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WHERE IN THE WORLD ARE CANADIAN OIL AND GAS COMPANIES? AN INTRODUCTION TO THE PROJECT*†

Niloo Hojjati, Kai Horsfield and Shantel Jordison

INTRODUCTION

In April 2013, The School of Public Policy formally launched the Extractive Resource Governance Program, a platform to harness Canadian and international research and technical expertise to assist resource-rich jurisdictions in establishing sustainable and mutually beneficial policies for governance of the extractive sector. The program delivers applied policy research, technical assistance and executive training programs to countries with emerging or established extractive resources, working in collaboration with governments, regulatory bodies, academia, civil society, and industry. Begun in 2011 as an internal research tool for the development of the Extractive Resource Governance Program, this project was conceived as a means to identify jurisdictions where Canadian companies had ongoing projects and activities around the world. This paper introduces the methodology used to answer the question: *Where in the world are Canadian oil and gas companies?* To answer this question, firm-level data from publicly traded Canadian companies were collected and analyzed culminating in the development of an online tool for public use. This paper accompanies an interactive website launched by The School's Extractive Resource Governance Program and describes the data available online as well as in the annual reports released by The school. The website and annual reports allow interested users to geographically locate jurisdictions around the world where publicly traded Canadian oil and gas companies have activities, over time. The website is available at <http://www.pollicyschool.ca/research-teaching/teaching-training/extractive-resource-governance/ergp-map/>.

While Canada is a well-recognized oil and gas jurisdiction within its own borders, the extent of activity that Canadian companies undertake in the international arena

* This research was financially supported by the Government of Canada via a partnership with Western Economic Diversification.

† We would like to thank researchers from Natural Resources Canada (NRCan) for their initial input in the early days of this project, specifically, for sharing their working knowledge of DisclosureNet, a leading disclosure research solution website.

is less well known. For instance, while Natural Resources Canada collects and publishes regular data on Canadian mining assets and activities abroad, it does not do so for the oil and gas sector. Statistics Canada collects information about Canadian direct investment abroad (CDIA)¹ in the energy sector, but for the purpose of answering the question posed in this paper, these numbers can be somewhat misleading, as CDIA data solely tracks the first destination of Canadian investment rather than the final destination of investment (which can often be different).² Frequently, oil and gas companies (like others) use international financial centres to conduct their business operations as part of their global value chain. This can prove problematic when seeking to identify sector-specific data on the final destination of investment. For instance, one of the challenges in using CDIA statistics is the existence of so-called tax-haven countries such as Barbados and the Cayman Islands. Tax-haven countries are low-tax jurisdictions that serve as conduits to the global economy.³ While the capital investment of a Canadian company can initially arrive in a tax-haven country, frequently the investment is ultimately bound for a third-market destination, for instance one in Latin America or the United States.³ The use of tax-haven countries as conduits in financing outbound investments distorts CDIA statistics, making it difficult to use these data to determine the presence of Canadian oil and gas companies around the globe.

This paper provides a comprehensive overview of the methodology used in the collection of data for the Where in the World (hereafter WIW) project. It begins by presenting the definition of a Canadian oil and gas company (O&G) within the context of the WIW project, followed by a description of the types of O&G companies considered in the analysis. It also provides a description of the data sources used in the extraction of financial and operating statistics, and outlines the various types of data used to determine the scope of O&G activities of Canadians companies abroad.

¹ Canadian direct investment abroad (CDIA), otherwise known as outward foreign direct investment (FDI), refers to investments made by Canadians or Canadian companies abroad. See: Michael Holden, “Overview of Canadian Foreign Direct Investment,” Parliamentary Information and Research Service (Library of Parliament, 2008).

² “Information Bulletin: The Geographical Distribution of Canada’s Mining Assets” (Natural Resources Canada, 2012), <https://www.nrcan.gc.ca/mining-materials/publications/8788>.

³ Walid Hejazi, “Offshore Financial Centers and the Canadian Economy” (University of Toronto, Rotman School of Management, 2007), 1-10.

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OÙ DANS LE MONDE SE TROUVENT LES COMPAGNIES PÉTROLIÈRES ET GAZIÈRES CANADIENNES? PRÉSENTATION DU PROJET^{*†}

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INTRODUCTION

En avril 2013, l'École de politiques publiques lançait officiellement le Programme de gouvernance pour les ressources extractives, une plateforme qui réunit l'expertise technique et de recherche canadienne et internationale afin d'aider les régions riches en ressources à établir des politiques de gouvernance durables et mutuellement avantageuses dans le secteur extractif. Le programme propose de la recherche appliquée en matière de politiques, une assistance technique et des programmes de formation de cadres aux pays qui ont des ressources extractives établies ou en développement, et ce, en travaillant en collaboration avec les gouvernements, les organismes de réglementation, les universités, la société civile et l'industrie. Créé en 2011 comme outil de recherche interne pour le développement du Programme de gouvernance pour les ressources extractives, le projet est conçu pour répertorier les régions du monde où les compagnies canadiennes mènent leurs projets et activités. Cet article présente la méthodologie employée pour répondre à la question suivante : *où dans le monde se trouvent les compagnies pétrolières et gazières canadiennes?* Pour y répondre, nous avons recueilli et analysé les données des sociétés canadiennes cotées en bourse, ce qui a mené au développement d'un outil accessible en ligne. Cet article accompagne le site Web interactif créé par le Programme de gouvernance pour les ressources extractives et décrit les données disponibles en ligne ainsi que les rapports annuels publiés par l'École. Le site Web et les rapports annuels permettent aux usagers de localiser les régions du monde où les sociétés pétrolières et gazières canadiennes cotées en bourse mènent leurs activités, pour une année donnée. Ce site est accessible à : <http://www.policyschool.ca/research-teaching/teaching-training/extractive-resource-governance/ergp-map/>.

* Cette recherche a été soutenue financièrement en partie par le gouvernement du Canada via Diversification de l'économie de l'Ouest Canada.

† Nous souhaitons remercier les chercheurs de Ressources naturelles Canada (RNCan) pour leur apport initial au commencement du projet, plus particulièrement pour avoir partagé leurs connaissances pratiques de DisclosureNet, un site Web proposant des solutions pour la présentation de recherches.

