

IN THE MATTER OF AN ARBITRATION UNDER CHAPTER ELEVEN OF THE
NORTH AMERICAN FREE TRADE AGREEMENT AND THE UNCITRAL
ARBITRATION RULES (1976)

-between-

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

(“Claimants”)

-and-

THE GOVERNMENT OF CANADA

(“Respondent”)

ICSID CASE NO. UNCT/20/6

WITNESS STATEMENT OF RALPH MAITLAND

CWS-4

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Einarsson and Geophysical Service
Incorporated*

I. Personal Background

1. I have a degree in Geology and a civil engineering technology diploma 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.

My Background and Relationship with the Claimants

2. I have been involved in the seismic industry in Canada since 1986. I previously had ownership interests in two companies that were in the business of vectorizing seismic data, Lynx Information Systems Ltd. (Canada) (“Lynx Canada”) and KP Seismic Ltd. I am still involved in the business of vectorizing seismic data currently, but on a part-time basis as a consultant who is semi-retired.

Vectorizing

3. Vectorizing is a process that takes a digital image of a paper, mylar or microfilm / microfiche seismic data section and converts it into a SEG Y format. Oil and gas companies use SEG Y format data because it can be loaded on very powerful workstations with software that can enhance and manipulate the data with powerful tools for interpreting and modeling areas of interest to explore for hydrocarbons. An oil and gas company prefers SEG Y data due to the power of the software and workstations it can be loaded onto to gain much more utility from the data to explore, develop and produce in an area.

4. Vectorizing is also referred to as “digitizing” and “reconstruction”. It involves specialty large format scanners on which the user can adjust DPI (dots per inch). The higher the DPI, the more detail; however, file size also increases with DPI. The scanning software also allows the user to adjust the threshold or the amount of black within the paper seismic section. The scanning software also allows the user to adjust the skewness of the seismic section. All of these elements have to be taken into account to get the best output possible

5. The scan or image file would then be transferred to a computer to use specialty software to vectorize the seismic data. The vectorization software requires identification of the first trace, last trace, starting time and end time. The software user must input various parameters to go down

each seismic trace being vectorized. A filter is applied to the vectorized seismic data to clip out any erroneous noise introduced during vectorization. The filter applied is generally derived from the seismic section's side label which specifies high and low frequency and the filters dB slope.

Exclusive vs Non-Exclusive Seismic Data and Vectorization

6. My businesses would only vectorize exclusive seismic data, as I refused to produce competing seismic data in SEGY format when seismic contractors made the same seismic data sets available on a non-exclusive basis for their own future licensing revenues. Other companies did not do have the same philosophy.

7. However, I was once approached by Total E&P Canada Ltd. and Total S.A. (collectively, "Total") to vectorize certain seismic data (the "GSI Data") that had an identifier trademarked by Geophysical Service Inc. ("GSI"). I do not recall who supplied all of the original paper sections from Total, but I was asked to recapture the paper back to SEGY (vectorize the paper into a SEGY version), but another company hired by Total had to supply the navigation data or the x/y axis information before the seismic data could be loaded to the workstation. Total advised me that it owned the GSI Data and that it had lost the SEGY format of the GSI Data but wished to create a new SEGY version of the GSI Data. I completed the request on the basis of Total's representation to me that it owned the GSI Data. However, I later learned from Paul during a telephone call that Total had not licensed GSI's seismic data and that Total had misrepresented its ownership of the GSI Data and, instead, it had obtained a copy of the GSI Data from one of the government boards that hosts seismic data in the frontier areas of Canada (the "Boards"), including copies of the GSI Data.

Cost of Vectorization

8. In order to create new seismic data in offshore (marine) areas in Canada today, it would cost over \$5,000 per kilometer of seismic line, resulting in an estimated investment of over \$50,000 per 10 kilometers of seismic line. To vectorize 10 kilometers of seismic line would be less than \$500. It is significantly cheaper to vectorize existing seismic data than to create new seismic data or often to license that same data (generally \$300-\$1,500 per 2D km to license and which license is always the subject of negotiations between a licensor and licensee).

History of Vectorization in Canada

9. The process of vectorizing was invented by Charlie Hewlett in the United Kingdom in or around 1989 or 1990. Lynx Canada was the first to use it in Canada in 1990, having setup an office at 736 6th Ave SW in Calgary, Alberta; however, Petro Canada Inc. was utilizing the process in their international exploration activities prior to 1990. It became prevalent for exclusive seismic data in Calgary, Alberta after the establishment of Lynx Canada's office. The technology was being marketed daily through corporate presentations, free trial seismic lines and telephone calls. Spectrum Seismic from the United Kingdom was also marketing the service in Calgary, Alberta.

10. It is my recollection that companies that could vectorize seismic data began copying seismic data from the Boards in or around 1989 or 1990, and then onwards from that time, which included Lynx Canada, Spectrum Geophysical, SeiScan Geodata and others, both on behalf of oil and gas companies and to create their own repositories of SEG Y seismic data for sale to oil and gas companies in the future. The National Energy Board ("NEB") was aware of the practice of vectorizing paper seismic data because I personally explained it to Rudy Klaubert and Rose Marie Pamiere who were in charge of the Frontier Information Office located at the NEB and told them what I was able to do, which is when I was a minor shareholder of Lynx Canada in or around the early 1990s. The projects that Lynx Canada was working on in or around that time were from the Fort Liard area and onshore in the Northwest Territories. If I was interested in pulling a number of seismic lines, Rudy Klaubert would contact the NEB warehouse and have the original paper seismic sections pulled and boxed to wait for me to pick them up at the NEB Frontier Information Office. This practice occurred a number of times but was stopped due to a competing scanning company losing some of the NEB's original paper seismic sections when they borrowed them from the NEB. The CNSOPB and the CNLOPB would send the paper originals of seismic lines to a printing contractor to make copies and charge you accordingly.

11. Currently, there are several vectorizing companies doing business in Canada, including but not limited to: Lynx Canada, Seiscan Geodata, CGG (who purchased part of Fugro. Fugro previously purchased Phoenix Data Solutions and Robertsons in Wales UK. Robertsons was the company that purchased Seiscan Geodata from England and Kelman Seismic. I have no knowledge of this agreement in the past, Olympic Seismic and Encana had a joint venture to scan

Arctic data and resell it, then sharing in the revenues derived from the sales. I do recall that Encana Energy had an agreement with David Kenna of KP Seismic of Calgary to split sales revenues once costs were covered and proprietary period had expired.

II. Conclusion

12. I make this witness statement in support of the Claimants in this proceeding and for no other purposes.

13. I swear this witness statement in English and anticipate giving testimony at the hearing of this proceeding in English.

14. I affirm that the contents of this witness statement are true.

Signed at Calgary on August 24, 2022

[Signed]

RALPH MAITLAND

Address: