



ConocoPhillips Canada Operations Ltd.

**Application for Two Wells and a Multiwell Battery
Willesden Green Field**

February 11, 2014

ALBERTA ENERGY REGULATOR

Decision 2014 ABAER 001: ConocoPhillips Canada Operations Ltd., Application for Two Wells and a Multiwell Battery, Willesden Green Field

February 11, 2014

Published by

Alberta Energy Regulator
Suite 1000, 250 – 5 Street SW
Calgary, Alberta
T2P 0R4

Telephone: 403-297-8311
Toll free: 1-855-297-8311
E-mail: inquiries@aer.ca
Website: www.aer.ca

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CONOCOPHILLIPS CANADA OPERATIONS LTD.

APPLICATION FOR TWO WELLS

AND A MULTIWELL BATTERY

WILLESSEN GREEN FIELD

2014 ABAER 001

Applications No. 1743497, 1743503, and 1760257

DECISION

[1] Having carefully considered all of the evidence, the Alberta Energy Regulator (AER) approves Applications No. 1743497, 1743503, and 1760257. In reaching its decision, the AER considered all materials constituting the record of this proceeding, including the evidence and argument provided by each party.

INTRODUCTION

[2] On June 17, 2013, the *Responsible Energy Development Act (REDA)* came into force in Alberta. The *Energy Resources Conservation Act (ERCA)*, which established the Energy Resources Conservation Board (ERCB/Board), was repealed and the AER was created. In accordance with *REDA*, the AER assumed all the ERCB's powers, duties, and functions under Alberta's energy resources enactments, including those under the *Oil and Gas Conservation Act*. Throughout the transition from the ERCB to the AER, the authority of the hearing commissioners continued in accordance with the *Responsible Energy Development Act Transition Regulation*. For simplicity, the ERCB/Board will be referred to as the AER regardless of whether the organization was known at the time as the ERCB.

Applications No. 1743497 and 1743503

[3] On October 30, 2012, ConocoPhillips Canada Operations Ltd. (ConocoPhillips) applied under section 2.020 of the *Oil and Gas Conservation Rules (OGCR)* for a licence to drill two horizontal wells at a surface location in Legal Subdivision (LSD) 14, Section 14, Township 41, Range 5, West of the 5th Meridian, to bottomhole locations at LSD 3-14-41-5W5M and LSD 4-14-41-5W5M. The purpose of the wells would be to obtain gas with no hydrogen sulphide (H₂S) from the Glauconitic Formation.

Application No. 1760257

[4] On November 14, 2012, ConocoPhillips applied under section 7.001 of the *OGCR* for a licence to construct and operate a multiwell battery at a surface location in LSD 14-14-41-5WM. The facility equipment at the well site would consist of two 3-phase separators, two fuel gas scrubbers, two water storage tanks, and two methanol tanks.

[5] On March 4, 2013, the AER closed the facility application due to an error on a *Directive 056*¹ schedule to the application. On April 1, 2013, the facility application was resubmitted and

¹ *Directive 056: Energy Development Applications and Schedules.*

then closed again on April 24, 2013, due to another error on a *Directive 056* schedule. ConocoPhillips made the necessary corrections and on April 24, 2013, ConocoPhillips submitted Application No. 1760257.

[6] The proposed multiwell pad and battery would be located about 17.5 kilometres (km) north of the hamlet of Leslieville, Alberta.

Background

[7] On December 29, 2011, M. O'Connor and P. Leopold filed a statement of concern (SOC) with the AER before ConocoPhillips submitted the applications. On December 24, 2012, they submitted a letter that expressed further concerns with the applications.

[8] On February 27, 2013, the AER received a SOC from G. Langford who indicated that she was now acting as counsel on behalf of Mrs. O'Connor and Mr. Leopold. However, on May 17, 2013, Ms. Langford informed the AER by e-mail that she was no longer representing Mrs. O'Connor and Mr. Leopold as legal counsel.

[9] On July 26, 2013, the AER issued a notice of hearing requiring interveners to file a written submission to participate at the hearing by August 15, 2013. On August 15, 2013, Mrs. O'Connor and Mr. Leopold requested an extension for filing the submission. The panel extended the deadline to September 12, 2013.

[10] On September 23, 2013, the AER issued a notice of scheduling of hearing. On the same day, the AER faxed the notice and correspondence to Mrs. O'Connor and Mr. Leopold that included confirmation of their eligibility to participate in the hearing, the filing deadline for submissions (October 23, 2013), and how to provide evidence at the hearing.

[11] On October 7, 2013, Mrs. O'Connor attended an AER hearing information session, which was held in Leslieville, Alberta.

[12] On October 18, 2013, Mrs. O'Connor and Mr. Leopold retained new counsel, Ms. L. Snowball, who confirmed her retention as counsel in an e-mail to the AER. In the same e-mail, Ms. Snowball requested an extension of the submission deadline to November 1, 2013. The panel extended the deadline to October 28, 2013.

[13] On October 25, 2013, Mrs. O'Connor and Mr. Leopold requested that the AER establish a formal information request procedure and that ConocoPhillips provide further clarification on its application for a multiwell pad and battery. ConocoPhillips responded by stating that no formal information request process was needed and that it would attempt to respond to any request as quickly as possible. On October 29, 2013, the panel denied Mrs. O'Connor and Mr. Leopold a formal information request process but noted that ConocoPhillips must attempt to address any information request as quickly as possible.

[14] On November 7, 2013, Mrs. O'Connor and Mr. Leopold submitted a request that the hearing, which was scheduled to start on November 13, 2013, be postponed for three months. ConocoPhillips responded by requesting that the AER not grant any further extensions. The AER denied the request on November 8, 2013.

[15] The day before the start of the hearing, on November 12, 2013, Mrs. O'Connor and Mr. Leopold requested an extension to review the information they received from ConocoPhillips on November 7, 2013. They also requested that the AER direct ConocoPhillips to fully answer questions and that they be offered a reasonable amount of time to examine and respond and to secure expert witnesses before the hearing. Due to the timing of the request and the logistics involved in travelling to a remote location for the hearing, the AER was unable to solicit a response from ConocoPhillips and respond to this request before the start of the hearing.

Intervention

[16] The AER received submissions from Mrs. O'Connor and Mr. Leopold, both before and after the applications were submitted, outlining the following concerns:

- continuous venting from the proposed facility
- the risk with methanol storage tanks
- the lack of communication from the applicant
- the location of the proposed multiwell pad and battery and proximity to their residence
- water well and groundwater contamination
- road safety
- noise from operations
- dust control from traffic

Hearing

[17] Before the hearing on the morning of November 13, 2013, the panel and AER staff conducted a site visit. During the site visit, the panel observed that Mrs. O'Connor and Mr. Leopold's property is at a significantly higher elevation than ConocoPhillips' proposed multiwell pad and battery. The panel also observed extensive tree coverage that appeared to shield ConocoPhillips' proposed site when looking from Mrs. O'Connor and Mr. Leopold's property.

[18] The AER held a public hearing in Condor, Alberta, which started on November 13, 2013, and ended on November 14, 2013, before a panel comprising the following hearing commissioners: B. T. McManus, Q.C. (presiding), R. C. McManus, M.E.Des., and B. M. McNeil, C.Med. Those who appeared at the hearing are listed in appendix 1.

[19] During preliminary matters at the beginning of the hearing, counsel for Mrs. O'Connor and Mr. Leopold made another request to adjourn the hearing, to which ConocoPhillips objected. After considering all of the submissions, the panel denied the request and the hearing proceeded accordingly.

[20] On the morning of the second day of the hearing, Ms. Snowball submitted a letter from Mrs. O'Connor and Mr. Leopold dated September 12, 2013, outlining some health concerns they wished to have on the record.

Issues

[21] The AER considers the issues respecting the applications to be

- the need for the proposed multiwell pad and battery,
- the location of the well site,
- participant involvement,
- water well and groundwater protection,
- the potential for H₂S, and
- traffic and noise.

[22] In reaching its decision, the AER considered all relevant materials constituting the record of this proceeding, including the evidence and argument provided by each party. Accordingly, references in this decision to specific parts of the record are intended to assist the reader in understanding the AER's reasoning on a particular matter and do not mean that the AER did not consider all relevant portions of the record with respect to that matter.