Alors que l'activité pétrolière et gazière est bien connue à l'intérieur des frontières du Canada, l'étendue de l'activité des compagnies canadiennes sur la scène internationale l'est beaucoup moins. Par exemple, même si Ressources naturelles Canada publie régulièrement les données qu'elle collige sur les activités et les actifs miniers à l'étranger, ce n'est pas le cas pour le secteur pétrolier et gazier. Statistique Canada recueille des informations sur les investissements directs canadiens à l'étranger (IDCE)¹ dans le secteur de l'énergie, mais pour répondre à la question qui sous-tend le projet, ces chiffres peuvent prêter à confusion car les données sur les IDCE ne retracent que la destination première d'un investissement plutôt que sa destination finale (lesquelles diffèrent souvent l'une de l'autre)². Les compagnies pétrolières et gazières (comme d'autres compagnies) passent fréquemment par des centres financiers internationaux pour les opérations d'affaires dans le cadre de leur chaîne de valeur mondiale. Cela peut poser problème si on cherche à connaître, pour un secteur, des données précises sur la destination finale d'un investissement. Par exemple, un des défis dans l'utilisation des statistiques sur les IDCE est l'existence de pays qui ont la réputation de paradis fiscaux, comme la Barbade ou les îles Caïmans. Ces paradis fiscaux sont des pays à faible charge fiscale qui servent de canaux pour l'économie mondiale³. Bien que l'investissement en capital d'une compagnie canadienne puisse initialement arriver dans un paradis fiscal, il est ensuite fréquemment redirigé vers un tiers marché, par exemple en Amérique latine ou aux États-Unis³. L'emploi de paradis fiscaux comme canaux pour les investissements extérieurs altère les statistiques sur les IDCE, ce qui rend difficile l'emploi de ces données pour déterminer la présence des pétrolières et gazières canadiennes sur la planète.

Cet article présente un aperçu complet de la méthodologie employée pour la collecte des données dans le cadre du projet *Où dans le monde*. Il commence par la définition d'une compagnie pétrolière et gazière canadienne dans le contexte du projet, suivi d'une description du type de pétrolières et gazières pris en considération pour l'analyse. L'article donne aussi une description des sources utilisées pour l'extraction des données statistiques sur les finances et les opérations, puis présente les divers types de données employées pour déterminer l'étendue des activités des pétrolières et gazières canadiennes à l'étranger.

¹ Les investissements directs canadiens à l'étranger (IDCE), aussi connus comme les investissements directs à l'étranger sortant (IDE), sont les investissements faits à l'étranger par des particuliers canadiens ou des compagnies canadiennes. Consulter : Michael Holden, « Overview of Canadian Foreign Direct Investment », Service d'information et de recherche parlementaires (Bibliothèque du Parlement, 2008).

² « Information Bulletin: The Geographical Distribution of Canada's Mining Assets » (Ressources naturelles Canada, 2012), <https://www.nrcan.gc.ca/mining-materials/publications/8788>.

³ Walid Hejazi, « Offshore Financial Centers and the Canadian Economy » (Université de Toronto, École de management Rotman, 2007), 1-10.

I. THE OIL AND GAS SECTOR: DEFINITION AND CATEGORIZATION

A. Definition of a Canadian Oil and Gas Company

In the WIW project, an O&G company is defined to be “Canadian” according to two selection criteria: (i) the company must have its headquarters (or head office)⁴ in Canada; and (ii) the company must be publicly traded on a Canadian exchange. Companies must fulfil both selection criteria simultaneously to be considered as a Canadian O&G company and thus be included in the findings of this project.⁵ To provide greater insight into the definition of a Canadian O&G company, the following section describes each criterion in detail.

The first selection criterion stipulates that an O&G company must be headquartered in Canada to be considered. For the purposes of the WIW project, a company’s business address, as listed in its annual financial statement, is used as the primary indicator of the location of its headquarters. Therefore, if a company has listed a Canadian business address in its annual financial statement, it has fulfilled the first criterion of the definition.⁵ While there are other ways to deduce the “Canadian-ness” of a particular company, this simple indicator is used because it is most representative of the firm-level data sources that inform the majority of data used in the WIW project. Another such indicator might be to examine the jurisdiction of tax payments. However, this measure is not included because O&G companies are frequently subject to extensive (and sometimes overlapping) tax laws and regulations in numerous legal jurisdictions in accordance with the regions in which operations are conducted, assets are held, or subsidiaries have been domiciled.⁶ Therefore, it becomes increasingly difficult to distinguish the Canadian-ness of an O&G company based on the jurisdiction of tax payments.

The second selection criterion in the definition of a Canadian O&G company requires that a company be publicly traded in Canada, which means that it must be listed on one of Canada’s three recognized stock exchanges:⁷ the Toronto Stock Exchange (TSX), the TSX Venture Exchange (TSX-V),⁸ or the Canadian National Stock Exchange (CNSX).⁹ The TSX is Canada’s senior equities exchange and primarily provides listings for more established businesses. The TSX-V, on the other hand, provides junior issuers with the opportunity to access the Canadian marketplace.¹⁰ Lastly, the CNSX, an independent exchange and an

⁴ Please note that the WIW project uses the term “head office” and “headquarters” interchangeably, as they are equivalent in meaning.

⁵ Companies must fulfill both criteria to qualify as a “Canadian” O&G company in the WIW project. Numerous companies have been eliminated from our database each year as they only fulfilled one of the two criteria. For example, in the 2013 data collection, 33 companies were eliminated. See Appendix A for a case example of an eliminated company.

⁶ Charlotte J. Wright and Rebecca A. Gallun, “Basic Oil and Gas Tax Accounting,” in *Fundamentals of Oil & Gas Accounting*, 5th edition (2008): 415-417.

⁷ All three Canadian exchanges have specific listing requirements that are tailored in accordance to sector and varying development stages of issuers. See Appendix B for the listing requirements of the TSX, TSX-V, and the CNSX.

⁸ In 1999, the Alberta and Vancouver Stock Exchanges merged to form the Canada Venture Exchange (CDNX). The Winnipeg Stock Exchange, the equities portion of the Montreal Exchange, and the Canadian Dealing Network later merged with the CDNX. In 2001, the CDNX was acquired by the Toronto Stock Exchange (TSX), after which it was renamed the TSX Venture Exchange (TSX-V) in 2002. See “TSX Venture Exchange Celebrates its 15th Anniversary,” TMX press release, November 28, 2014, <http://www.tmx.com/newsroom/press-releases?id=228&year=2014>.

