UNDER THE ARBITRATION RULES OF THE UNITED NATIONS COMMISSION ON INTERNATIONAL TRADE LAW (1976)

-between-

THEODORE DAVID EINARSSON, HAROLD PAUL EINARSSON, RUSSELL JOHN EINARSSON, and GEOPHYSICAL SERVICE INCORPORATED

("Claimants")

-and-

GOVERNMENT OF CANADA

(ICSID CASE NO. UNCT/20/6)

WITNESS STATEMENT OF THEODORE DAVID EINARSSON

CWS-03

BORDEN LADNER GERVAIS LLP
1900, 520 3rd Ave. S.W.
Calgary, Alberta
Canada, T2P 0R3

Matti Lemmens
Counsel for Theodore David Einarsson, Harold Paul Einarsson, Russell John Einarsson and Geophysical Service Incorporated

I. Personal Background

1. I am the Chief Executive Officer and President of Geophysical Service Incorporated ("GSI"), and as such have personal knowledge of the matters hereinafter deposed to, except where based upon information and belief, and where so based, I verily believe the same to be true, to the best of my recollection.

Disputing Investor

2. [redacted] My son, Paul Einarsson, owns all other issued and outstanding shares of GSI. Together, we own all of the issued and outstanding shares of GSI.

3. I have owned my shares in GSI since 1993, when the company was incorporated. That

a. 559720 Alberta Ltd. was incorporated as an Alberta corporation on March 18, 1993.

b. effective April 20, 1993, 559720 Alberta Ltd. changed its name to Geophysical Services Incorporated;

c. effective July 6, 1993, Geophysical Services Incorporated changed its name to Geophysical Service Incorporated;

d. effective July 8, 1997 Geophysical Service Incorporated was continued as a Canada corporation under the name GSI Geophysical Service Incorporated; and

e. GSI was continued as a federal corporation on July 8, 1997, and remains federally registered today.

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Attached hereto as ~~**Exhibit "A"**~~ is the Certificate of Incorporation of 559720 Alberta Ltd. and related amendments to its corporate name where it became GSI.

4. At the time of incorporation of GSI, I owned 50% of the shares of GSI, directly and indirectly through a Texas corporation with its registered office in Houston, called Geophysical Services Inc. [redacted] owned the other 50% of the shares of GSI. Over the course of time, my son, Paul Einarsson, [redacted]

5. I am an American citizen and have been since I was born, as my mother was American. I have been a continuous resident of Texas since 1975.

6. I have authored a book entitled “Davey Einarsson: A Life of Adventure”, that describes my life, work experience and GSI in some detail, and I adopt, affirm and incorporate its contents into this witness statement.

Experience and Background

7. I have a Bachelor Degree in Science from the University of Manitoba granted in 1956. I am a geophysicist. I commenced my employment with a predecessor to GSI, a previously incorporated Geophysical Service Inc. from the State of Delaware in the United States (“Delaware GSI”), on or about May 15, 1956. That year, I began working in the field with Delaware GSI who was contracted by Imperial Oil, preparing field paper records that were developed in ammonia and then sun racks. I began interpreting field records to map horizon markers later that year.

8. In or around 1957, I was assigned by GSI to work in Indonesia on a contract for Caltex. After approximately two years, I went to work for GSI in Benghazi, Libya, in 1959 on a contract for Oasis Oil Company (a combination of Conoco, Amerada, Marathon and Shell) until 1970. During my work in Libya, GSI implemented digital crews and a digital processing centre in Tripoli, Libya (a TIAC system [developed and created by TI, GSI’s parent]).

9. In or around 1969 to 1970, I briefly worked for Chappaqua Oil Company in Libya, which was then nationalized by the government.

10. In or around late 1970, I returned to work at Delaware GSI and became Vice-President of Delaware GSI with oversight of Canadian and Alaskan operations. I was assigned to Arctic offshore operations in Alaska, USA and northern Canada. Since marine seismic had not previously been done, it was very innovative to design and build a ship to record seismic data offshore, especially in this harsh environment.

11. I began the marine seismic surveys in eastern Canada, around Newfoundland and the Scotian Shelf, which created seismic data from below the base of the tertiary by using improved

air guns (the sound source used to create images, which was an improvement from the use of explosives) and unique, state of the art, GSI/TI developed digital marine recording instruments.

12. In or around 1975 to 1985, I conducted marketing and became Vice-President of Worldwide Marine Marketing Operations of Delaware GSI, based in Dallas, Texas, with oversight of Canadian operations. In or about 1980, I began to manage Worldwide Marine Operations and Data Processing for Delaware GSI.

13. From in or around 1985 through 1991, I was Marketing Manager, Digital Equipment Manager (Digital Field System [DFS]) and then Vice-President Worldwide Speculative and Instruments Manager. Ultimately, TI sold Delaware GSI to Halliburton in 1989. In or about February 1988, a 60% interest in Delaware GSI, then a subsidiary of Texas Instruments Inc. ("TI"), was purchased by Halliburton Company ("Halliburton"). Halliburton also bought Gerhardt Industries, which owned Geosource, and it was then grouped together with Delaware GSI and renamed Halliburton Geophysical.

14. My employment with Halliburton ended on February 14, 1991. Ultimately, the acquisition of the Seismic Works (as defined below) was, in part, due to settlement of my wrongful termination with Halliburton and expensive trademark litigation for Halliburton's infringement of GSI's trademarks, which trademarks were then owned by me. Those court proceedings were in the United States District Court, Southern District of Texas, Houston Division, C.A. No. H-92-4079, and were ultimately settled, as noted in the court documents attached hereto and marked as ~~**Exhibit "B"**~~. C-046

15. After my employment with Halliburton ended in 1991, the remaining interest in Delaware GSI was sold to Halliburton. I then consulted for Fairfield and a processing company, TLC.

