board of directors.

To the knowledge of Cathedral, no director or executive officer of Cathedral, or Shareholder holding a sufficient number of securities to affect materially the control of Cathedral has, within the ten (10) years before the date of this AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or Shareholder.

Penalties or Sanctions

To the knowledge of Cathedral, no director or executive officer of Cathedral, or Shareholder holding a sufficient number of securities to affect materially the control of Cathedral has been subject to any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority, or has been subject to any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

Conflicts of Interest

Jay Zammit, a director of Cathedral, is Chairman and Counsel at Burstall LLP, which provides legal services to Cathedral on a fee for services basis. There may be potential conflicts of interest to which the directors and officers of Cathedral will be subject in connection with the operations of Cathedral. Conflicts, if any, will be subject to the procedures and remedies available under the ABCA. The ABCA provides that in the event that a director has an interest in a contract or proposed contract or agreement, the director shall disclose his interest in such contract or agreement and shall refrain from voting on any matter in respect of such contract or agreement unless otherwise provided by the ABCA.

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

To the knowledge of Cathedral, neither Cathedral nor any of its subsidiaries is a party to any legal proceeding nor was it a party to any legal proceeding during the financial year ended December 31, 2018, nor is Cathedral aware of any contemplated legal proceeding involving Cathedral or its subsidiaries or any of its property which involves a claim for damages exclusive of interest and costs that may exceed 10% of the current assets of Cathedral.

Cathedral is not aware of any penalties or sanctions imposed against the Company by a court relating to securities legislation or by a securities regulatory authority during the financial year ended December 31, 2018, any other penalties or sanctions imposed by a court or regulatory body against the Company that would likely be considered important to a reasonable investor in making an investment decision or any settlement agreement that the Company entered into before a court relating to securities legislation or with a securities regulatory authority during the financial year ended December 31, 2018.

INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

No director or executive officer of Cathedral, or any person that beneficially owns, or controls or directs, directly or indirectly, more than 10% of the Common Shares, or any associate or affiliate of any of the foregoing has had any material interest, direct or indirect, in any transaction since the commencement of Cathedral's three most recently completed financial years or during the current financial year, or in any proposed transaction, that has materially affected or is reasonably expected to materially affect Cathedral or any of its subsidiaries.

AUDITORS, REGISTRAR AND TRANSFER AGENT

The auditors of Cathedral are KPMG LLP, Calgary, Alberta. Computershare Trust Company of Canada in Calgary, Alberta is registrar and transfer agent for the Common Shares.

MATERIAL CONTRACTS

The only material contract entered into by the Corporation during the most recently completed financial year, or before the most recently completed financial year that was still in effect, other than during the ordinary course of business, is as follows:

The Credit Facility

On December 13, 2017, Cathedral entered into a new credit facility with Alberta Treasury Branches and Export Development Canada expiring on December 31, 2019. On November 8, 2018 Cathedral extended its credit facility to December 31, 2020 under the same terms and conditions as the prior credit facility.

Cathedral's credit availability is \$20 million consisting of a \$5 million operating facility and \$15 million extendible revolving credit facility. The key financial covenants associated with the new facility include a maximum Funded Debt to Bank EBITDA Ratio (as defined in the facility) of 3.0 to 1.0 and an Interest Coverage Ratio (as defined in the facility) of not less than 2.50 to 1.0, both of which are calculated quarterly. Cathedral's previous credit facility provided for availability of \$23 million. Cathedral elected to reduce the facility size compared to the previous facility to reduce standby and other fees.

See also "*General Development of the Business – Three Year History*".

RISK FACTORS

Crude Oil and Natural Gas Prices

Demand for the services provided by Cathedral is directly impacted by the prices that Cathedral's customers receive for the crude oil and natural gas they produce. The prices received and the volumes produced have a direct correlation to the cash flow available to invest in drilling activity and other oilfield services. The markets for oil and natural gas are separate and distinct and are largely driven by supply and demand factors. Oil is a global commodity with a vast distribution network. As natural gas is most economically transported in its gaseous state via pipeline, its market is dependent on pipeline infrastructure and is subject to regional supply and demand factors. Recent developments in the transportation of liquefied natural gas ("**LNG**") in ocean going tanker ships is introducing more of an element of globalization to the natural gas market. Crude oil and natural gas prices are quite volatile, which accounts for much of the cyclical nature of the oilfield services business.

Prices for oil and natural gas are subject to large fluctuations in response to relatively minor changes in the supply of, and demand for, oil and natural gas, market uncertainty and a variety of additional factors beyond the control of Cathedral. These factors include economic conditions in the U.S. and Canada, the actions of the Organization of Petroleum Exporting Countries ("**OPEC**"), government regulation, political stability in the Middle East and elsewhere, the foreign supply of oil and natural gas, risks of supply disruption, the price of foreign imports, technological advances improving the efficiency of oil and natural gas extraction and production, and the availability of alternative fuel sources and other advances that reduce energy use efficiency impacting consumption. In addition to pricing determined based on worldwide or North American supply and demand factors, there are a number of regional factors that also influence pricing such as transportation capacity, oil and natural gas physical properties and local supply and demand. Petroleum prices are expected to remain volatile for the near future as a result of market uncertainties over

the supply and the demand of these commodities related to the current state of the world economies, OPEC actions and credit availability and liquidity concerns in the energy industry.

Commodity price volatility may impact E&P companies' willingness to commit to capital spending, which in turn may have a significant adverse effect the rig count and thus on the Corporation's activity levels, business and financial results.

World crude oil prices and North American natural gas prices, including LNG, are not subject to control by Cathedral. With that in mind, Cathedral attempts to partially manage this risk by way of maintaining cost structure that can be adjusted to reflect activity levels. A significant portion of Cathedral's fieldwork is performed by sub-contractors and staff paid on a day rate or hourly basis which allows Cathedral to operate with lower variable costs and fixed overhead costs in seasonally low activity periods as well as extended downturns in the oilfield services sector. In addition, Cathedral also strives to continuously improve its operational efficiencies and reduce the cost of the equipment it deploys. Notwithstanding the above, throughout 2017 and 2018 Cathedral faced cost increases in many areas of its business. These included, but were not limited to, supplier costs, employee and contractor wages, equipment costs, equipment and other rental costs, equipment and other repair costs, administrative and other business support costs. Although Cathedral continues to manage costs in order to maintain margins, Cathedral's revenues and profitability could be negatively impacted should such costs continue to rise faster than revenues.

Take Away Capacity for Cathedral's Customers

Cathedral's customers rely on various transportation methods to deliver the produced oil and natural gas to the end market including: pipelines, truck and railway. If such take away capacity becomes full and incremental capacity is not added, the price and production of hydrocarbons may be adversely impacted resulting in lower oilfield service industry activity levels.. This could have a material adverse effect on Cathedral's business operations, financial condition, results of operations and cash flow. In Canada and the U.S. Permian Basin area, takeaway capacity issues have recently impacted local oil pricing and net backs with the result that drilling activity levels in these areas have been negatively impacted.

Alternatives to and Changing Demand for Hydrocarbon Products

Fuel conservation measures, alternative fuel requirements, electric automobiles, increasing consumer demand for alternatives to oil and natural gas, and technological advances in fuel economy, vehicle electrification and energy generation devices could reduce the demand for crude oil, natural gas and other hydrocarbons. The Company cannot predict the impact of changing demand for oil and natural gas products, and any major changes may have a material adverse effect on the Cathedral's business, financial condition, results of operations and cash flows.

Cash Dividends to Shareholders are Dependent on the Performance of Cathedral

Cathedral's ability to make dividend payments to Shareholders is dependent upon the operations and business of Cathedral. In November 2015, the Board made the decision to suspend the payment of the Company's quarterly dividend based the reductions in commodity prices and the resulting decline in industry activity levels in 2015 and uncertainties around expected activity levels in the future (see "*Dividend Policy*"). There is no assurance that dividends will be declared at all in the future and, if declared, there is no assurance regarding the amounts of cash that may be available from Cathedral's operations and business that could be available to fund such future dividends. The actual amount of any dividends will depend on a variety of factors, including without limitation, the current performance, historical and future trends in the business, the expected sustainability of those trends, enacted tax legislation which will affect future taxes payable as well as required long-term debt repayments, maintenance capital expenditures required to

sustain performance, future growth capital expenditures, effect of acquisitions or dispositions on Cathedral's business, compliance with debt covenants and other factors that may be beyond the control of Cathedral or not anticipated by management of Cathedral.

Cathedral's dividend policy is subject to change at the discretion of its Board of Directors. In addition, Cathedral's credit facility covenants include certain restrictions on the payment of cash dividends without the consent of the lenders in certain circumstances. See "*Dividend Policy*" herein.

Performance of Obligations

The Company's success depends in large part on whether it fulfills its obligations with clients and maintains client satisfaction. If Cathedral fails to satisfactorily perform its obligations, makes errors in the provision of its services, or does not perform its services to the expectations of its clients, its clients could terminate working relationships, including master service agreements, exposing Cathedral to loss of its professional reputation and risk of loss or reduced profits, or in some cases, the loss of a project and claims by customers for damages. Typically, Cathedral's master service agreements do not contain any guaranteed payments and are cancellable on 30 or less days' notice.

Access to Capital

The credit facilities of Cathedral contain covenants that require it to meet certain financial tests and that restrict, among other things, the ability of Cathedral to incur additional debt, make significant acquisitions, dispose of assets or pay dividends in certain circumstances. To the extent the cash flow from operations is not adequate to fund Cathedral's cash requirements, external financing may be required. Lack of timely access to such additional financing, or which may not be on favorable terms, could limit the future growth of the business of Cathedral and, potentially have a material adverse effect on the amount of cash available for dividends. To the extent that external sources of capital, including public and private markets, become limited or unavailable, Cathedral's ability to make the necessary capital investments to maintain or expand its business and to make necessary principal payments under its credit facility may be impaired.

Forward-looking Information May Prove Inaccurate

Numerous statements containing forward-looking information are found in this AIF, documents incorporated by reference herein and other documents forming part of Cathedral's public disclosure record. Such statements and information are subject to risks and uncertainties and involve certain assumptions, some, but not all, of which are discussed elsewhere in this document. The occurrence or non-occurrence, as the case may be, of any of the events described in such risks could cause actual results to differ materially from those expressed in the forward-looking information.

Interest Rates

Cathedral's current credit facility bears interest at a floating interest rate and, therefore, to the extent Cathedral borrows under this facility, it is at risk of rising interest rates. Management continually monitors interest rates and would consider locking in the rate of its term debt.

Debt Service

Cathedral has a \$20 million credit facility with a syndicate of lenders consisting of Alberta Treasury Branches and Export Development Canada consisting of a revolving facility of \$15 million and a \$5 million operating facility with a maturity date of December 31, 2020. Although it is believed that the credit facility is sufficient, there can be no assurance that the amount will be adequate for the financial obligations of Cathedral. As well, if Cathedral requires additional financing such financing may not be available or, if available, may not be available on favorable terms. Cathedral's lenders have been provided with security

over substantially all of the assets of Cathedral. There is no assurance that the existing credit facility will be extended beyond its maturity date.

In light of the current volatility in oil and natural gas prices and uncertainty regarding commodity price levels in the future there is a risk that the Corporation could temporarily breach the covenants included in its credit facility. If the Corporation does temporarily breach these covenants, the credit facility could become due and payable on demand.

Additional Shares

If the Board of Cathedral decides to issue additional Common Shares, Preferred Shares or securities convertible into Common Shares, existing shareholders may suffer significant dilution.