⁹ “Going Public in Canada and Listing on the TSX and TSXV,” Blake, Cassels & Graydon LLP (2013), 1, http://www.blakesfiles.com/Guides/Blakes_Going_Public_TSX_TSXV_in_Canada_EN.pdf.

¹⁰ ibid.

alternative to the TSX and TSX-V, provides a public platform for emerging companies with small market caps and limited finances.¹¹ An O&G company publicly listed on the TSX, TSX-V or CNSX satisfies the second selection criterion of the definition.⁵ While this criterion stipulates that a company must have a public listing on a Canadian exchange, this does not preclude companies that may also be listed simultaneously on other foreign exchanges.

B. Categorization of Oil and Gas Companies

The O&G sector includes a wide range of companies engaged in various stages of development of petroleum activities and products. Our focus is on two types of O&G companies, namely exploration and production (E&P) companies and service companies. E&P companies participate in the search, recovery, and production of potential crude oil and natural gas reserves,¹² whereas, service companies are involved in the delivery of technical expertise such as geophysical surveys, seismic testing, drilling and completion, and numerous other advanced production techniques.¹³ It is worth noting that while we include both E&P and service companies in our findings, it is often the case that less attention is paid to service companies, which have been characterized as the “unsung workhorses” of the O&G industry.¹⁴

II. DETERMINING OIL AND GAS ACTIVITIES

To establish the presence of Canadian O&G companies in the international arena, we determine the level of global activity of Canadian E&P and service companies by examining their corresponding financial and operating statistics. To accomplish this we use two resources, namely DisclosureNet and CanOils, to compile data on the global O&G activities of Canadian companies. This section presents an overview of the sources utilized for data extraction in the WIW project, while providing a detailed account of the types of data collected in order to illustrate the scope of O&G activities of Canadian companies abroad.

A. Data Source: DisclosureNet¹⁵

The first resource utilized in the data extraction for the WIW project is DisclosureNet, a database comprising an inventory of corporate information, accounting standards and

¹¹ “Stock Exchange Listings in Canada,” McMillan LLP (2011), 1, http://www.mcmillan.ca/files/Overview_stock_exchange_listings_in_Canada.pdf.

¹² PSG/Dover Corp website, “Defining Upstream Oil & Gas,” <http://www.psgdover.com/en/oil-and-gas/oil-gas-market-overview/oil-gas-upstream>.

¹³ Government of Alberta website, “About the Industry,” <http://www.albertacanada.com/business/industries/og-about-the-industry.aspx>.

¹⁴ “The Unsung Masters of the Oil Industry; Oilfield Services,” *The Economist*, July 21, 2012, <http://www.economist.com/node/21559358>.

¹⁵ In July of 2016, DisclosureNet was acquired by Certent and has now been renamed to “Certent DisclosureNet”. The information provided in this paper reflects the original name of this website (“DisclosureNet”) at the time of data collection which occurred in the years 2011-2014, which was prior to the acquisition. For more information about this acquisition, please visit <http://certent.com/2016/07/certent-acquires-disclosurenet/>

public filings of international corporations.¹⁶ Within the framework of the WIW project, we use DisclosureNet to gain access to public regulatory filings of Canadian O&G companies. Prior to discussing the types of data extracted from DisclosureNet, as way of background it is valuable to briefly describe securities legislation as it relates to public filings in Canada. Under Canadian securities legislation, all public companies are legally required to file their regulatory documents with the System for Electronic Document Analysis and Retrieval (SEDAR).¹⁷ The SEDAR website provides public access to regulatory documents and securities information for public companies with the purpose of ensuring transparency in the operation of Canadian capital markets.¹⁷

These regulatory filings made publicly accessible on the SEDAR website contain substantial information, including financial and operating statistics for O&G companies. However, the functionality of accessing and analyzing data that are retrieved using the SEDAR website is restricted by its very basic search platform. DisclosureNet, on the other hand, provides a more sophisticated search platform of SEDAR filings so that users can conduct isolated searches using multiple search criteria by keyword(s). The WIW project uses DisclosureNet to conduct these searches to identify the international operations of Canadian E&P and service companies. The construct of DisclosureNet's isolated search is explained in more detail below.

The isolated search criteria used in the WIW project applies several filters, namely: filing category, industry category and filing-date. The first filter, filing category, prescribes the types of regulatory documents generated in search results. For the purposes of the WIW project, this category includes the following company regulatory documents: Annual Information Forms; Oil and Gas Annual Disclosures (NI 51-101); and Annual Financial Statements. The second search filter, industry category, limits search results to a specific sector in accordance with the Industry Classification Benchmark (ICB) system and the SEDAR system of classification. In the WIW project, the industry-category filter is comprised of the following O&G sector classifications: ICB 0001 - Oil & Gas; SEDAR 005 - Oil and Gas - Integrated Oils; SEDAR 006 - Oil and Gas - Oil and Gas Producers; SEDAR 047 - Junior Natural Resource - Oil and Gas; SEDAR 025 - Pipelines; and SEDAR 058 - Oil and Gas - Oil and Gas Services. Lastly, the filing-date filter allows for search results to be restricted to a particular time period. As the WIW project is conducted on an annual basis, this filter varies with each year of study to include company regulatory documents filed in the previous fiscal year.¹⁸

Through the isolated search described above, the WIW project examines the global O&G activities of Canadian E&P and service companies in 218 countries spanning

¹⁶ “DisclosureNet Solution Overview,” DisclosureNet (2014), 1, <http://go.disclosurenet.com/rs/disclosurenet/images/DisclosureNet-SolutionOverview.pdf>.

¹⁷ SEDAR website, “SEDAR Homepage,” http://www.sedar.com/homepage_en.htm.

¹⁸ Fiscal year refers to the financial calendar year used by a company for accounting purposes such as company filings, tax audits, etc. See Jonathan Biffis, “When to End Your Fiscal Year,” Nelligan, O’Brien & Payne LLP (2011), <http://www.nelligan.ca/e/whentoendyourfiscalyear.cfm>.

seven international regions of analysis.¹⁹ For each country of analysis, the isolated search generates a large number of company regulatory filings for each year of study. These search results are then manually filtered and analyzed by researchers for accuracy in order to establish the presence of a company conducting O&G operations in a particular country.²⁰ The first step in this process is to ensure that each company that is selected using the discussed search criteria meets the WIW project's definition of a "Canadian" O&G company.²¹ The second step consists of a thorough examination of the regulatory filings of each company in order to extract information about the nature of a firm's financial stake in a given country.²² O&G activities such as investments; service provisions; exploration; production; and joint venture partnerships are all applicable within the framework of the WIW project. However, if the legitimacy or scope of an activity is unclear to the researcher undertaking this manual data scan, then it is not recorded in the results.

Following this process, other data regarding the nature of the firm's operations are then compiled. To provide a general overview of each active company, figures including firm assets; income; revenue; number of employees; formation date; and ticker symbol are collected. Furthermore, financial and operating statistics related to the firm's operations in each specific country are also collected to provide a comprehensive picture of the company's role in that particular country.²³ According to the nature of each firm's operations,²⁴ these statistics might include: total in-country gross acreage; qualitative description of the company's business in country; total in-country gross costs; exploration and evaluation assets; total royalties paid; net back royalties; and number of wells drilled. It is important to note that, while every precaution has been taken to ensure accuracy of information in the WIW project, the data collected are only as accurate as the information represented in a company's regulatory filings found on DisclosureNet and available on SEDAR. Information about international operations is not uniformly represented across regulatory filings for similar firms in the oil and gas industry. For instance, in some cases a firm may indicate it is active in a given region or country, but may not provide detailed information about its activities. In these cases, we include the firm as active in said region or country, but we are unable to provide further information about the scope of its activity.

¹⁹ The regions of analysis in the WIW project are organized according to the designation system employed by the U.S. Energy Information Administration (EIA). The regions are as follow: Africa; Asia & Oceania; Central & South America; Eurasia; Europe; Middle East; and North America. The complete list of countries examined in the WIW project is outlined in Appendix C. See "Countries," U.S. Energy Information Administration, <http://www.eia.gov/countries/#allcountries> (accessed February 23, 2015).

²⁰ If a country included in the designation system does not yield search results on DisclosureNet, it is proof that zero O&G activity has taken place. Thus, the country is deemed inactive and is not included in the WIW project for that particular year of study.

²¹ The criteria of a "Canadian" O&G company in the WIW project includes: (i) it is headquartered in Canada; and (ii) it is listed on a Canadian stock exchange. For further information please refer to the earlier section in this paper titled "Definition of a Canadian Oil and Gas Company."

²² Refer to Appendix D for case examples illustrating the way this process is applied in the WIW project.

²³ Country-specific statistics are only collected for each company if they are available and recorded in regulatory filings.

²⁴ For example, by their nature service companies do not report production data because they do not produce. For further information on the nature of the operations of E&P and service companies, refer to the section in this paper titled "Categorization of Oil and Gas Companies."

B. Data Source: CanOils

The second resource used in the WIW project is CanOils. The CanOils database offers comprehensive information about the Canadian O&G sector by providing vital data regarding the international exploration activities of Canadian E&P companies.²⁵ For the purposes of the WIW project, CanOils is used to retrieve the following statistics:

- Annual levels of oil and natural gas liquids (NGL); natural gas; and oil, NGL, and natural gas produced by Canadian O&G companies identified as “active”²⁶ in each country of analysis.²⁷
- Annual levels of total oil and NGL; natural gas; and oil, NGL, and natural gas production in each country of analysis as a whole.

The collection of production statistics offers supplementary information regarding Canadian global exploration activities. It serves as an additional metric, allowing us the opportunity to provide a detailed picture of the role of Canadian O&G companies within a country and regional context. It is imperative to note that production statistics are solely collected for E&P companies because, as previously stated, service companies are not responsible for exploration and production activities. The annual production data compiled in this project represent the metrics collected on the day of data retrieval from CanOils within each year of study. The data are recorded in barrels per day (bbl/d) for oil and NGL production; million cubic feet per day (MMcf/d) for natural gas production; and barrel-of-oil equivalent per day (boe/d)²⁸ for oil, NGL, and natural gas production.

III. THE RESULTS

Begun in 2011, this project currently encompasses three years of data (2011, 2012 and 2013). This information is represented in greatest detail via the interactive website; however, in addition to the information available online, summary reports of highlighted annual activity and emerging trends are also available as separate School of Public Policy publications. We are mindful that the results of this research have a number of implications for the development of public policy both in Canada and in other countries with Canadian oil and gas investors. We have thus been encouraged by numerous stakeholders that the publication of this information holds value across the extractive resource governance spectrum.

²⁵ CanOils website, “About us,” http://www.canoils.com/about_us.html.

²⁶ Please refer to the previous section titled “Data Source: DisclosureNet” for an explanation of “active” in the context of the WIW project.

²⁷ For a list of countries of analysis in the WIW project, please see Appendix C.

²⁸ To measure oil, NGL, and natural gas production, a conversion ratio of 6,000 cubic feet of natural gas to one barrel of oil (commonly written as 1 BOE = 6 Mcf) is used in the WIW project, as done by CanOils. Source for conversion ratio: National Energy Board website, “Energy Conversion Tables,” <https://www.neb-one.gc.ca/nrg/tl/cnvsntbl/cnvsntbl-eng.html#s1ss2>.

CONCLUSION

As a resource developed by The School of Public Policy's Extractive Resource Governance Program, the WIW project answers the primary question: *Where in the world are Canadian oil and gas companies?* The Extractive Resource Governance Program acts as a platform to harness Canadian and international research and technical expertise to assist resource-rich jurisdictions in establishing sustainable and mutually beneficial extractive resource governance policies. The program delivers applied policy research, technical assistance and executive training programs to countries with emerging or established extractive resources, working in collaboration with governments, regulatory bodies, academia, civil society, and industry. This paper describes the rationale and methodology employed in the collection of financial and operating statistics, which complement other measures that quantify Canadian oil and gas activity around the world. Further detailed information, including an interactive website as well as annual reports of the WIW project findings are available online at <http://www.pollicyschool.ca/research-teaching/teaching-training/extractive-resource-governance/ergp-map/>.

APPENDIX A: ELIMINATION OF COMPANIES

This section demonstrates the way in which a company (over time) can come to not satisfy the criteria of our definition of a “Canadian” O&G company through the following case example of Nexen Inc.