16. Shortly thereafter, in or around 1992, I established a Houston-based company called Geophysical Speculative Investment Corp. ("Geophysical Speculative"), incorporated in Texas, United States. As detailed below, Geophysical Speculative entered into corporate transactions with other Canadian entities, ultimately concluding with GSI.

17. Geophysical Speculative negotiated with Halliburton to obtain all of the Canadian seismic data and licenses it owned which was then stored in its Calgary warehouse and office facility,

including the contents and employees. That data was eventually transferred in 1994 to a Canadian company that I formed, also called "GSI", which is the Enterprise that is the subject of this Arbitration.

18. In or around 1997 to 1998, GSI chartered various vessels as contractors to assist in the creation of seismic data offshore Canada. GSI maintained ownership and all proprietary and intellectual property rights to that seismic data.

19. In or around 2002, GSI purchased its own vessel, the GSI Admiral, and began more 2D and 3D marine seismic operations. GSI also purchased a 2D seismic vessel, the GSI Pacific.

20. GSI also bought a processing centre called Precision Seismic Processing around 2001 which was converted from land data processing only to also conduct marine data processing.

21. I am a current member of the Association of Professional Engineers and Geoscientists (APEGA) and have been since the early 1970s. I am a member of (since approximately 1970) and was also granted an Honorary Membership Award by the Canadian Society of Exploration Geophysicists (CSEG) in 2004. I am a member of the Society of Exploration Geophysicts (SEG) since 1961, European Association of Geoscientists & Engineers (EAGE) and American Association of Petroleum Geologists (AAPG).

22. Some of my accomplishments include:

a. involved in the first three offshore 3D seismic surveys in Canada in approximately 1983-1986;

b. operated first digital seismic recording system in North Africa (1964);

c. was instrumental in conducting first digital processing center in North Africa TIAC (8K memory);

d. designed (with Chevron Canada) and recorded first major speculative survey in Atlantic Canada in 1971 covering 11,000 kilometers;

e. collaborated with Helmut Hofer and Milo Backus to develop the first effective water bottom attenuation process (dewater) and significantly improved data quality in the producing zone in Grand Banks (below the base of the tertiary), which resulted in the discovery of the Hibernia offshore oilfield in Canada;

f. initiated and was instrumental in building a marine vessel, the GSI Mariner (winter 1971-1972) in Edmonton, trucking it in pieces to Hay River, Northwest Territories, assembling and sailing it on the MacKenzie River to the Beaufort Sea and conducting surveys there for 19 summer seasons;

g. managed and directed the first "land streamer" in the Canadian High Arctic, over the ice using towed streamers with built in gimbaled (self leveling) geophones, with good results (1973), and first use of differential global positioning (DGPS);

h. conducted marine seismic surveys in the Arctic Oceans, where no known modern vessels had ever sailed; made port call at Mould Bay (Prince Patrick Island) and surveyed north to Eureka (1974);

i. prime developer of the "hard water" recording unit, using air guns through the ice, differential GPS, ice streamer, "in door environment for Arctic Seismic Surveys" (1976);

j. as Marine Manager, was instrumental in, and managed the development of, the environmentally-friendly Sleeve Gun seismic source (Harry Harrison of Texas Instruments, an engineer who I supervised, and who won SEG award for his contribution to this development), which basic design is still in use today;

k. as Marine Manager, initiated and conducted the construction of the digital streamer for Delaware GSI in cooperation with EPRCO (Exxon Lab.) (1979);

l. as Marine Manager, completed over 300 Marine 3D seismic surveys before the competition (CGG) completed any in 1980;

m. as Manager of Delaware GSI Instrument Division, was instrumental in and managed the development of the first 24-bit seismic recording system; and

n. improved and designed the early Marine Exploration 3D technique in Canada (from 1983 through 1990).

23. Throughout my employment, I gained an intimate knowledge of the seismic data industry and managed most of the Canadian operations relating to the seismic data originally acquired by TI/Delaware GSI and ultimately owned by GSI, which are the subject of this Arbitration. GSI created approximately 40% of the original seismic data that is the subject of this Arbitration and has further reprocessed almost all of the seismic data acquired from Delaware GSI into further versions.

24. In my capacity as Chief Executive Officer and President of GSI, I have been responsible for the overall direction of GSI over the years. My son, Paul Einarsson, manages GSI's finances, daily operations, financial reporting and tax activities. Paul Einarsson has actively managed all of the operations of GSI since 2008.

Corporate Acquisitions and Transfers

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25. The list attached as ~~**Exhibit "C"**~~ hereto is a list of seismic survey assets (the "Seismic Works") that were either originally created by Delaware GSI and ultimately owned by the Plaintiff, GSI, and otherwise created by GSI. I have reviewed the list of the Seismic Works and confirm that this list includes the list of assets that were transferred under the Sale and Purchase Agreement between TI and Halliburton dated February 29, 1988, and which assets form part of the Seismic Works. I estimate that it cost predecessors to GSI approximately USD$400,000,000 to create the Seismic Works created by them, not including the research and development costs for the proprietary recording systems, and processing hardwares and softwares that made the creation of the Seismic Works possible.

26. In or around 1993, I was personally involved in the purchase by Geophysical Speculative Incorporated ("Geophysical Speculative") of the Canadian seismic data business of Halliburton Geophysical Services, Inc., an affiliate of Halliburton (the "Geophysical Speculative Acquisition"). On behalf of Geophysical Speculative, I negotiated the terms of the acquisition with various accountants, including Vicki Messer (Speculative Data Manager) and George Steele (an officer of Halliburton). The intention, purpose and effect of the Geophysical Speculative Acquisition was to transfer the physical records of seismic field, seismic processed, magnetic,

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gravity and navigation data which are identified in ~~**Exhibit "D"**~~ hereto, all title, intellectual property rights, including, without limiting the foregoing, copyrights and trade secrets, in the Seismic Works then acquired, and the contractual rights and obligations of all existing license agreements involving those parts of the Seismic Works to Geophysical Speculative. The Geophysical Speculative Acquisition also transferred the lease to the facility in which all of those parts of Seismic Works were stored, the employees then-employed that worked with those parts of the Seismic Works and all business records of Halliburton related thereto (such as permits and correspondence). The intent and effect was to transfer the entire Canadian seismic data business of Halliburton to Geophysical Speculative.