THE NEED FOR THE PROPOSED WELLS AND MULTIWELL BATTERY

Analysis

[23] ConocoPhillips submitted that it has the subsurface mineral rights for the proposed wells and that it requires the wells to exercise those mineral rights. Further, it would be able to develop gas reserves in an economically viable and environmentally responsible manner. Production from the proposed wells would economically benefit local communities and the Province of Alberta.

[24] ConocoPhillips submitted that the proposed wells are needed as it would use horizontal drilling technology to target lower porosity and permeability reservoirs that have not already been drained by existing vertical wells. They further submitted that the proposed multiwell pad would be beneficial because having multiple wells on one surface location reduces overall surface disturbance, and therefore also minimizes the overall footprint of the project. ConocoPhillips further stated that because the proposed multiwell pad would be located close to an existing road on previously disturbed land, the effect on the environment would be minimized.

[25] Mrs. O'Connor and Mr. Leopold acknowledged that ConocoPhillips owns the mineral rights and has the right to produce from the Glauconitic Formation. However, they asked the panel to consider all other possible locations for the proposed multiwell pad and battery put before it so that the best balance between their rights as landowners and ConocoPhillips' right to exploit the subsurface resources could be found.

Findings

[26] The panel acknowledges that the purpose of the proposed multiwell pad and battery is to recover marketable gas from the Glauconitic Formation. The panel also notes that Mrs. O'Connor and Mr. Leopold did not challenge ConocoPhillips' need to access and develop its leased subsurface mineral rights in the Glauconitic Formation.

[27] Therefore, the panel finds that there is a need for the proposed wells and battery to economically produce from the Glauconitic Formation to which ConocoPhillips holds the mineral rights. The panel also finds that production from the proposed wells will also economically benefit the Province of Alberta through additional royalty revenues.

PARTICIPANT INVOLVEMENT

Analysis

[28] Mrs. O'Connor and Mr. Leopold own the southeast quarter of Section 23-41-5W5M, which was estimated by ConocoPhillips to be about 400 metres (m) from the multiwell pad and battery. The family's residence is within 0.5 km of ConocoPhillips' proposed multiwell pad and battery.

[29] Mrs. O'Connor and Mr. Leopold submitted that they became aware of ConocoPhillips' proposed wells in December 2011 when its surveyors requested permission to measure distances from their residence to the proposed lease site. They faxed their concerns about the proposed multiwell pad by fax to ConocoPhillips on December 29, 2011.

[30] ConocoPhillips noted that it had contacted Mrs. O'Connor and Mr. Leopold by telephone in January 2012 and discussed the proposed wells and the distance from their residence. Mrs. O'Connor and Mr. Leopold requested that the proposed wells be moved one mile (1.6 km) south. ConocoPhillips noted that Mrs. O'Connor and Mr. Leopold also expressed concerns about whether it was possible H₂S would be encountered.

[31] In March and April of 2012, ConocoPhillips formally initiated a public involvement program for the proposed multiwell pad and battery. Standard information packages were mailed to Mrs. O'Connor and Mr. Leopold.

[32] During telephone conversations ConocoPhillips held with Mrs. O'Connor and Mr. Leopold in April 2012, it indicated that it would not be changing the location of its proposed multiwell pad and battery. Mrs. O'Connor raised additional concerns regarding on-site equipment and noise, the access road, hydraulic fracturing, and water wells.

[33] On July 13, 2012, during a meeting with ConocoPhillips's land agent, Mrs. O'Connor declined to accept ConocoPhillips' information package on the multiwell pad and battery. She restated that she preferred that ConocoPhillips find another location for the development.

[34] In a registered letter dated August 3, 2012, ConocoPhillips responded to Mrs. O'Connor and Mr. Leopold's concerns. This letter was returned to ConocoPhillips and sent again as regular mail.

[35] In late November 2012, Mrs. O'Connor and Mr. Leopold contacted the AER with questions about ConocoPhillips's survey activities for possible new locations. Through conversations with the AER, ConocoPhillips indicated that it had not surveyed for a new location. The AER gave this information to Mrs. O'Connor and Mr. Leopold.