Nexen Inc. was a Canadian E&P company, with headquarters in Canada. Figure A1 below is a snapshot of Nexen’s information box for the year 2012 as generated by DisclosureNet. As shown by the blue arrows, in the fiscal year 2012 the company fulfils both selection criteria: (i) Business address: Suite 2900, 801– 7th Avenue SW, Calgary, Alta., Canada, T2P 3P7; and (ii) Canadian exchange listing: TSX.

FIGURE A1 NEXEN INC. INFORMATION BOX

NEXEN INC [CA]	
Previous Names:	CANADIAN OCCIDENTAL PETROLEUM LTD
Formation Date:	1971-07-11
Formation Type:	Corporation
Governing Region:	Canada
Standard Industrial Classification (SIC):	2812 - Alkalies & chlorine
Industry Classification Benchmark:	0533 - Exploration & Production
Sedar Industry Classification:	006 - Oil and Gas - Oil and Gas Producers
CUSIP:	65334H
ISINS:	CA1364201063; CA65334H1029
Employees Count:	4,594
Short Form Prospectus Issuer:	Yes
Ticker:	CXY
Securities:	Preference shares
Exchanges:	Canada - TSX; US - NYSE
Auditor:	Deloitte (DELOITTE & TOUCHE LLP)
Contact Phone:	403-699-4000
Website:	http://www.nexeninc.com
Email:	brendon_muller@nexeninc.com
Revenue:	\$6,464M (CAD)
Net Income:	\$395M (CAD)
Assets:	\$20,068M (CAD)
Financial Year End:	December 31
Business Address:	801 - 7TH AVENUE SW SUITE 2900 CALGARY, ALBERTA CANADA T2P 3P7 Phone: 1-4036994000 Fax: 4036995776

Source: Nexen Inc., Audited Annual Financial Statements (2012).

However, as of February 2013, Nexen Inc. was acquired by China National Offshore Oil Corporation Limited (CNOOC Ltd.), after which it became a wholly owned subsidiary

of that company.²⁹ Following the takeover, CNOOC Ltd. changed the location of its headquarters to Hong Kong. Figure A2 below is a snapshot of CNOOC Ltd.'s information box generated by DisclosureNet for the year 2013. As shown by the blue arrows, the company fails to satisfy both selection criteria: (i) Business address: 65/F, Bank of China Tower, 1 Garden Road, Hong Kong; and (ii) Canadian Exchange listing: TSX.

FIGURE A2 CNOOC LTD. INFORMATION BOX

CNOOC LIMITED [CA]	
Formation Date:	1999-08-19
Formation Type:	Corporation
Governing Region:	Hong Kong
Sedar Industry Classification:	006 - Oil and Gas - Oil and Gas Producers
CUSIP:	126132
Short Form Prospectus Issuer:	No
Ticker:	CNU
Exchanges:	Canada - TSX; US - NYSE; Hong Kong - HKEX
Auditor:	Deloitte (DELOITTE TOUCHE TOHMATSU)
Reporting Regions:	Alberta; Ontario
Principal Regulator:	Alberta
Contact Name:	IR MANAGER
Contact Phone:	861-084522973
Email:	ir@cnooc.com.cn
Exchanges:	Canada - TSX; US - NYSE; Hong Kong - HKEX
Auditor:	Deloitte (DELOITTE TOUCHE TOHMATSU)
Reporting Regions:	Alberta; Ontario
Principal Regulator:	Alberta
Contact Name:	IR MANAGER
Contact Phone:	861-084522973
Email:	ir@cnooc.com.cn
Financial Year End:	December 31
Business Address:	65/F, BANK OF CHINA TOWER, 1 GARDEN ROAD HONG KONG UNKNOWN N/A Phone: 852-84522973 Fax: 852-25259322

Source: CNOOC Ltd., Audited Annual Financial Statements (2014).

As demonstrated above, prior to 2013 Nexen Inc. satisfied both selection criteria of our definition of a “Canadian” O&G company and is therefore included in the findings of the WIW project for the years 2011 and 2012. However, following the takeover by CNOOC Ltd., the company failed to fulfil both selection criteria and as such is not included in the findings of the WIW project for the year 2013 and onwards.

²⁹ Euan Rocha, “CNOOC completes contentious \$15.1-billion acquisition of Nexen,” *Financial Post*, February 25, 2013, http://business.financialpost.com/news/energy/cnooc-completes-contentious-15-1-billion-acquisition-of-nexen?__lsa=5b70-20c4.

APPENDIX B: LISTING REQUIREMENTS FOR THE CANADIAN STOCK EXCHANGES

This section provides a detailed description of the specific listing requirements of the three Canadian exchanges: the TSX, TSX-V and CNSX.

TABLE B1 LISTING REQUIREMENTS OF THE TSX FOR O&G COMPANIES

	TSX Non-Exempt Oil & Gas Development Stage Issuers	TSX Non-Exempt Oil & Gas Exploration and Development Issuers	TSX Exempt Oil & Gas Issuers
Net Tangible Assets, Earnings or Revenue	No requirements.		Pre-tax profitability from ongoing operations in last fiscal year. Pre-tax cash flow from ongoing operations of C\$700,000 in last fiscal year and average pre-tax cash flow from ongoing operations of C\$500,000 for the past two fiscal years.
Working Capital and Financial Resources	Adequate funds to either: (a) execute the development plan and cover all other capital expenditures & G&A + debt-service expenses for 18 months with a contingency allowance; OR (b) Bring the property into commercial production, and adequate working capital to fund all budgeted capital expenditures + carry on the business; 18-month projection of sources and uses of funds signed by CFO. Appropriate capital structure.	Adequate funds to execute the program and cover all other capital expenditures and G&A + debt-service expenses for 18 months with a contingency allowance; 18-month projection of sources and uses of funds signed by CFO. Appropriate capital structure.	Adequate working capital to carry on the business. Appropriate capital structure.
Distribution, Market Capitalization and Public Float	At least 1,000,000 freely tradable shares with an aggregate market value of C\$4,000,000; 300 public holders, each with one board lot or more. Minimum market value of the issued securities that are to be listed of at least C\$200,000,000.	At least 1,000,000 freely tradable shares with an aggregate market value of C\$4,000,000; 300 public holders, each with one board lot or more.	
Sponsorship	Sponsor report may be required (generally not required for IPOs or TSX Venture Graduates).		Not required.
Property Requirements	Contingent resources of C\$500,000,000.	C\$3,000,000 proved developed reserves.	C\$7,500,000 proved developed reserves.
Recommended Work Program	Clearly defined development plan, satisfactory to the Exchange, which can reasonably be expected to advance the property.	Clearly defined program to increase reserves.	
Management and Board of Directors	Management, including the board of directors, should have adequate experience and technical expertise relevant to the company's business and industry as well as adequate public company experience. Companies are required to have at least two independent directors.		
Other Criteria	Up-to-date technical report prepared by an independent technical consultant (NI 51-1013).		