27. Geophysical Speculative obtained the pre-1993 portions of the Seismic Works under a Seismic Data Purchase Agreement dated August 20, 1993 between Geophysical Speculative Investment Corp. (as buyer) and the Geophysical Product and Service Line, Halliburton Energy Services, a division of Halliburton Company (as seller). Attached hereto and marked as ~~**Exhibit "E"**~~ is a true copy of the aforementioned Seismic Data Purchase Agreement.

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28. Since the Geophysical Speculative Acquisition, the Seismic Works, along with all rights and obligations associated therewith, have been under the care and custody of entities for which I have been a shareholder and director.

29. Through Geophysical Speculative, I decided to invest in the pre-1993 portions of the Seismic Works because I had the corporate know-how and experience in operating a seismic company in Canada and had noted the returns on investment for speculative seismic data in the Canadian energy industry. My familiarity with the Canadian industry was critical. Canada presented an excellent opportunity for investment in speculative seismic data because the offshore energy development industry was rapidly expanding in the 1980s and 1990s. The Canadian Government was actively promoting offshore energy exploration and development. At the same time, Canada was generally known at the time for being a safe place for business investments. The lawful protections that Canada provided to seismic data, as copyright and confidential works, was also of critical importance, as I knew that Canada was protecting the intellectual property in non-exclusive seismic data at the time and that Canada had a fair and reasonable justice system in which to conduct business affairs generally.

30. Since the Geophysical Speculative Acquisition, the following corporate transactions have transferred the right, title and interest in and to the pre-1993 portion of the Seismic Works:

a. Seismic Data Purchase Agreement dated May 8, 1994 between Geophysical Speculative Inc. (as seller) and GSI (as buyer), a true copy of which is attached hereto and marked as ~~**Exhibit "F";**~~ C-050

b. Seismic Data Purchase Agreement dated September 30, 1995 between Ardal Resources Inc. (as buyer) and GSI (as seller), a true copy of which is attached hereto and marked as ~~**Exhibit "G";**~~ C-051 and

c. Corporate amalgamation between Ardal Resources Inc. and GSI on January 1, 1999, a true copy of which Certificate of Amalgamation is attached hereto and marked as ~~**Exhibit "H"**~~ C-052.

31. Since in or around 1997 or 1998, GSI has created further seismic data that also forms part of the Seismic Works.

Explanation and Creation of Seismic Data

32. "Seismic data" is an industry term that describes information that can be used to map the geology of the Earth's subsurface. In its fully processed and finished form, seismic data is an illustrative map of the geological layers beneath the Earth's surface (including the seabed), and is the product of the recording of remote sensing technology and the application of skill and judgment in enhancing that sensing. Seismic data presents an image that is produced using sound waves to construct a picture representing an image of the subject that must be interpreted by a trained professional in order to understand the details contained within. It does not provide a fully definitive description of the subject, in and of itself. Seismic data is similar to a photograph, except that instead of recording light or other radiation, it is a recording of reflected sound waves created by the seismic operator (or photographer), both of which are recorded on a medium and eventually producing an image (this is a very simplified description).

33. Marine seismic data is created using remote sensing sound reflections of the subsea rocks, which for the Seismic Works, was created in a digital format. A seismic operator tows equipment

behind a ship that emits pulses of specifically chosen sound energies, down to the seabed. Some of the energy bounces back from each of the various geological layers through which it passes, and the time taken for the energy to return to the ship's sensors from the various geological layers is recorded. The time taken for the energy wave-paths to travel down to the various geological layers and reflect back off them to the ships' sensors are collected and processed using complex algorithms in order to create images of the depth at which the various geological layers that reflect the energy waves are situated beneath the seabed . That depth is expressed on a scale that records the time it takes for the energy wave to travel in two directions.

34. The other types of datasets commonly created by seismic operators are gravity and magnetic data. Gravity data are measurements recorded by a gravimeter, which measures the variation in the gravitational force exerted by the Earth as it is affected by rocks of various densities below the surface. Gravity measurements are processed to facilitate images of the variations in the Earth's gravitational field and are presented as maps and cross sections of the gravity variations across an area. Magnetic data is similarly recorded and presented, with variations in the magnetic properties of rocks in the subsurface recorded by a magnetometer.

35. The raw or unprocessed energy data is often referred to as "field data", and is recorded on field tapes (also known as SEG-D data, and sometimes initially recorded and stored in SEG-A and SEG-B). The processed product, once it has been filtered, corrected and manipulated using skill and judgment to select and use various algorithms, then contributes to an image of the subsurface, known as SEG-Y data.

36. Seismic data acquisition and processing relies on the expertise of the company's seismic acquisition crew, highly skilled geophysicists who process the field data and the proficiency of the algorithms and other tools used to turn the field data into an image approximating the distribution of the geological layers beneath the Earth's surface.