Unpredictability and Volatility of Share Price

The prices at which the Common Shares trade cannot be predicted. The market price of the Common Shares could be subject to significant fluctuations in response to variations in quarterly financial results and other factors including the payment of a dividend and prevailing financial market factors and investor interest in the Company or the industry the Company operates in. The market price of the Common Shares may also be impacted by other factors including the net asset value of Cathedral's assets which will vary from time to time depending on factors beyond our control.

In addition, the securities markets have experienced significant market wide and sectorial price and volume fluctuations from time to time that often have been unrelated or disproportionate to the operating performance of particular issuers. Such fluctuations may adversely affect the market price of the Common Shares.

Income Tax Matters

The business and operations of Cathedral are complex and Cathedral and its predecessors have executed a number of significant financings, reorganizations, acquisitions and other material transactions over the course of its history. The computation of income taxes payable as a result of these transactions involves many complex factors as well as Cathedral's interpretation of relevant tax legislation and regulations.

Cathedral's management believes that the provision for income tax is adequate and in accordance with generally accepted accounting principles and applicable legislation and regulations. However, tax filing positions are subject to review by taxation authorities who may successfully challenge Cathedral's interpretation of the applicable tax legislation and regulations. It is also possible that tax authorities may retroactively or prospectively amend tax legislation or its interpretation, which could affect Cathedral's current and future income taxes.

Key Personnel and Employee/Sub-contractor Relationships

Shareholders must rely upon the ability, expertise, judgment, discretion, integrity and good faith of the management and employees of Cathedral. The success of Cathedral is dependent upon its personnel and key sub-contractors. The unexpected loss or departure of any of Cathedral's key officers, employees or sub-contractors could be detrimental to the future operations of Cathedral. Cathedral does not maintain key man insurance on any of its officers. The success of Cathedral's business will depend, in part, upon Cathedral's ability to attract and retain qualified personnel as they are needed. Additionally, the ability of Cathedral to expand its services is dependent upon its ability to attract additional qualified employees. During high levels of activity, attracting quality staff can be challenging due to competition for such services. As a result of the industry downturn experienced since mid-2014 resulting in workforce reductions, many former industry workers have left the industry either temporarily or permanently. As a

consequence, attracting and retaining staff may be more challenging in the future than in the past. Cathedral provides its staff with a quality working environment, effective training, tools with current technology and competitive remuneration packages that allows it to attract and retain the quality of its workforce, whether in the field, shop or office. There can be no assurance that Cathedral will be able to engage the services of such personnel or retain its current personnel.

Competition

The oil and natural gas service industry in which Cathedral and its operating entities conduct business is highly competitive. Cathedral competes with other more established companies which have greater financial, marketing and other resources and certain of which are large international oil and natural gas service companies which offer a wider array of oil and natural gas services to their clients than does Cathedral.

At any time there may be an excess of certain classes of oilfield service equipment in North America in relation to current levels of demand. The supply of equipment in the industry does not always correlate to the level of demand for that equipment. Periods of high demand often spur increased capital expenditures on oilfield service equipment, and those capital expenditures may result in equipment levels which exceed actual demand. In periods of low demand, there may be excess equipment available within the industry resulting in equipment obsolescence. Excess equipment supply in the industry could cause competitors to lower their rates and could lead to a decrease in rates in the oilfield services industry generally, which could have an adverse effect on revenues, cash flows and earnings in the industry and for the Company.

Access to Parts, Consumables and Technology and Relationships with Key Suppliers

The ability of Cathedral to compete and expand will be dependent on Cathedral having access, at a reasonable cost, to equipment, parts and components for purchased equipment for the development and acquisition of new competitive technologies. An inability to access these items and delays in accessing these items could have a material adverse effect on Cathedral's business, financial condition, results of operations and cash flow. Cathedral's equipment may become obsolete or experience a decrease in demand due to competing products that are lower in cost, have enhanced performance capabilities or are determined by the market to be more preferable for environmental or other reasons. Although Cathedral has very good relationships with its key suppliers, there can be no assurances that those sources of equipment, parts, components or relationships with key suppliers will be maintained. If these are not maintained, Cathedral's ability to compete may be impaired. If the relationships with key suppliers come to an end, the availability and cost of securing certain parts, components and equipment may be adversely affected.

Technology

The success and ability of Cathedral to compete depends in part on the technologies that it brings to the market, and the ability of Cathedral to prevent others from copying such technologies. Cathedral currently relies on industry confidentiality practices ("trade secrets"), including entering into industry standard confidentiality agreements and in some cases patents (or patents pending) to protect its proprietary technology. Cathedral may have to engage in litigation in order to protect its intellectual property rights, including patents or patents pending, or to determine the validity or scope of the proprietary rights of itself or others. This kind of litigation can be time-consuming and expensive, regardless of whether or not Cathedral is successful.

Additionally, certain tools, equipment or technology developed by Cathedral may be the subject of future patent infringement claims or other similar matters which could result in litigation, the requirement to pay licensing fees or other results that could have a material adverse effect on Cathedral's business, results of operations and financial condition.

The intellectual property rights of Cathedral may be invalidated, circumvented, challenged, infringed or required to be licensed to others. It cannot be assured that any steps Cathedral may take to protect its intellectual property rights and other rights to such proprietary technologies that are central to Cathedral's operations will prevent misappropriation or infringement.

Cathedral competes with other more established companies which have greater financial resources to develop new technologies. Competitors may also develop similar or substitute tools, equipment and technology to Cathedral's thereby adversely affecting Cathedral's competitive advantage and/or market share. There may also be changes in customer or market requirements which make Cathedral's technology obsolete or result in a lower demand for Cathedral's products and services. Certain competing technologies are beginning to enter Cathedral's market which may have a negative impact on Cathedral long term. RSS technology is becoming more cost-effective and can be used as a substitute for certain methods currently in place by Cathedral. As a result, there is the risk that a larger portion of Cathedral's customer base will move away from technology provided by Cathedral. Although Cathedral intends to adopt processes to provide similar services and develop competing technology, there is no guarantee that it will be successful and Cathedral is likely to face a number of challenges, including intellectual property matters and economic considerations, in order to implement new competing technology.