Source: "Going Public in Canada and Listing on the TSX and TSX-V" (2013), 14-15.

TABLE B2 LISTING REQUIREMENTS OF THE TSX-V FOR O&G COMPANIES

	TSX-V Tier 1¹	TSX-V Tier 2
Net Tangible Assets, Earnings or Revenue	No requirements.	
Working Capital and Financial Resources	Adequate working capital and financial resources to carry out stated work program or execute business plan for 18 months following listing; C\$200,000 in unallocated funds.	Adequate working capital and financial resources to carry out stated work program or execute business plan for 12 months following listing; C\$100,000 in unallocated funds.
Distribution, Market Capitalization and Public Float	Public float of 1,000,000 shares; 250 public shareholders each holding a board lot and having no resale restrictions on their shares; 20% of issued and outstanding shares in the hands of public shareholders.	Public float of 500,000 shares; 200 public shareholders each holding a board lot and having no resale restrictions on their shares; 20% of issued and outstanding shares in the hands of public shareholders.
Sponsorship	Sponsor report may be required.	
Property Requirements	<i>Exploration</i> – C\$3,000,000 in reserves, of which a minimum of C\$1,000,000 must be proved developed reserves and the balance probable reserves. <i>Producing</i> – C\$2,000,000 in proved developed reserves.	<i>Exploration</i> – either (i) issuer has an unproven property with prospects or (ii) issuer has joint venture interest and C\$5,000,000 raised by prospectus offering. <i>Reserves</i> – either (i) C\$500,000 in proved developed producing reserves or (ii) C\$750,000 in proved plus probable reserves.
Recommended Work Program	<i>Exploration</i> – satisfactory work program (i) of no less than C\$500,000 and (ii) which can reasonably be expected to increase reserves, as recommended in a geological report. <i>Producing</i> – No requirement.	<i>Exploration</i> – minimum of C\$1,500,000 allocated by issuer to work program or recommended in geological report except where issuer has a joint venture interest and has raised C\$5,000,000 in prospectus offering. <i>Reserves</i> – (i) satisfactory work program and (ii) in an amount no less than C\$300,000 if proved developed producing reserves have a value of less than C\$500,000 as recommended in geological report.
Management and Board of Directors	Management, including board of directors, should have adequate experience and technical expertise relevant to the company's business and industry as well as adequate public company experience. Companies are required to have at least two independent directors.	
Other Criteria	Geological report recommending completion of work program.	

Source: "Going Public in Canada and Listing on the TSX and TSXV" (2013), 14-15.

1. The TSX-V has established two levels of financial standards: Tier 1 and Tier 2. Tier 1 is reserved for advanced issuers possessing significant financial resources, while Tier 2 is reserved for less advanced issuers. TSX-V issuers that have fallen below the TSX-V ongoing listing standards are able to continue trading on the NEX board, a separate marketplace listing board of the TSX-V. Issuers will continue trading on NEX until they reactivate onto the TSX-V or delist entirely. See: "Going Public," Blake, Cassels & Graydon LLP, 6.

TABLE B3 LISTING REQUIREMENTS OF THE CNSX

	CNSX
Net Tangible Assets, Earnings or Revenue	No requirements.
Working Capital and Financial Resources	An issuer must have: (a) demonstrable revenue from operations; and (b) a recent history as a listed company and a minimum working capital of C\$50,000; OR (c) a minimum working capital of \$100,000.
Distribution, Market Capitalization and Public Float	At least 500,000 freely tradable shares worth at least C\$250,000 and consisting of at least 150 public holders with at least a board lot each of the security.
Sponsorship	No requirement.
Other Criteria	An issuer : (a) is a reporting issuer or the equivalent in a jurisdiction in Canada; OR (b) is not in default of any requirements of securities legislation in any jurisdiction in Canada.

Source: "Policy 2: Qualifications for Listing", CNSX (2015), 1-15,
<http://www.cnsx.ca/cmsAssets/docs/Listings%20Policies/CSE%20Policy%202020-%20Qualification%20for%20Listing.pdf>.

APPENDIX C: COUNTRIES OF ANALYSIS

This section outlines the list of countries examined in the WIW project. The countries of analysis are organized according to the designation system employed by the U.S. Energy Information Administration (EIA).