37. Work, skill, judgment, experience and investment decisions are involved in every step of the process of creating and investing in the Seismic Works. The following typically sequential steps were undertaken to create the Seismic Works:

a. Generally, surveys are funded by shareholder and related party loans, institutional loans and financing from entities such as AIG and GE, or directly by GSI and its predecessors.

b. Hiring of skilled and trained employees, including marine geologists, geophysicists, data processors, marine staff, specialized mechanics, trained recording system operators, trained quality control "observers", experienced management, computer analysts and researchers, all or some of which worked in combination to create the Seismic Works;

c. Buy or contract a specialized seismic research ship, which costs approximately $60-100,000,000 (including the geophysical equipment on it) and requires hiring a crew that charters for approximately $30,000-80,000 per day for 2D seismic data, and 3D is considerably more;

d. Buy or lease seismic equipment depending upon the survey choices made, inventory of equipment owned, available, and most suitable for the geologic conditions, all of which is selected based on the experience and know-how of senior staff who plan the survey, including gravity and magnetic equipment, source equipment (guns, umbilicals, air lines, compressors and rigging) and recording equipment (consists of streamers, compass birds, GPS tail-buoy, SRDs, recording systems, media systems), from a variety of suppliers. In earlier operations, many of the components and equipment were designed and built by TI, affiliated with Delaware GSI. The selection and mix of equipment used were based on knowledge, training and know-how of the planner of the survey, which included highly experienced individuals and often geophysicists. Development and construction of equipment is very expensive and varies depending upon the required components and their configuration. When available, and if funds are lacking, leasing of equipment is common in the industry from vendors and other seismic leasing

entities which eliminates some of the capital needs and creates a fixed cost one can more easily factor into prices;

e. Obtaining all certificates, licenses, insurance, and regulatory requirements (permits, approvals, safety and environmental regulatory requirements, etc.) to conduct seismic surveys;

f. Use of skill, judgment and research to plot the seismic survey lines;

g. Use of skill, judgment, knowledge of the subsurface, testing and research to select the equipment and set the acquisition parameters for the source and receiver systems. Selection of prospective seismic surveys involves an analysis of previous seismic surveys, well or outcrop information, client input, reports, publications, market information, gravity or magnetic data;

h. Use of skill, judgment and specialized knowledge in the collection of field data by source and receiver systems deployed in the water. The source system designed (number and type of units, size, configuration of units, pressure used, etc.) is activated periodically based on the parameters selected. The reflections from sub-surface acoustic boundaries are recorded by the receiver system (also selected components, spacing and designed parameter settings) and then stored as “unprocessed seismic”, “raw seismic” or “field data” on media;

i. Use of skill, judgment, testing and research to apply techniques, and proprietary and non-proprietary hardware and software to process the field data, specific to the geologic conditions in the area of the survey;

j. Use of skill, judgment and knowledge to select parameters, tools, methods, and processes to create the best processed data possible; and

k. Continuing education, research and development to maintain and improve skills, judgment and knowledge of all of those involved. The training involved for operational people was intensive during the early digital program from the 1960’s onward. There were seven series of digital field systems made by TI/GSI during

> the period of maximum Canadian marine data collection that was conducted for TI, affiliated with Delaware GSI. The personnel were hired to operate in an efficient manner with "error free" procedures. During this time, TI (affiliated with Delaware GSI) had 26 ships, approximately 80 engineers and 70 research personnel in Dallas, Texas who were among the best operational people in the industry. These 150 professionals taught field personnel in Dallas, Texas and on board vessels operated by Delaware GSI. It was an intensive educational effort which led to TI (affiliated with Delaware GSI) being the acknowledged technical leader in the industry.

38. Arranging raw seismic field data into finalized seismic surveys involves laying out a location and pattern of seismic lines to create the best image of the layers of geological formations beneath the Earth's surface, accounting for geophysical principles for the dip, dependent on whether there are salt or shale structures, faulting, hard or soft water bottoms, ray path issues such as uneven and reflective water bottoms, depth to prospective targets and depth of the basin. This analysis involves geological and geophysical knowledge and skill to place the correct direction of the lines and calculate the best grid and distance between lines.

39. Processing involves judgment in the selection from the various proprietary Delaware GSI software tools to be used for a particular data set and setting the parameters on the software and making educated inputs and choices that are combined to properly process the raw seismic field data. Processing field data is an interative and labour-intensive process. First, the field data is converted into a format that the specialized software can process, and filters are applied to it to remove random noise and correct reflection distortions from the Earth. Processing was undertaken by TIAC and TIMAP computers, proprietary hardware designed for Delaware GSI by TI. Field data is sorted into common depth points and normal move-out (related to the effect that the distance between a seismic source and a receiver has on the arrival time of a reflection) was applied. The traces within the common depth points are summed together, the data might be migrated and more filtering applied at this stage based on the judgment and know-how of the processor. Processing utilizes proprietary software, techniques and sequences developed by Delaware GSI and GSI through extensive internal research and development. The final product is then output to magnetic tape in SEG-Y format and a mylar plot of the processed seismic data is generated for further use, reproduction and storage.

40. Most of the hardware and software used in the creation of the Seismic Works was and is proprietary to Delaware GSI, including the recording systems, streamers, acquisition and processing software, and hardware for processing. Delaware GSI, together with TI, developed the DFS series of recording systems, the streamers and the Accelerator Cancelling Hydrophone used in the streamers. Delaware GSI developed software through its research and development department, including the processing system called TIMAP. These technologies were used by Delaware GSI to facilitate and assist in the creation of the Seismic Works.

41. Ultimately, following processing, GSI, and its predecessors, undertook and continues to undertake a campaign to market and promote the Seismic Works to obtain license revenues to fund the foregoing activities, as well as storage and maintenance (reprocessing, periodic re-transcription, etc.) of the Seismic Works. GSI continued to use these technologies in creating the later Seismic Works.

42. The Seismic Works are unique. Seismic data of similar vintages available from sources other than GSI tends to be of poor quality and has not been maintained due to the policies of government to undermine the revenues needed by seismic operators / owners to maintain, store, and reprocess data, resulting in many datasets being abandoned.

43. GSI and its predecessors used the most advanced hardware and software available contemporaneously with the acquisition and processing of the Seismic Works. From the commencement of seismic data acquisition through the time that the Seismic Works were acquired, Delaware GSI was the leading edge innovator in seismic data technology and practices. Delaware GSI had conducted over 300 marine 3D seismic surveys in or around the 1970-80s before its first competitor was ever able to devise similar technology and practices that could be used to create similar works. Delaware GSI invented the first digital seismic recording systems to replace analog seismic recording systems. TI, an affiliate of Delaware GSI, invented the integrated circuit that enabled digital recordings of field data, which is now in all modern electronics. Delaware GSI conducted the first marine 3D surveys in Canada, including Onandaga offshore Nova Scotia in 1983, Hibernia offshore Newfoundland in 1985 and Amauligak in the arctic in 1986 and 1990. These surveys have led to significant Canadian oil and gas development offshore.

Seismic Data Industry

44. The seismic data industry focuses on the creation and licensing of seismic data. It is a time and capital-intensive business. Seismic surveys are only licensed to a small number of customers at a high cost to compensate the seismic operator for the associated high upfront expenses in the creation of seismic surveys.

45. Seismic operator expenses include the high purchase (or leasing) and operating costs of the ship and its crew, the source and recording equipment, processing, research and development, staff, offices, equipment, secure storage, upgrading of media and periodic reprocessing.

46. Oil companies obtain seismic and gravity-magnetic data, often through purchasing or licensing such data from seismic operators, in order to provide themselves with an image of the configuration and depth of the various geological layers beneath the Earth's surface to determine whether to explore and commence drilling activities in a particular area.

47. The seismic industry was historically honourable. Customers understood the value of seismic data and that capital and labour inputs were to be compensated through licensing arrangements and fees. Seismic data was treated as a valuable commodity, because of its inherent informative value and as a result of the confidentiality that was maintained in respect of such data. Often times, the written licensing arrangements were secondary to common understandings in place between seismic operators and customers that access to seismic data was restricted, controlled, for a single user, confidential and costly.

48. In more recent times, the seismic industry has experienced a decline, not as a result of there being less need for seismic data, but rather, as a result of parties obtaining confidential seismic data from sources other than seismic operators who own the rights associated with such data, with no compensation to the seismic operators for doing so. Once a particular seismic survey is freely available in the market, or accessible through a joint venture partner without a license, customers are less likely, if not entirely unlikely, to license that seismic survey through a licensing arrangement with the seismic operator due to the associated costs of licensing. That unlicensed seismic survey can be shared with multiple parties as it is not governed by license terms restricting its use and availability, is essentially no longer marketable and usually little to no further compensation for the investments and ongoing expenses of the seismic operator is obtained.

Confidentiality of Seismic Works

49. Before the Geophysical Speculative Acquisition, to the best of my knowledge, as I was an employee at the relevant times, Delaware GSI and Halliburton had treated the Seismic Works confidentially with access to them only through licensing and, if required to be disclosed by GSI to regulatory bodies under mandatory laws applicable at concurrent times, GSI received assurances from those government entities that the confidentiality of the data would be maintained, with reproduction prohibited. It was Delaware GSI's, Halliburton's and GSI's understanding that no disclosure by the Canadian Government occurred in the 1980s and 1990s. Since the Geophysical Speculative Acquisition and to the present day, other than the alleged infringements that are being claimed in various legal proceedings by GSI, the Seismic Works have been treated confidentially with access to them only through licensing and if required to be disclosed to regulatory bodies under mandatory laws applicable at concurrent times.

50. GSI has always treated the Seismic Works as confidential and takes the following strict approach to do so, which was also undertaken by its predecessors:

a. Licensing arrangements;

b. Previews of the Seismic Works are monitored in controlled, supervised environments;

c. The Seismic Works are stored in locked facilities only accessible by GSI personnel;

d. The Seismic Works are never broadcast and are only available in an electronic format, delivered in physical form to a customer;

e. The distribution of the Seismic Works through licensing arrangements is limited to increase the value of the Seismic Works to customers;

f. Use of the Quality Inspection Standards of International Association of Geophysical Contractors (IAGC); and

g. License agreements require the use of prescribed confidentiality agreements when licensees disclose any data or work products to potential acquirers or joint venture

partners, vendors and contractors, which confidentiality agreements must be executed by such third parties prior to their accessing the data.

Goodwill

51. Throughout the course of its operations and business in Canada, GSI has built, and has had, a reputation of obtaining or creating high-quality marine seismic data. Delaware GSI was a pioneer and the first in many regards, such as digital seismic data creation, first to discover reefs in North Africa, first to create Canadian offshore 3D seismic data and going the furthest north of any seismic survey (approximately 80 degrees north latitude from Baffin Bay) with a ship stationed year round in the Arctic, creating high-quality processed and reprocessed forms of seismic data, including the Seismic Works, and maintaining reasonable terms in the Licensing Agreements. GSI purchased that goodwill from Delaware GSI, by acquiring the rights to the pre-1993 portions of the Seismic Works and Delaware GSI's trademarks.

The Business

52. GSI operated a seismic acquisition business and its processing business with approximately 250 employees until approximately 2011. The seismic acquisition business included two seismic ships owned by GSI, the GSI Admiral (a four reel, 3D ship) and the GSI Pacific (a single reel, 2D ship), and related seismic equipment. The processing business included a processing centre in Calgary and related processing equipment with approximately 30 employees. GSI operated up to three geophysical land crews at certain times. The replacement cost of these assets are in the range of USD$200,000,000.

Investor Loan

53. I have further loaned funds to GSI in the course of its operations. As of December 2017, I have an outstanding shareholder loan due and owing to me from GSI in the amount of $2,391,471.41, with interest continuing to accrue.

Remunerative Contract

54. I was employed with GSI but no longer am able to take a salary, since approximately 2008, due to the downturn in GSI's data licensing business needed to fund all of our operations as a result

of the activities of the Canadian Government. I do not have a written employment agreement with GSI.

Government Requirements

55. In order to conduct offshore seismic survey work, GSI was often required to obtain regulatory permits from various federal government agencies. As a condition of operating under those permits, GSI was required to submit the Seismic Works to the applicable government agencies initially in paper and mylar formats. At the relevant times, the government did not disclose its use for the Seismic Works and, to the best of my recollection, never advised that it would make available to and directly participate in the copying of the Seismic Works for other parties. In fact, GSI was given assurances by the Canadian Government that speculative seismic data would not be disclosed. GSI has since discovered recently that, over time, disclosure by the Canadian Government began, and it also evolved. It first apparently included viewing of the Seismic Works by third parties, and evolved into copying of the Seismic Works and government entities providing online disclosure, sending data in emails, conducting their own copying in-house for third parties, sending data out for copying and shipping to third parties or by otherwise enabling those third parties to create reproductions of the Seismic Works.