Potential Replacement or Reduced Use of Products and Services

Certain of Cathedral's equipment or systems may become obsolete or experience a decrease in demand through the introduction of competing products that are lower in cost, exhibit enhanced performance characteristics or are determined by the market to be more preferable for environmental or other reasons. Cathedral is beginning to see a change in customer requirements, resulting in some of its equipment becoming technically obsolete or creating market obsolescence based on lower demand which has resulted in write-downs of certain equipment and associated parts inventory. In addition, the drilling industry is experiencing a trend towards automation, the impact of which on Cathedral's business is not yet known. Cathedral will need to keep current with the changing market for oil and natural gas services and technological and regulatory changes. If Cathedral fails to do so, this could have a material adverse effect on its business, financial condition, results of operations and cash flows.

Operating Risks and Insurance

Cathedral has an insurance and risk management plan in place to protect its assets, operations and employees. However, Cathedral's oilfield services are subject to risks inherent in the oil and natural gas industry, such as equipment defects, equipment obsolescence, malfunctions, failures, natural disasters and errors and omissions by staff, some of which may not be covered by insurance. These risks could expose Cathedral to substantial liability for personal injury, loss of life, business interruption, property damage or destruction, pollution and other environmental damages. Cathedral attempts to obtain indemnification from its customers by contract for some of these risks in addition to having insurance coverage. These indemnification agreements may not adequately protect against liability from all of the consequences described above. In addition, Cathedral's operating activities includes a significant amount of transportation of equipment and vehicle travel by staff and therefore is subject to the inherent risks including potential liability which could result from, among other things, personal injury, loss of life or property damage derived from motor vehicle accidents. Cathedral carries insurance to provide protection in the event of destruction or damage to its property and equipment, subject to appropriate deductibles and the availability of coverage. Liability insurance is also maintained at prudent levels to limit exposure, but not necessarily fully eliminate exposure to unforeseen incidents. An annual review of insurance coverage is completed to assess the risk of loss and risk mitigation alternatives. It is anticipated that appropriate insurance coverage is in place and will be maintained in the future, but there can be no assurance that such insurance coverage will be available in the future on commercially reasonable terms or be available on terms as favorable as Cathedral's current arrangements. The occurrence of a significant event outside of the coverage of

Cathedral's insurance policies could have a material adverse effect on the results of the Company. If there is an event that is not fully insured or indemnified against, or a customer or insurer does not meet its indemnification or insurance obligations, it could result in substantial losses.

Energy companies are demanding wells be drilled, cheaper, longer and faster than wells drilled prior to the industry downturn which has adversely impacted Cathedral's drilling equipment and may continue to do so. In 2017 and 2018 Cathedral experienced higher than previous levels of equipment damages and equipment lost-in-hole than previous years and the pre-industry downturn levels which in part was due to changes in customer drilling practices.

Business continuity, disaster recovery and crisis management

An inability to restore or replace critical capacity in a timely manner may impact business and operations. A serious event could have a material adverse effect on Cathedral's business, results of operations and financial condition. This risk is mitigated by the development of business continuity arrangements, including disaster recovery plans and back-up delivery systems, to minimize any business disruption in the event of a major disaster. Insurance coverage may minimize any losses in certain circumstances.

Risks Associated with Foreign Operations

In the future, Cathedral may conduct a portion of its business outside North America through a number of means including projects, joint ventures and partnerships and other business relationships. As such, Cathedral could be exposed to risks inherent in foreign operations including, but not limited to: loss of revenue, property and equipment as a result of expropriation and nationalization, war, civil and/or labour unrest, strikes, terrorist threats, civil insurrection and other political risks; fluctuations in foreign currency and exchange controls; increases in duties, taxes and governmental royalties and renegotiation of contracts with governmental entities; trade and other economic sanctions or other restrictions imposed by the Canadian government or other governments or organizations; as well as changes in laws and policies governing operations of foreign-based companies.

Carrying on business outside of Canada gives rise to the risk of dealing with business and political systems that are different than Cathedral is accustomed to in Canada.

Weather and Seasonality

A portion of Cathedral's operations are carried on in western Canada where activity levels in the oilfield services industry are subject to a degree of seasonality. Operating activities in western Canada are generally lower during "spring breakup" which normally commences in March and continues through to May. Canadian operating activities generally increase in the fall and peak in the winter months from December until late March, depending on weather conditions.

Activity levels in the oil and natural gas basins in the U.S. are not subject to the seasonality to the same extent that it occurs in the western Canada region, however, U.S. operations can also be impacted by weather related issues. In general, activity levels in North America can be impacted year round by weather conditions and temperatures, including major weather events such as summer and winter storms and hurricanes which can create additional unpredictability in operational results.

Foreign Currency Exchange Rates

Cathedral derives a significant portion of its revenues from the U.S. which are denominated in the local currency. This causes a foreign currency exchange rate risk which Cathedral attempts to mitigate by matching local purchases in the same currency. Furthermore, Cathedral's Canadian operations are subject

to foreign currency exchange rate risk in that some purchases for parts, supplies and components in the manufacture of equipment are denominated in USD. Cathedral's foreign currency policy is to monitor foreign current risk exposure in its areas of operations and mitigate that risk where possible by matching foreign currency denominated expense with revenues denominated in foreign currencies. Cathedral strives to maintain limited amounts of cash and cash equivalents denominated in foreign currency on hand and attempts to further limit its exposure to foreign currency through collecting and paying foreign currency denominated balance in a timely fashion.

In addition, Cathedral is exposed to currency exchange risk on those of its assets denominated in U.S. dollars. Since Cathedral presents its financial statements in Canadian dollars, any change in the value of the Canadian dollar relative to the USD during a given financial reporting period would result in a foreign currency loss or gain on the translation of its assets measured in other currencies into Canadian dollars. Consequently, Cathedral's reported earnings could fluctuate materially as a result of foreign exchange translation gains or losses. Other than natural hedges arising from the normal course of business in foreign jurisdictions, Cathedral does not currently have any hedging positions.