[36] In January 2013, ConocoPhillips attempted to confirm the distance of the proposed wells from Mrs. O'Connor and Mr. Leopold's residence. In a telephone conversation, Mrs. O'Connor stated her opposition to the development, her mistrust of surveyors, and her wish to know the distance from the proposed lease site to a possible new location for her residence on her property. At that time, Mrs. O'Connor had given verbal consent for the survey. However, the surveyors were unable to reach Mrs. O'Connor afterwards to get access to the property. Mrs. O'Connor stated that she no longer wished to speak with ConocoPhillips. However, conversation and communication did continue.

[37] In a letter dated March 7, 2013, ConocoPhillips responded to Mrs. O'Connor and Mr. Leopold's concerns about tanks and venting, sour gas, the proposed surface location and the distance of the proposed wells from their residence, traffic, dust control, noise, water well testing, and fracturing. ConocoPhillips also included details on constraints it faced in determining where the proposed multiwell pad and battery would be located.

[38] Mrs. O'Connor and ConocoPhillips attended an AER-facilitated alternative dispute resolution meeting on October 3, 2013.

Findings

[39] The panel notes that the AER requires its applicants to communicate with local residents and develop an effective public involvement program with interested parties at an early stage of planning in accordance with AER *Directive 056*.

[40] In evaluating the effectiveness of ConocoPhillips's participant involvement program with Mrs. O'Connor and Mr. Leopold, the panel notes that between January 2012 and October 2013, ConocoPhillips responded to a number of Mrs. O'Connor and Mr. Leopold's informal information requests and concerns through conversations, information packages, and letters responding to the concerns, discussing options, and seeking confirmation of nonobjection. ConocoPhillips also gave them details on the criteria it used to select the location for its proposed multiwell pad and battery in November 2013 just before the hearing. It also documented, monitored, and followed up on commitments.

[41] In order to meet *Directive 056* requirements, the panel notes that ConocoPhillips is required to consult with residents within 0.2 km of both of its proposed wells and within 0.5 km of its proposed multiwell battery. The estimated distance of Mrs. O'Connor and Mr. Leopold's residence to the proposed lease site is about 400 m.

[42] The panel notes that ConocoPhillips and Mrs. O'Connor and Mr. Leopold were unable to establish a level of communication that would have allowed them to fully address their concerns. Nevertheless, the panel finds that ConocoPhillips made satisfactory efforts to consult with Mrs. O'Connor and Mr. Leopold and that it met *Directive 056* notification and consultation requirements.

WELL SITE LOCATION

Analysis

[43] Mrs. O'Connor and Mr. Leopold contended that the location of the multiwell pad and battery would be too close to their property and residence. The proposed multiwell pad and battery would therefore be an ongoing source of disturbance for their family's peaceful enjoyment of their property. Mrs. O'Connor and Mr. Leopold suggested that there were other surface locations farther from their property for the proposed wells.

[44] ConocoPhillips stated that it had previously drilled wells similar to those it proposed to drill in the Glauconitic Formation underlying the east half of Section 14-41-5W5M.

[45] The proposed wells are part of a larger Glauconitic development program that ConocoPhillips began in October 2010. The Glauconitic Formation in the area of the proposed multiwell pad and battery lies at a depth of about 2275 m and runs in a northwest to southeast direction in Section 14-41-5W5M.

[46] ConocoPhillips noted that the center of the easternmost well on the proposed multiwell pad and battery was 276 m from the closest corner of Mrs. O'Connor and Mr. Leopold's property.

[47] ConocoPhillips stated that it undertook a comprehensive analysis of subsurface and surface factors to evaluate potential surface locations for the proposed wells to identify a suitable surface location that would permit it to efficiently and economically produce the reserves. In its analysis of possible surface locations, it evaluated surface terrain and topography in the area and proximity to existing surface improvements (residences, existing infrastructure). Subsurface considerations included geology, reservoir characteristics, horizontal drilling requirements, and the composition of the gas and liquids expected to be produced from the target reservoir. ConocoPhillips submitted that due to geological stress fractional pressures, the ideal well path orientation for the proposed wells would be in a north-south direction.

[48] ConocoPhillips noted that from a drilling and geological perspective, ideal surface locations to drill the proposed wells would be in the southwest quarter of Section 23-14-4-5W5M or the northwest quarter of Section 11-14-4-5WM. However, due to residences located in Section 23 and steep topographical features and pipeline infrastructure in Section 11, these surface locations were not feasible.