56. At the time that the Seismic Works were created, predecessors to GSI that I worked with did not anticipate the technological advances that have occurred in the seismic industry. The advent of improved optical scanner technology since the 1990s has, unbeknownst to me at the contemporaneous times, given rise to the ability to copy and scan seismic data in paper or mylar format and, later, to vectorize the data and convert it into digital forms on tapes in SEGY format (essentially, reverse engineering paper copies into digital formats) that can then be used for interpretive purposes on workstations. Previously, seismic data in paper and mylar formats could not be so scanned, and therefore, viewing them was not particularly damaging at the scale and quality of the prints.

57. When seismic data could be copied or scanned for interpretation is when real harm occurred to GSI's business. The data license fees fund the entire expensive operation and are critical to corporate viability. Since only paper and mylar forms of the Seismic Works were submitted to the Canadian Government, the ability of third parties to access the data in a manner in which GSI

would be critically harmed was minimal to non-existent, but became debilitating to GSI's business once copies of the Seismic Works were or could be scanned, copied and disseminated. In my experience, when processed data is made available without license restrictions, it is difficult, if not impossible, to license that data since it is available freely without restriction. In fact, GSI has not had any third party volunteer to license the Seismic Works once the data is obtained through other sources, such as the Canadian Government.

58. I am also unaware of any instances in which vectorized or SEGY versions of the Seismic Works would have ever been made available as they are through licensing from GSI; the availability of those formats of the Seismic Works is strictly guarded as confidential to curb the foregoing issues regarding dissemination. The dissemination of vectorized or SEGY versions of the Seismic Works was made possible through the advent of improved scanning technologies that enabled third parties to change the format of the Seismic Works for interpretive purposes as described above.

59. Predecessors to GSI also did not anticipate the digital dissemination of information over the internet that now occurs regularly in various image, digital and other formats (including the highly guarded SEGY format). Similar to the difficulties faced by the music industry, such dissemination is difficult, if not impossible, to control and creates copies of the seismic data being transmitted. Such types of dissemination were simply not accounted for by predecessors to GSI before this type of technology became commonplace because the technology and its uses were contemporaneously unknown and not in existence.

60. Labelling was common industry practice to demonstrate and assert ownership over seismic data and provide proprietary, copyright and confidentiality notices. GSI always labels each of its seismic lines with such notices. The Canadian Government never commented or rejected the labelling practices of predecessors to GSI to identify the Seismic Works when submitting such works to the Government.

61. During the course of my involvement with GSI and its predecessors in interest, I was in contact with the Government of Canada and its servants. Those servants engaged in various activities, including, but not limited to, the following representations to, communications with,

practices, intentional omissions and deceit of GSI and its predecessors, against the background of the following relevant and material facts:

a. Throughout the relevant and material times when GSI and its predecessors submitted seismic data under the relevant legislation, the purpose of that legislation was for safety and environmental regulation, not for the purpose of disclosure to promote Canadian offshore oil and gas development, which represented to GSI and its predecessors that the Seismic Works were only required by Canada for the purpose of safety and environmental regulation, when in fact, Canada has, otherwise taken the position more recently that the purpose of the legislation governing disclosure also applies to the submission of the Seismic Works to Canada, thereby intentionally deceiving GSI and its predecessors.

b. Throughout the relevant and material times, the permits issued to GSI and its predecessors under the legislation governing submission did not indicate any connection to the legislation governing disclosure and represented by omission that the Seismic Works would not be disclosed as they failed to refer to either disclosure or copying, thereby intentionally deceiving GSI and its predecessors in making investments in Canada.

c. Throughout the relevant and material times, the legislation has not employed the term “copy”, has not referred to the *Copyright Act*, has not amended the *Copyright Act* and has not been enacted notwithstanding the *Copyright Act*, representing to GSI, its predecessors and the Canadian public that copying or reproduction of the Seismic Works was not intended by the terms “release” or “disclosing” with reference to seismic data.

d. Throughout the relevant and material times, and alternatively, at least since the 1990s, the Canadian regulatory bodies have represented, at their offices where the Seismic Works are held, that intellectual property laws of Canada must be respected, including copyright, when viewing or accessing the Seismic Works.

e. Throughout the relevant and material times, and alternatively, at least since the 1990s, the Canadian regulatory bodies have employed liability forms that are executed by third parties accessing the Seismic Works, representing that intellectual property laws of Canada, including copyright, would be complied with by those third parties.

f. In or around the 1970s to 1980s, Newfoundland represented to GSI's predecessors and me that disclosure of the Seismic Works was not possible without mutual agreement with the GSI's predecessors as to that disclosure. At all relevant times, including prior to the creation of the Canada-Newfoundland and Labrador Offshore Petroleum Board ("CNLOPB"), Newfoundland and Canada coordinated their practices with respect to seismic data.

g. In or around the 1970s to 1980s, Nova Scotia represented that seismic data (other than paper or mylar) need not be submitted by the geophysical contractor (which would be speculative seismic data), but only data owned by oil companies (exclusive data) would be submitted. At all relevant times, including prior to the creation of the Canada Nova Scotia offshore Petroleum Board ("CNSOPB"), Nova Scotia and Canada coordinated their practices with respect to seismic data.

h. In or around 1976, the Canadian Government (Liberal) prepared and issued the 1976 *Statement of Policy: Proposed Petroleum and Natural Gas Act and New Canada Oil and Gas Land Regulations*, which does not refer to "copying" any information for third parties. This Policy suggests a shorter confidentiality period for proprietary information, representing that the practice of Canada was to hold proprietary information confidential for extended periods of time, yet it is clear from the history of the relevant legislation that the confidentiality period was actually extended rather than shortened, representing to GSI and its predecessors that this Policy was not implemented by Canada.