Business Transaction Risks

Cathedral expects to continue to selectively seek mergers, acquisitions and other types of business transactions in connection with its growth strategy. Cathedral's ability to consummate and to integrate effectively any future mergers, acquisitions or other business transactions on terms that are favorable to it may be limited by the number of attractive transaction targets, internal demands on Cathedral's resources, internal management capabilities and to the extent necessary, Cathedral's ability to obtain financing on satisfactory terms for larger transactions, if at all. Business transactions may expose Cathedral to additional risks, including: difficulties in integrating administrative, financial reporting, operational and information systems and managing newly-acquired operations and improving their operating efficiency; difficulties in maintaining uniform standards, controls, procedures and policies through all of Cathedral's operations; entry into markets in which Cathedral has little or no direct prior experience; difficulties in retaining key employees of the acquired operations; disruptions to Cathedral's ongoing business; and diversion of management time and resources.

Business Development Risks

In implementing its strategy, Cathedral may pursue new business or growth opportunities. There is no assurance that Cathedral will be successful in executing those opportunities. Cathedral may have difficulty executing its strategy because of, among other things, increased competition, difficulty entering new markets or geographies, difficulties in introducing new products, the ability to attract qualified personnel, barriers to entry into geographic markets, and changes in regulatory requirements.

Credit Risk

All of Cathedral's accounts receivables are with customers involved in the oil and natural gas industry, whose revenue may be impacted by fluctuations in commodity prices. Although collection of these receivables could be influenced by economic factors affecting this industry and thereby have a materially adverse effect on operations, management considers risk of significant loss to be minimal at this time. To mitigate this risk, Cathedral's customers are subject to an internal credit review along with ongoing monitoring of the amount and age of receivables balances outstanding.

Reliance on Major Customers

Management of Cathedral believes it currently has a good mix of customers. In 2018, approximately 15% of the Company's revenue was attributable to sales transactions with a single customer. In 2017, approximately 20% of the Company's revenue was attributable to sales transactions with a single

customer. In 2016, approximately 13% of the Company's revenue was attributable to sales transactions with a single customer. While Cathedral believes that its relationship with existing customers is good, the loss of any one or more of these customers, or a significant reduction in business done with Cathedral by one or more of these customers, if not offset by sales to new or existing customers, could have a material adverse effect on Cathedral's business, results of operations and prospects and therefore on the ability to pay dividends to shareholders in the future. Mergers and acquisitions activity in the oil and natural gas exploration and production sector can impact demand for our services as customers focus on internal reorganization prior to committing funds to significant oilfield services. In addition, demand for Cathedral's services could be negatively affected in that upon completion, the merger and acquisitions customers may re-direct their work to Cathedral's competitors.

Environmental Risks

Cathedral is subject to various environmental laws and regulations enacted in the jurisdictions in which it operates which govern the manufacture, processing, importation, transportation, handling and disposal of certain materials used in Cathedral's operations. Cathedral has established procedures to address compliance with current environmental laws and regulations and monitors its practices concerning the handling of environmentally hazardous materials. However, there can be no assurance that Cathedral's procedures will prevent environmental damage occurring from spills of materials handled by Cathedral or that such damage has not already occurred. On occasion, substantial liabilities to third parties may be incurred. Cathedral may have the benefit of insurance maintained by it or the operator; however Cathedral may become liable for damages against which it cannot adequately insure or against which it may elect not to insure because of high costs or other reasons.

There is growing concern about the apparent connection between the burning of fossil fuels and climate change. The issue of energy and the environment has created intense public debate in Canada, the U.S. and around the world in recent years that is likely to continue for the foreseeable future and could potentially have a significant impact on all aspects of the economy including the demand for hydrocarbons and resulting in lower demand for Cathedral's services. There can be no assurance that the provincial, state and local governments or the Federal Governments of Canada and U.S. and other jurisdictions in which Cathedral enters into to provide its services will not adopt new environmental regulations, rules or legislation or make modifications to existing regulations, rules or legislation which could increase costs paid by Cathedral's customers. An increase in environmental related costs could reduce Cathedral's customers' earnings and/or it could make capital expenditures by Cathedral's customers uneconomic.

Over the past several years both the Canadian Federal Government and the Government of Alberta have announced various programs related to climate change and have made certain commitments regarding regulating greenhouse gases ("**GHG**") and other air pollutants. These programs implement taxes on GHG emissions to be paid by the users of hydrocarbons and caps on emissions by producers of hydrocarbons such as oilsands and energy companies.

Cathedral is unable to predict the total impact of the potential and forthcoming regulations upon its business. As a user of hydrocarbons in its business for heating and vehicles, Cathedral is impacted on an operational cost basis. Cathedral's customers may face increases in operating costs in order to comply with legislation which could have the effect of curtailing exploration and development by oil and natural gas producers and that in turn, could adversely affect Cathedral's operations by reducing demand for its services.

Government Regulation

The oil and natural gas industry in Canada and the U.S. is subject to federal, provincial, state and municipal legislation and regulation governing such matters as land tenure, commodity prices, production royalties, production rates, environmental protection controls, the exportation of crude oil, natural gas and other products, as well as other matters. The industry is also subject to regulation by governments in such

matters, including laws and regulations relating to health and safety, the conduct of operations, the protection of the environment and the manufacture, management, transportation, storage and disposal of certain materials used in Cathedral's operations.

Government regulations may change from time to time in response to economic or political conditions. The exercise of discretion by governmental authorities under existing regulations, the implementation of new regulations or the modification of existing regulations affecting the crude oil and natural gas industry could reduce demand for Cathedral's services or increase its costs, either of which could have a material adverse impact on Cathedral.