[49] ConocoPhillips also assessed surface locations farther north of Section 23 and farther south of Section 11. However, drilling from these locations would result in build sections that would be too long and a drilling path that would penetrate coal zones at an angle that could result in sloughing and drilling problems and were therefore unacceptable.

[50] Other surface locations to the east or west of Section 14 would result in excessive well length and require a tortuous drilling path, both of which would create significant economic and operational constraints for the proposed drilling program.

[51] After evaluating all subsurface and surface factors, ConocoPhillips submitted LSD 14-14-41-5W5M as its proposed surface location for the proposed multiwell pad and battery.

Findings

[52] The panel notes that it is an important part of the AER's authorization process to ensure that ConocoPhillips selects a surface location for the proposed wells that balances required social, economic, and environmental considerations and meets design and geological requirements. As such, the panel finds that the location of the proposed multiwell pad and battery is in compliance with the AER's requirements for setback distances from residences and other surface and topographical features of the landscape in *Directive 056*. In addition, the panel noted during its site visit that the proposed LSD 14-14-41-5W5M location would be at a lower elevation than Mrs. O'Connor and Mr. Leopold's residence and have a barrier of trees.

[53] The panel also finds that ConocoPhillips's analysis of potential surface locations is both appropriate and relevant. The panel is satisfied that ConocoPhillips considered factors including topography; setback requirements for landowners; existing infrastructure; and technical, drilling, and geological considerations. Although not ideal from a resource extraction standpoint, the panel finds that LSD 14-14-41-5W5M is the most suitable location for the proposed multiwell pad and battery.

WATER WELL AND GROUNDWATER PROTECTION

Analysis

[54] Mrs. O'Connor and Mr. Leopold stated concerns about the effect of the proposed wells on their water supply. There are two water wells on Mrs. O'Connor and Mr. Leopold's property, with the deepest well being 152 metres below ground level (mbgl). The base of groundwater protection (where groundwater changes from nonsaline to saline) in the area extends to a depth of about 600 mbgl.

[55] When drilling activities occur above the base of groundwater protection, additional regulatory requirements are necessary to protect nonsaline aquifers. ConocoPhillips stated that it plans to conduct its drilling operations above the base of groundwater protection and that it would use drilling fluids that do not have an adverse effect on the environment. Further, it stated that a cemented string of casing would protect the entire groundwater zone.

[56] Neither party identified any adverse geological conditions that would warrant specialized drilling and cementing requirements.

[57] ConocoPhillips submitted that the production zone (the Glauconitic Formation) is about 2275 m below the surface and that it plans to use hydraulic fracturing to stimulate gas production. It indicated that the effective modelled fracture length is 25 m long, which would give about 2100 m vertical separation between the production zone and bottom of the deepest water well. ConocoPhillips did not identify any abandoned or producing wells in Section 14 of the Glauconitic Formation that could serve as a pathway for the hydraulic fracturing fluids to migrate to shallower depths.

[58] ConocoPhillips identified four components of fracturing fluid that it could use to indicate whether a fracture fluid is present in shallow groundwater if the concentrations are high enough to detect. It also stated that its hydraulic fracturing stimulation would be nitrogen-energized and

that elevated levels of nitrogen in gas would also indicate whether there had been a breakthrough into the aquifer from the stimulated zone.

[59] ConocoPhillips submitted that it would conduct baseline testing of the water wells within 500 m of the wellheads of the proposed wells. However, it stated it would not be necessary to include the indicators noted above in the baseline testing.

[60] ConocoPhillips stated that during drilling and operations, it would be storing chemical substances (methanol, invert drilling fluid) on the lease site. ConocoPhillips submitted that it would exceed the storage requirements in section 5.1 of *Directive 055: Storage Requirements for the Upstream Petroleum Industry* when constructing its two methanol tanks (1.9 cubic metres each) for its proposed multiwell pad and battery by installing a secondary containment. ConocoPhillips submitted that it could also enhance surface water and groundwater protection further by installing secondary containment around its two produced water tanks as well.

[61] ConocoPhillips noted that because the elevation of the southwest corner of Section 23 is higher than its lease site, the two water wells on Mrs. O'Connor and Mr. Leopold's property are upgradient from its proposed battery. Therefore, the risk from any surface spills or leaks from its proposed multiwell pad and battery would be very low.