i. In or around 1977, Bill C-20 *An Act to regulate the disposition and development of oil and gas rights* was tabled in Canadian Parliament. Bill C-20 never received royal assent and does not have the force of law. Bill C-20 employs the term

"published" in conjunction with "released", "publication" being a term defined by the *Copyright Act* at section 2.2, as "(a) in relation to works, […] (i) making copies of a work available to the public". The term "published" has not been part of the legislation governing disclosure, which represented to GSI and its predecessors that Canada intended to not include that specific term and its accompanying effects.

j. In or around 1980, Bill C-48 *An Act to regulate oil and gas interest in Canada lands and to amend the Oil and Gas Production and Conservation Act* was tabled in Canadian Parliament. Bill C-48 never received royal assent and does not have the force of law. Bill C-48 included a specific provision addressing the "publication" information furnished under that Act, recognizing that the Governor in Council would need to delineate a process for publication of seismic data and consider whether to prescribe fees in connection therewith, representing to GSI and its predecessors that Canada acknowledged that, if access to such information was to be provided, such access would need to be governed by a specific process that could ascribe value to the Seismic Works.

k. On or around March 5, 1982, COGA was proclaimed in force and the representations of Canada contained in the permits did not change. Section 50(3) of COGA states "[…] information or documentation furnished in respect of the following matters may be disclosed, in the manner prescribed […]", requiring regulations to prescribe the "manner" by which information or documentation, including geophysical works, could be disclosed. No regulations were ever enacted to prescribe the manner of disclosure. The term "published" is not employed, in contrast to Bill C-20 and Bill C-48. COGA represented to GSI and its predecessors that Canada purposefully excluded or intentionally omitted, in order to deceive GSI and its predecessors, prescription of the manner of disclosure such that disclosure of the Seismic Works would not occur.

l. In or around November 1982, COGLA issued Guidelines for Approvals and Reports. These Guidelines omit reference to any privilege period or confidentiality matters, and copyright, representing by exclusion or intentionally omitting to

deceive GSI and the Predecessors that the Seismic Data would not be disclosed or copied.

m. In or around January 1983, COGLA issued revised Guidelines for Approvals and Reports, again with no mention of a privilege period or confidentiality matters, and copyright, representing by exclusion or intentionally omitting to deceive GSI and the its predessors that the Seismic Works would not be disclosed or copied.

n. In or around June 1983, COGLA issued correspondence to GSI's predecessors representing that Canada was collecting seismic reflection data on Canada lands to create a database accessible only to designated federal government geophysicists exclusively with no access by industry with respect to confidential data, representing that the Seismic Works would not be disclosed or copied for third parties.

o. In or around 1984, unbeknownst to GSI until 2015 and the Predecessors at the time, COGLA issued the first report *Released Geophysical and Geological Reports – Canada Lands* that was available in print format at one or more of the offices of the Canadian Government, listing seismic data in the Canadian offshore areas that COGLA was making available to third parties.

p. In or around June 1986, with specific reference to amendments to section 50 of COGA, which when amended became section 101 of CPRA, the Canadian Government (Conservative) prepared and issued the *Briefing Book – Canada Petroleum Resources Act*, representing that Canada agreed that confidentiality protection should increase as the value of seismic data increases and that seismic data may be released, but there is no obligation on the Crown to release information or documentation upon expiration of the relevant periods of privilege as that is a matter of discretion, which represented that the Seismic Works may not be released without due process and consideration. As a result, Delaware GSI became concerned by the Canadian Government's change in policy from years of non-disclosure.

q. In or around October 7, 1986 and November 18, 1986, the Predecessors affirmed to Marcel Masse, Minister of Energy, Mines & Resources and to the Standing Senate Committee on Energy and Natural Resources that there was reliance upon the representations of Canada regarding the confidentiality and copying of non-exclusive seismic data, stating, *inter alia*:

i. Canada's policies with respect to non-exclusive seismic data have changed over time;

ii. no seismic data was provided to Canada in earlier times;

iii. after a period of time, Canada requested black-line copies of seismic data for internal use only;

iv. after a further period of time, Canada allowed third parties to look at seismic data older than 10 years old, but only by attendance at Canada's offices and in paper form, without copying;

v. non-exclusive seismic data was never released for viewing;

vi. in or around the late 1970s, Canada began requesting reproducible mylar sections rather than hard copy prints and reduced the confidentiality period from 10 years to five years with respect to exclusive seismic data (and not non-exclusive data);

vii. the Director of COGLA orally represented to Delaware GSI that Canada does not release non-exclusive seismic data;

viii. the Director of COGLA represented to Delaware GSI that COGA required, with no discretion to be exercised, the disclosure of non-exclusive seismic data, which was not true.

r. In or around the mid-1980s, the industry developed the ability to reproduce paper and mylar seismic data, but the reproductions were of low quality such that they were mostly unusable.

s. From in or around June 1987 to February 1988, Canada engaged in a dialogue with Delaware GSI and the Canadian Association of Geophysical Contractors (CAGC), an association of which GSI and its predecessors are, and have been, members. The Canadian representatives included Marcel Masse, the Director General of the Resource Evaluation Branch, M.E. Taschereau (Administrator), the CPA Negotiating Subcommittee Meeting with Graham Campbell of COGLA, and others. The CAGC affirmed to Canada its reliance on the pattern of Canada's conduct to maintain confidentiality of seismic data. Canada represented that the CPRA provides for disclosure of seismic data within the discretion of the Minister or his designate, and that such discretion encompasses the type of data to be disclosed, the form of disclosure, and the ultimate schedule of disclosure. Canada further represented that they would engage with their counterparts in Newfoundland and Nova Scotia to delay disclosure of the Seismic Works. Canada further represented that the best solution to the matters in dialogue between the CAGC and Canada was to amend the CPRA to differentiate between confidentiality periods for each class of non-exclusive and exclusive seismic data and the types thereof that could be disclosed. Ultimately, COGLA represented to Delaware GSI that it agreed to extend the confidentiality period and would do so by way of a Ministerial Directive. GSI and its predecessors relied upon that representation that a Ministerial Directive would be issued, since it could be challenged through appropriate judicial processes, if necessary. However, no such Ministerial Directive was never issued.