TABLE C1 COUNTRIES OF ANALYSIS BY U.S. EIA DESIGNATION SYSTEM

Region: Africa	Region: Asia & Oceania	Region: Central & South America
Algeria	Afghanistan	Antarctica
Angola	American Samoa	Antigua and Barbuda
Benin	Australia	Argentina
Botswana	Bangladesh	Aruba
Burkina Faso	Bhutan	Bahamas, The
Burundi	Brunei	Barbados
Cameroon	Burma (Myanmar)	Belize
Cape Verde	Cambodia	Bolivia
Central African Republic	China	Brazil
Chad	Cook Islands	Cayman Islands
Comoros	Fiji	Chile
Congo (Brazzaville)	French Polynesia	Colombia
Congo (Kinshasa)	Guam	Costa Rica
Côte d'Ivoire (Ivory Coast)	Hong Kong	Cuba
Djibouti	India	Dominica
Egypt	Indonesia	Dominican Republic
Equatorial Guinea	Japan	Ecuador
Eritrea	Kiribati	El Salvador
Ethiopia	Korea, North	Falkland Islands (Islas Malvinas)
Gabon	Korea, South	French Guiana
Gambia, The	Laos	Grenada
Ghana	Macau	Guadeloupe
Guinea	Malaysia	Guatemala
Guinea-Bissau	Maldives	Guyana
Kenya	Micronesia	Haiti
Lesotho	Mongolia	Honduras
Liberia	Nauru	Jamaica
Libya	Nepal	Martinique
Madagascar	New Caledonia	Montserrat
Malawi	New Zealand	Netherlands Antilles
Mali	Niue	Nicaragua
Mauritania	Pakistan	Panama
Mauritius	Papua New Guinea	Paraguay
Morocco	Philippines	Peru
Mozambique	Samoa	Puerto Rico
Namibia	Singapore	Saint Kitts and Nevis
Niger	Solomon Islands	Saint Lucia
Nigeria	Sri Lanka	Saint Vincent/Grenadines
Reunion	Taiwan	Suriname
Rwanda	Thailand	Trinidad and Tobago
Saint Helena	Timor-Leste (East Timor)	Turks and Caicos Islands
Sao Tome and Principe	Tonga	Uruguay
Senegal	Tuvalu	Venezuela
Seychelles	U.S. Pacific Islands	Virgin Islands, British
Sierra Leone	Vanuatu	Virgin Islands, U.S.
Somalia	Vietnam	
South Africa	Wake Island	
Sudan and South Sudan		
Swaziland		
Tanzania		
Togo		
Tunisia		
Uganda		
Western Sahara		
Zambia		
Zimbabwe		

Source: U.S. Energy Information Administration website, "Countries," <http://www.eia.gov/countries/#allcountries>.

TABLE C2 COUNTRIES OF ANALYSIS BY U.S. EIA DESIGNATION SYSTEM (CONTINUED)

Region: Eurasia	Region: Europe	Region: Middle East	Region: North America
Armenia	Albania	Bahrain	Bermuda
Azerbaijan	Austria	Iran	Greenland
Belarus	Belgium	Iraq	Mexico
Estonia	Bosnia and Herzegovina	Israel	Saint Pierre and Miquelon
Georgia	Bulgaria	Jordan	United States
Kazakhstan	Croatia	Kuwait	
Kyrgyzstan	Cyprus	Lebanon	
Latvia	Czech Republic	Oman	
Lithuania	Denmark	Palestinian Territories	
Moldova	Faroe Islands	Qatar	
Russia	Finland	Saudi Arabia	
Tajikistan	France	Syria	
Turkmenistan	Germany	United Arab Emirates	
Ukraine	Gibraltar	Yemen	
Uzbekistan	Greece		
	Hungary		
	Iceland		
	Ireland		
	Italy		
	Luxembourg		
	Macedonia		
	Malta		
	Montenegro		
	Netherlands		
	Norway		
	Poland		
	Portugal		
	Romania		
	Serbia		
	Slovakia		
	Slovenia		
	Spain		
	Sweden		
	Switzerland		
	Turkey		
	United Kingdom		

Source: U.S. Energy Information Administration website, "Countries," <http://www.eia.gov/countries/#allcountries>.

APPENDIX D: ESTABLISHING ACTIVE COMPANIES

This section illustrates the process involved in establishing the presence of a “Canadian” O&G company in the WIW project through two case examples. The examples are divided by the type of O&G company, namely E&P and service firms.

Example 1 – Establishing “Activity” for a Service Company

The following is a summary of the steps involved in the process of determining “activity” for Precision Drilling Corp. in Saudi Arabia in the 2013 year of study.

Step I: Fulfilment of O&G company as “Canadian” in accordance with the two selection criteria.

- Figure D1 below is a snapshot of the company’s information box generated by DisclosureNet. As shown by the blue arrows, the company fulfils both selection criteria:
(i) Business address: Suite 800, 525 – 8th Avenue SW, Calgary, Alta., Canada, T2P 1G1;
and (ii) Canadian exchange listing: TSX.

FIGURE D1 PRECISION DRILLING CORP. INFORMATION BOX

PRECISION DRILLING CORPORATION [CA]	
Previous Names:	PRECISION DRILLING LIMITED PARTNERSHIP; PRECISION DRILLING TRUST
Formation Date:	2010-05-31
Formation Type:	Corporation
Governing Region:	Alberta
Standard Industrial Classification (SIC):	1381 - Drilling oil & gas wells
Industry Classification Benchmark:	0573 - Oil Equipment & Services
Sedar Industry Classification:	058 - Oil and Gas - Oil and Gas Services
CUSIP:	74022D
ISINs:	CA7402151087; CA74022D1006; CA74022D3085
Short Form Prospectus Issuer:	Yes
Ticker:	PD
Securities:	Debt
Exchanges:	Canada - TSX; US - NYSE
Auditor:	KPMG (KPMG LLP)
Contact Phone:	403-716-4500
Website:	http://www.precisiondrilling.com
Email:	n/a
Revenue:	\$2,351M (CAD)
Net Income:	\$33M (CAD)
Assets:	\$5,309M (CAD)
Financial Year End:	December 31
Business Address:	525 – 8TH AVENUE SW SUITE 800 CALGARY, ALBERTA CANADA T2P 1G1 Phone: 1-403-7164500 Fax: 403-4032640251

Source: Precision Drilling Corp., Annual Information Form (2013).

Example 1 – continued

Step II: Examination of company regulatory filings to establish “activity.”

- Figure D2 below is a snapshot of the company’s Annual Information Form (AIF) for the fiscal year 2013. DisclosureNet provides a platform to conduct an internal search within the company’s AIF for a specific term, in this case “Saudi Arabia,” which is then highlighted throughout the document. As shown by the highlighted text, this company provides onshore well-drilling services to E&P companies in the O&G industry in Saudi Arabia, and possesses three land-drilling rigs in the country. These findings signify the company’s financial stake in O&G activities in Saudi Arabia in 2013.

FIGURE D2 ACTIVE SERVICE COMPANY IN SAUDI ARABIA

We have two business segments – Contract Drilling Services and Completion and Production Services, which share business support systems and corporate and administrative services.