There can be no assurance that the provincial, state and local governments or the Federal Governments of Canada and U.S. and other jurisdictions in which Cathedral enters into to provide its services will not adopt a new royalty regime or modify the methodology of royalty calculation which could increase the royalties paid by Cathedral's customers. An increase in royalties could reduce Cathedral's customers' earnings and/or it could make capital expenditures by Cathedral's customers uneconomic. Although Cathedral is not a direct investor in the oil and natural gas market, it does affect Cathedral's customers' cash flow available to invest in drilling activity and other oilfield services.

Safety Performance

Cathedral has programs in place to address compliance with current safety and regulatory standards. Cathedral has a corporate safety manager responsible for maintaining and developing policies and monitoring operations consistent with those policies. Poor safety performance could lead to lower demand for Cathedral's services. Standards for accident prevention in the oil and natural gas industry are governed by company safety policies and procedures, accepted industry safety practices, customer-specific safety requirements, and health and safety legislation. Safety is a key factor that customers consider when selecting an oilfield service company. A decline in Cathedral's safety performance could result in lower demand for services, and this could have a material adverse effect on revenues, cash flows and earnings. Cathedral is subject to various health and safety laws, rules, legislation and guidelines which can impose material liability, increase costs or lead to lower demand for services.

Conflict of Interest

Certain directors and officers of Cathedral are also directors and/or officers of oil and natural gas exploration and/or production entities and conflicts of interest may arise between their duties as officers and directors of Cathedral and as officers and directors of such other companies. Such conflicts must be disclosed in accordance with, and are subject to such other procedures and remedies as apply under the ABCA.

Legal Proceedings

Cathedral is involved in litigation from time to time. No assurance can be given as to the final outcome of any legal proceedings or that the ultimate resolution of any legal proceedings will not have a materially adverse effect on Cathedral.

Risks associated with information technology systems

Cathedral is dependent upon information technology systems in the conduct of its operations. Any significant malfunction, breakdown, downtime, invasion, virus, cyber-attack, security breach, destruction or interruption of these systems due to equipment or software failures or by employees, others with access to Cathedral's systems, or unauthorized persons could negatively impact its operations. To the extent any breakdown, downtime, malfunction, invasion, cyber-attack or security breach results in disruption to Cathedral's operations, loss or disclosure of, or damage to, its data or confidential information, its

reputation, business, results of operations and financial condition could be materially adversely affected. Cathedral's systems and insurance coverage for protecting against information technology or cyber security risks may not be sufficient. Although to date Cathedral has not experienced any material losses relating to information technology failures or cyber-attacks, it may suffer such losses in the future. Cathedral may be required to expend significant additional resources to continue to modify or enhance its protective measures, to investigate and remediate any information security vulnerabilities or to maintain its information technology systems in good repair.

AUDIT COMMITTEE

General

The Board has developed written terms of reference outlining the Audit Committee's roles and responsibilities and which provide appropriate guidance to Audit Committee members as to their duties. These terms of reference are reviewed annually by the Board. The Audit Committee reviews the annual and interim financial statements of Cathedral and makes recommendations to the Board with respect to such statements. The Audit Committee also reviews the nature and scope of the annual audit as proposed by the auditors and management, and the adequacy of the internal accounting control procedures and systems within Cathedral. The Audit Committee is responsible to ensure that management has implemented an effective system of internal control and has oversight responsibility for management reporting on internal control. The full text of the Audit Committee Charter is attached as Schedule "A" to this AIF.

Composition of the Audit Committee

The Audit Committee is currently comprised of Ian Brown (Chair), Scott Sarjeant and Rod Maxwell. Messrs. Brown, Sarjeant and Maxwell are all independent and financially literate under National Instrument 52-110 – *Audit Committees*.

Relevant Education and Experience

Audit Committee member that is relevant to the performance of his responsibilities as an Audit Committee member are as follows.

Mr. Brown is a Chartered Accountant and has been an independent businessman since January 2006. Prior thereto, Mr. Brown was a Senior Managing Director, Raymond James Ltd. from May 1995 until December 2005. Mr. Brown currently chairs the Audit Committee of Bonavista Energy Ltd and has been a member and chaired numerous other audit committees over the past 15 years.

Mr. Sarjeant holds a Masters of Business Administration and a law degree, and is presently the President and CEO of Premiax Financial Corp., a non-bank financial corporation that operates financial businesses targeted at the energy industry. From 1994 to 2003, Mr. Sarjeant was co-founder of AltaGas Services Inc., a publicly listed Canadian energy services company, where he served as Executive Vice President. From 1987 to 1994, Mr. Sarjeant was a Vice President in the Corporate Finance Group of Citibank Canada. He has served on the audit committees of other publicly listed entities, including: AltaGas Services Inc. (TSX), Champion Resources Ltd. (TSXV) and Rare Method Interactive Corp. (TSXV).

Mr. Maxwell is a Chartered Accountant and Chartered Business Valuator and is presently the Managing Director of StoneBridge Equity Partners Ltd.

Pre-Approval Policies and Procedures

The Audit Committee has adopted a pre-approval policy with respect to permitted non-audit services. Under the policy, the Audit Committee has granted pre-approval services for non-audit services of \$150,000 for fiscal 2019.

External Auditor Service Fees (By Category)

The following table provides information about the fees billed to the Company for professional services rendered by KPMG LLP during fiscal 2017 and 2018:

	2017⁽¹⁾	2018⁽¹⁾
Audit Fees ⁽²⁾	\$132,900	\$137,500
Audit-Related Fees ⁽³⁾	\$46,824	\$48,606
Tax Fees ⁽⁴⁾	\$67,417	\$174,437
All Other Fees	-	-
Total:	\$247,141	\$360,543

Notes:

- (1) Billed or estimated to be billed for services in the applicable year.
- (2) Audit fees for professional services rendered by KPMG LLP for the audit of Cathedral's annual consolidated financial statements as well as services provided in connection with statutory and regulatory filings.
- (3) Audit-related fees are for services related to performance of the review of Cathedral's quarterly consolidated financial statements.
- (4) Tax fee for tax compliance, tax advice and tax planning.

INTERESTS OF EXPERTS

KPMG LLP are the auditors of Cathedral and have confirmed that they are independent with respect to Cathedral within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations.