t. The Canadian Government often conflated or confused the difference between non-exclusive and exclusive seismic data. Non-exclusive data does not need dissemination to promote offshore oil and gas development because companies, such as GSI, are actively marketing and making available non-exclusive seismic data for license. In other words, the interest of the Canadian Government in promoting offshore oil and gas exploration in Canada was perfectly aligned with GSI's business model. Only exclusive seismic data is unavailable to others who may be seeking opportunities to develop offshore energy, which is why the Canadian Government wished to make such exclusive seismic data available to

others if a company had not developed a site from exploration into a significant discovery or production license within a certain timeframe, so as to actively encourage companies to not stockpile sites without developing them and to encourage others to develop sites that were not progressing.

u. In or around 1989, the software to enable scanning and digitizing seismic data, including the Seismic Works, was invented, but the use of this software was limited by labour intensive processes and resulting expense.

v. In or around 1993, GSI acquired certain of the Seismic Works from its predecessors.

w. On or around October 5, 1993, Canada entered into an agreement with GSI affirming that at least certain of the Seismic Works are proprietary to GSI, copyright, and that it would not be disclosed.

(collectively, the "Representations").

62. The Representations reflect the inconsistent policies and legislation of the Canadian Government in respect of Canadian offshore non-exclusive seismic data, which were in a state of flux, evolving throughout the relevant times. Needless to say, they were confusing at best but GSI always understood that copyright and confidentiality protections afforded to works would protect the Seismic Works. The confusion was likely intentional by the Government of Canada as it did not want to pay compensation to GSI for the indirect expropriation of the Seismic Works. Canada was in a unilateral position of power, as a fiduciary of confidential information in the form of trade secrets in the Seismic Works, and has asserted new interpretations of its own legislation, which it also has the unilateral power to do.

63. The meaning of the term "disclose" in the relevant legislation is far from clear. If considering the intentions at the time that the legislation was enacted, it could not possibly have been the case that the Government of Canada intended to copy the Seismic Works as the technology to make copies of the Seismic Works was not yet even developed. Canada and its representatives had undertaken a pattern of conduct to not copy the Seismic Works and technological history had not even enabled reproduction and translation from print into digital

formats of the Seismic Works until the mid-2000s. Additionally, the Canadian Government acknowledged at various times that it was also mistaken of fact regarding the differences between exclusive and non-exclusive seismic data, print and digital formats, reproduction technologies available at various times and the meaning of the term "disclose". The Canadian Government never approached GSI to seek an assignment of copyright in the Seismic Works to the Canadian Government and never offered compensation to GSI for reproducing the Seismic Works. Instead, the Canadian Government took inconsistent positions as to whether the Seismic Works were copyright or not, avoiding the compensation issue altogether and failing to properly consider its obligations under the North American Free Trade Agreement ("NAFTA") to protect intellectual property rights.

Discovery of Disclosure and Reproduction of Seismic Data

64. GSI now knows that the Seismic Data has been disclosed and copied by Canada, but does not know when that started because only viewing of seismic data occurred for a long time. It learned this through *Access to Information Act* requests and responses from Canada and its provincial governments, but was unaware at the relevant times of investment. The discovery of this information has also occurred through the conduct of litigation commenced by GSI leading to Canadian Court decisions affirming the confiscation of GSI's intellectual property rights in the Seismic Works. Only once GSI's property rights were denied, were those rights confiscated. No notice was ever provided to GSI that the Seismic Works was being disclosed or copied.

65. GSI played by the rules and obtained necessary permits to conduct expensive undertakings in Canada. Canada has not played by the rules of copyright protection and confidentiality that is owed to owners of works, such as the Seismic Works. What GSI has learned is that Canada has not carried out its obligations under NAFTA, and has not acted fairly or reasonably when GSI has sought to confirm the sanctity of the Seismic Works in the possession of Canada.

66. Had I known all of this in advance of my investment in GSI, and GSI's investment in Canadian operations, it would have never made any such investment in the first place. The expectation was that Paul Einarsson and I would be treated fairly and reasonably, and that GSI would be, too.

67. Paul Einarsson and I have suffered significant losses as a result of Canada's confiscation of GSI's intellectual property rights in the Seismic Works and interference in GSI's contractual license rights with its clients, and the consequential loss to GSI's business. We reasonably expected that the Seismic Works would be afforded the intellectual property protections provided in Canadian law, in American law, under the Berne Convention and under NAFTA.

My Health

68. [redacted] In that regard, attached hereto and marked as ~~**Exhibit "I"**~~ is a true copy of a tape recorded interview of me regarding the claims in this Arbitration that was taken shortly after the Notice of Intent to Arbitrate was issued in the Fall of 2018. I previously testified about some of the matters contained in this witness statement (regarding the ownership of intellectual property rights in the Seismic Works and the general activities of GSI and its predecessors) in a trial conducted in 2015 in Court of Queen's Bench of Alberta Action No. 1101-15306, which testimony and evidence I adopt and affirm herein, and which formed the basis of portions of this witness statement. Our lawyers were instructed to advise Canada of my advanced age; attached hereto and marked as ~~**Exhibit "J"**~~ C-054 is a true copy of correspondence issued by our lawyers, Borden Ladner Gervais LLP, advising of my age and health.

69. [redacted]

Conclusion

70. I make this witness statement in support of my, my sons', and GSI's claim against Canada in this proceeding and for no other purposes.

71. I swear this witness statement in English.

Signed at [redacted] on Dec 2 2019 3:45 PM

[Signed]

THEODORE DAVID EINARSSON
Address:
[redacted]