Contract Drilling Services	
Operates our rigs in Canada, the U.S. and elsewhere internationally and provides onshore well drilling services to exploration and production companies in the oil and natural gas industry	Canada
At December 31, 2013, the segment consisted of: <ul style="list-style-type: none">■ 327 land drilling rigs, including:<ul style="list-style-type: none">– 187 in Canada– 127 in the U.S.– 8 in Mexico– 3 in Saudi Arabia– 2 in Kurdistan■ capacity for approximately 88 concurrent directional drilling jobs in Canada and the U.S.■ engineering, manufacturing and repair services, primarily for Precision’s operations■ centralized procurement, inventory, and distribution of consumable supplies primarily for our Canadian, U.S. and international operations.	<ul style="list-style-type: none">■ land drilling services■ directional drilling services■ procurement and distribution of oilfield supplies■ manufacture and refurbishment of drilling and service rig equipment
U.S.	<ul style="list-style-type: none">■ land drilling services■ directional drilling services■ turnkey drilling services■ procurement and distribution of oilfield supplies■ trucking services for moving Precision rigs
International	<ul style="list-style-type: none">■ land drilling services

Source: Precision Drilling Corp., Annual Information Form (2013), 11.

Step III: Extraction of data.

- Collection of general data for company as a whole (company income, company revenue, etc.) if available.
- Collection of available financial and operating statistics for the company’s activities in Saudi Arabia. As this is a service company, certain types of statistics, such as total in-country gross acreage, will not be recorded given the nature of the company’s operations.

Example 2 — Establishing “Activity” for an E&P Company

The following is a summary of the steps involved in the process of determining “activity” for Calvalley Petroleum Inc. in Yemen for the 2013 year of study.

Step I: Fulfilment of O&G company as “Canadian” in accordance with the two selection criteria.

- Figure D3 below is a snapshot of the company’s information box generated by DisclosureNet. As shown by the blue arrows, the company fulfils both selection criteria: (i) Business address: 2100, 500-4th Avenue SW, Calgary, Alta., Canada, T2P 2V6; and (ii) Canadian exchange listing: TSX.

FIGURE D3 CALVALLEY PETROLEUM INC. INFORMATION BOX

CALVALLEY PETROLEUM INC [CA]	
Formation Date:	1996-06-30
Formation Type:	Corporation
Governing Region:	Canada
Standard Industrial Classification (SIC):	1311 - Crude petroleum & natural gas
Industry Classification Benchmark:	0533 - Exploration & Production
Sedar Industry Classification:	006 - Oil and Gas - Oil and Gas Producers
CUSIP:	131911
ISINs:	CA1319111094
Employees Count:	116
Short Form Prospectus Issuer:	Yes
Ticker:	CVI
Exchanges:	Canada - TSX
Auditor:	Deloitte (DELOITTE & TOUCHE LLP)
Contact Phone:	403-297-0490
Website:	http://www.calvalleypetroleum.com
Email:	investorrelations@calvalleypetroleum.com
Revenue:	\$40M (USD)
Net Income:	-\$85M (USD)
Assets:	\$115M (USD)
Financial Year End:	December 31
Business Address:	2100 500-4TH AVENUE SW CALGARY, ALBERTA CANADA T2P 2V6 Phone: 1-4032970490 Fax: 403-4032970499

Source: Calvalley Petroleum Inc., Audited Annual Financial Statement (2013).

Example 2 — continued

Step II: Examination of company regulatory filings to establish “activity.”

- Figure D4 below is a snapshot of the company’s audited Annual Financial Statement (AFS) for the fiscal year 2013. DisclosureNet provides a platform to conduct an internal search within the company’s AFS for a specific term, in this case “Yemen,” which is then highlighted throughout the document. As shown by the highlighted text, this company has a 50-per-cent working interest in Block 9 in Yemen, for which it serves as the operator. These findings signify the company’s financial stake in O&G activities in Yemen in 2013.

FIGURE D4 ACTIVE E&P COMPANY IN YEMEN

Calvalley Petroleum Inc.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(Financial Figures Expressed in Thousands of United States Dollars)
December 31, 2013 and 2012

Yemen

The Company has a 50% working interest in the Malik Block 9 Joint Interest Project in Yemen. The Company’s right to produce crude oil under the Production Sharing Agreement (PSA) continues to 2025, with a provision for a five-year extension. The ownership of all assets, tangible and intangible, remains with the Yemen authority.

Source: Calvalley Petroleum Inc., Audited Annual Financial Statement (2013), 16.

Step III: Extraction of data.

- Collection of general data for company as a whole (company income, company revenue, etc.) if available.
- Collection of available financial and operating statistics for the company’s activities in Yemen.

About the Authors

Niloo Hojjati is a Research Associate in the Extractive Resource Governance Program and Tax and Economic Growth Program at The School of Public Policy at the University of Calgary. As part of the Extractive Resource Governance Team, she has worked with governments of numerous resource-rich jurisdictions around the world to assist them in developing sustainable extractive policies through executive training and applied research initiatives. Niloo holds a Master's degree in Public Policy from the University of Calgary, with her capstone focusing on the potential application of Small Modular Reactors (SMRs) for electricity generation in the Northwest Territories. She also holds a Bachelor's degree in Economics from the University of Calgary. Her current areas of research include natural resource governance and economic development, with a focus on the role of sovereign wealth funds in resource-rich jurisdictions.

Kai Horsfield has a background and education in public policy and regulatory affairs which he has applied to a policy related role in the energy sector. Since earning his Master of Public Policy at The School of Public Policy at the University of Calgary, he has held a variety of positions focusing on policy research and analytical support. In his current role as the Senior Policy Advisor at the Canadian Energy Pipeline Association (CEPA), he has had the opportunity to work on key federal and provincial policy and regulatory issues such as Indigenous relations/consultation, regulatory policy, environmental protection/monitoring, climate change and pipeline safety.

Shantel Jordison (née Beach) is Manager of The School of Public Policy's Extractive Resource Governance Program (ERGP). Since joining The School in 2012, she has worked with government decision makers from dozens of countries around the world to deliver outreach, applied research, capacity-building and executive training programs. The ERGP provides a platform to harness Canadian and international research and technical expertise to assist resource-rich jurisdictions in establishing sustainable extractive resource governance policies. Shantel holds a Bachelor of Arts degree in International Relations and a Master's degree in Public Policy from the University of Calgary and also studied at the Universidad San Francisco de Quito in Ecuador. Prior to joining The School, Shantel worked with the Washington-based Council on Hemispheric Affairs publishing in the area of Canada/U.S./Latin America energy relations. Her current research interests include: determinants of foreign direct investment in Latin America's extractive sector, and the impact of civil society and public debate on the development of natural resources around the world.

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