ADDITIONAL INFORMATION

Additional information relating to Cathedral and its predecessor entity, the Trust, may be found on SEDAR at www.sedar.com. Additional information, including information as to directors' and officers' remuneration and indebtedness, principal holders of Cathedral's securities and securities authorized for issuance under equity compensation plans is contained in Cathedral's information circular dated May 3, 2017 in respect of Cathedral's annual meeting of Shareholders held on June 7, 2017. Additional financial information is provided in Cathedral's comparative consolidated financial statements and MD&A for the year ended December 31, 2017.

Effective Date

Unless otherwise specifically herein provided, the information contained in this AIF is stated as at March 7, 2019.

Schedule "A"

CATHEDRAL ENERGY SERVICES LTD.

AUDIT COMMITTEE CHARTER

Dated: March 2015

ROLE AND RESPONSIBILITIES

The Audit Committee ("Committee") is a committee of the Board of Directors (the "Board", each member of the Board a "Director") established to assist the board in fulfilling its responsibility for oversight of Cathedral Energy Services Ltd. (the "Corporation") financial reporting process.

RESPONSIBILITIES

The primary functions of the Committee are to assist the Board in fulfilling its responsibilities with respect to: (i) oversight, review and approval of the financial statements and the accounting and financial reporting processes of the Corporation; (ii) oversight of the assessment of the system of internal controls that management has established; and (iii) oversight of the external audit process. In addition, the Committee shall assist the Board, as requested, in fulfilling its oversight responsibilities with respect to financial risk management practices.

The Committee shall be directly responsible for recommending to the Board the nomination of the external auditor and the compensation and retention of the external auditor and overseeing the work of the external auditor and the relationship of the external auditor with the Corporation (including the resolution of disagreements between management and the external auditor regarding financial reporting).

The Committee is responsible for ensuring the external auditor maintains an open and transparent relationship with the Committee, and that the ultimate accountability of the external auditor is to the shareholders of the Corporation.

MEMBERSHIP

The Committee shall be comprised of a minimum of three directors including a Committee Chair, all of whom shall qualify as independent directors pursuant to National Instrument 52-110 *Audit Committees* (as implemented by the Canadian Securities Administrators and as amended from time to time). Each member of the Committee shall be financially literate, as defined in NI 52-110, and the Chair of the Committee shall have accounting or related financial managerial expertise. The members of the Committee and its Chair shall be appointed by the Board. Appointments shall be made in accordance with procedures established by the governance committee of the Board from time to time.

MEETINGS

The Committee shall meet at least four times annually (for review of Q1, Q2 and Q3 interim reports as well as pre and post annual audit), or more frequently as circumstances dictate. The Committee shall report to the Board on its activities after each of its meetings. The Committee is expected to establish and maintain free and open communication among the independent external auditor and senior management and shall periodically meet separately with each of them. The President and Chief Executive Officer (collectively "CEO") and the Chief Financial Officer are expected to be available to attend the Committee's meetings or portions thereof. The affirmative vote of a majority of the members of the Committee participating in any

meeting of the Committee is necessary for the adoption of any resolution. In the event of a tie vote on any matter, such matter shall be presented to the Board for its consideration and determination.

AUTHORITY

The Committee has the authority to conduct any review or investigation appropriate to fulfilling its responsibilities. The Committee has the sole authority to approve any non-audit engagement by the Corporation's independent external auditors and to approve all audit engagement fees and terms. The Committee shall have unrestricted access to personnel and information, and any resources necessary to carry out its responsibility.

The Committee shall be empowered to retain, obtain advice or otherwise receive assistance from outside independent legal counsel, accountants or others to assist in the conduct of any investigation as it deems necessary in the course of fulfilling Committee duties. The Corporation shall provide for appropriate funding, as determined by the Committee, for payment of compensation to the independent external auditor for the purposes of issuing an audit report and to any advisors retained by the Committee.

REVIEW OF CHARTER AND COMMITTEE PERFORMANCE

On an annual basis, the Committee shall report to the Board on the Committee's performance against this Charter and the goals established annually by the Committee for itself. The Committee shall review and update the adequacy of this Charter periodically, and where necessary, recommend changes to the Board for its approval.

SPECIFIC DUTIES AND RESPONSIBILITIES

The duties and responsibilities of a member of the Committee are in addition to those duties set out for a member of the Board.

1) Financial Reporting and Public Disclosure

- (a) Review, with management and the independent external auditor:
 - (i) the independent external auditors annual audit plan;
 - (ii) the Corporation's annual audited financial statements. In relation to the annual audited financial statements, review significant issues including accounting principles, practices and significant management estimates and judgments, including any significant changes in the Corporation's selection or application of accounting principles, any major issues as to the adequacy of the Corporation's internal controls and any special steps adopted in light of material control deficiencies;
 - (iii) the Corporation's annual management's discussion and analysis ("MD&A");
 - (iv) the independent external auditors' audit examination of the annual financial statements and their report thereon; and
 - (v) all public disclosure documents containing audited or unaudited financial information before release, including, but not limited to, any prospectus, the Corporation's annual report, the Corporation's annual information form, the Corporation's management proxy circular and any press releases.

- (b) Review, with management and if appropriate, the independent external auditor engaged to perform a limited scope review of the interim reports:
 - (i) the Corporation's interim unaudited financial statements;
 - (ii) the Corporation's interim MD&A;
 - (iii) related press releases; and
 - (iv) any significant changes to the Corporation's accounting principles.
- (c) Oversee an investigation sufficient to provide reasonable grounds for believing that the financial statements and reports referred to in (a) and (b) above are complete in all material respects and consistent with the information known to Committee members, and assess whether the financial statements reflect appropriate accounting principles.
- (d) Review with senior management and the independent external auditor, management's handling of any proposed audit adjustments identified by the independent external auditors.
- (e) Meet with the independent external auditor to review the results of the audit examination of the financial statements and their report thereon, their judgments about the quality and appropriateness of the Corporation's accounting principles, and any audit problems or difficulties and management's response.
- (f) Review and resolve any significant disagreement among the management and the independent external auditors encountered during the course of their audit or review, including any restrictions in the scope of the independent external auditor's work or access to required information.
- (g) Review the integrity of the Corporation's internal and external financial reporting process, in consultation with the independent external auditors.
- (h) Review tax, legal and any financial reporting aspects of the Corporation as the Committee considers appropriate.
- (i) Consider, evaluate and recommend to the Board such changes as are appropriate to the Corporation's auditing and accounting principles and practices as suggested by the independent external auditors or senior management.
- (j) Review with the independent external auditors and senior management the extent to which changes and improvements in financial and accounting practices, as approved by the Committee, have been implemented.
- (k) Formally recommend approval to the Board of the Corporation's annual financial statements, interim financial statements and reports referred to in (a) and (b) above. The annual audited financial statement review shall include a report from the independent external auditors about the quality of the most critical accounting policies upon which the Corporation's financial status depends, and involve the most complex, subjective or significant judgmental estimates, decisions or assessments.

2) Independent External Auditor

- (a) Be directly responsible, in the Committee's capacity as a committee to the Board and subject to the rights of shareholders and applicable law, for the appointment, compensation, retention and oversight of the work of the independent external auditors for the purposes of preparing or issuing an audit report, or performing other audit, review, or attest services for the Corporation. The independent external auditors shall report directly to the Committee.
- (b) At least annually, obtain and review a report by the independent external auditor describing:
 - (i) the independent external auditors' internal quality-control procedures; and
 - (ii) any material issues raised by the most recent internal quality-control review, or peer review, of the independent external auditors, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the independent external auditors, and any steps taken to deal with any such issues.
- (c) Confirm the independence of the independent external auditor by discussing and reviewing all significant relationships that the independent external auditors have with the Corporation and obtaining their assertion of independence in accordance with professional standards.
- (d) Review and evaluate:
 - (i) the performance of the independent external auditor, and make a recommendation to the Board regarding the reappointment or discharge of the independent external auditors for presentation to the shareholders;
 - (ii) the terms of engagement, audit scope and audit plans of the independent external auditors together with their proposed fees; and
 - (iii) the engagement of the independent external auditors firm or affiliates to perform non-audit services, together with the fees thereof, and the impact thereof, on the independence of the independent external auditors.
- (e) Approve all non-audit service with the Corporation's independent external auditors other than services related to limited scope reviews of interim reports and Canadian and United States tax services.
- (f) When there is to be a change in the independent external auditor, review all issues relating to the change to be included in the required notice to securities regulators of such change.
- (g) Review and approve the hiring policies for the Corporation's hiring of employees or former employees of the present and any former independent external auditors.

3) Internal Controls

- (a) Evaluate whether senior management is adequately communicating the importance of internal control to all relevant personnel.

- (b) Periodically privately consult with the independent external auditor about internal controls and the completeness and accuracy of the Corporation's financial statements. Any significant recommendation made by the independent external auditor for the strengthening of internal controls shall be reviewed and discussed with senior management.
- (c) Review whether the internal control recommendations made by internal auditors and the independent external auditor are being implemented by senior management and, if not, why not.

4) Compliance with Relevant laws and regulations

- (a) Periodically obtain updates from senior management regarding procedures and processes to ensure compliance with applicable laws and regulations (including but not limited to, securities, tax and environmental matters).
- (b) Review and receive reports from the Corporation's Disclosure Committee.
- (c) Monitor and approve the Corporation's Disclosure Policy.

5) Other Responsibilities

- (a) Review policies and procedures with respect to officers' and directors' expense accounts and perquisites, including the use of corporate assets.
- (b) As requested by the Board;
 - (i) review the financial risks arising from the Corporation's exposure to such things as interest rates, credit, insurance programs, remittances, assessments, tax policies and planning initiatives and government audits and report the results of such reviews to the Board for the purpose of assisting the Board in identifying the principal business risks associated with the business of the Corporation.
- (c) Review the procedures established for the receipt, retention, and treatment of complaints received by the Corporation of concerns regarding accounting, internal accounting controls, auditing or code of conduct matters and resolution of such concerns, if any.
- (d) Review the procedures established allowing the confidential, anonymous submission by the Corporation's employees of concerns regarding questionable accounting or auditing matters and resolution of such concerns, if any.
- (e) Review with the Board, any issues that arise with respect to the quality or integrity of the Corporation's financial statements, the Corporation's compliance with legal or regulatory requirements and the performance and independence of the Corporation's independent external auditors.
- (f) Review and/or approve other financial matters delegated specifically to it by the Board.

PROCEDURE GOVERNING ERRORS OR MISTATEMENTS IN THE FINANCIAL STATEMENTS

In the event a Director of the Corporation has reason to believe, after discussion with management, that a material error or misstatement exists in the Corporation's financial statements, that Director shall forthwith

notify the Committee and the independent external auditor of the error or misstatement of which the Director becomes aware in a financial statement that the independent external auditor or a former independent external auditor has reported on.

If the independent external auditor or a former independent external auditor of the Corporation is notified or becomes aware of an error or misstatement in a financial statement on which the auditor or former auditor has reported, and if in the auditor's or former auditor's opinion the error or misstatement is material, the auditor or former auditor shall inform the Board and/or Committee accordingly.

When the Committee or the Board is made aware of an error or misstatement in a financial statement the Board shall prepare and issue revised financial statements or otherwise inform the shareholders and file such revised financial statements as required.

LIMITATION ON COMMITTEE MEMBERS' DUTIES

Nothing in this Charter is intended, or may be construed, to impose on any member of the Committee a standard of care or diligence that is in any way more onerous or extensive than the standard required by law. The purposes and responsibilities outlined in this charter are meant to serve as guidelines rather than inflexible rules and the Committee may adopt such additional procedures and standards it deems necessary from time to time to fulfill its responsibilities.