Findings

[62] The panel notes that ConocoPhillips must comply with AER requirements for shallow-groundwater protection and acknowledges that it has committed to exceeding these requirements by offering baseline water well testing to the landowners water wells, including Mrs. O'Connor and Mr. Leopold, and installing a secondary containment around the two methanol tanks.

[63] The panel considered the possibility of surface water and groundwater being affected by a chemical spill from ConocoPhillips' proposed multiwell pad and battery or by fracture propagation into the protected groundwater zone during hydraulic fracturing on the horizontal legs of the proposed wells. The panel concludes that the risk of such contamination on the two water wells on Mrs. O'Connor and Mr. Leopold's property is highly unlikely.

POTENTIAL FOR H₂S

Analysis

[64] ConocoPhillips stated that it did not anticipate encountering H₂S during the drilling and operation of the proposed wells. However, Mrs. O'Connor and Mr. Leopold questioned how ConocoPhillips would know if it had encountered H₂S and how it would address it if it did.

[65] In response, ConocoPhillips stated that it has significant experience with the Glauconitic Formation, having drilled over 45 horizontal wells into the Glauconitic Formation in the area already. None of those wells have produced H₂S, and the proposed wells do not have known H₂S zones above or immediately below the Glauconitic Formation. ConocoPhillips also stated that its evaluation of the characteristics of the targeted reserves is sound and consistent with both industry practice and AER requirements.

[66] Mrs. O'Connor and Mr. Leopold were also concerned that over time, production in the proposed wells may lead to H₂S being present. ConocoPhillips replied that if an oil well has been producing for a long period of time, it may eventually produce H₂S. However, it noted that the proposed wells are gas wells—not oil wells—and that gas wells typically do not begin to produce H₂S over time. ConocoPhillips also stated that when drilling the wells, it would use H₂S indicators in the drilling mud system to detect whether it had encountered H₂S. If it were to find H₂S in the drilling mud, it would initiate safety measures, alert staff on site, shut in the well, notify its head office, and implement additional safety measures as necessary.

Findings

[67] The panel agrees with ConocoPhillips that it is unlikely that the proposed wells will produce H₂S. It also notes that the AER has regulations in place to provide for the safety of the public should ConocoPhillips encounter H₂S and that it must comply with the AER's requirements for safe drilling and operations. If the wells encounter H₂S, ConocoPhillips must notify the nearest field centre and meet all other applicable AER requirements.

TRAFFIC AND NOISE

Analysis

[68] At the opening of the hearing, ConocoPhillips indicated that, as a result of discussions with an adjacent landowner, it would move the access road on the lease site to an existing trail 60 m east of the original proposed access road.

[69] ConocoPhillips reiterated its commitment to road and traffic safety. It stated that it would install signs to help reduce speed and would hold meetings with staff and contractors to stress the importance of driving respectfully and obeying all applicable traffic laws.

[70] ConocoPhillips stated that if Mrs. O'Connor and Mr. Leopold, or any other residents in the area, felt that one of its employees or operators was not obeying traffic laws, the company should be contacted directly. It stated that it would follow up on all complaints.

[71] Mrs. O'Connor and Mr. Leopold stated that they were concerned that the proposed multiwell pad and battery would increase traffic on the road leading to their residence, which was already an unsafe road. They also expressed concerns about increased levels of dust from additional traffic. ConocoPhillips stated that there would not be any additional traffic in front of Mrs. O'Connor and Mr. Leopold's residence. ConocoPhillips stated that one of its operators uses this road daily to check its various facilities in the area and passes their property. When the proposed wells are operating, this operator would also become responsible for maintaining them and continue using this same road on a daily basis. ConocoPhillips clarified that it would access the proposed multiwell pad and battery from the west so that additional vehicles do not use the road in front of Mrs. O'Connor and Mr. Leopold's residence.

[72] Mrs. O'Connor and Mr. Leopold indicated that they were concerned with the level of noise that would be coming from operations at the proposed battery. However, ConocoPhillips stated that since it would be taking in-flow measurements within a pipe there would be no mechanical equipment on the lease site, and therefore it did not expect any noise. The only equipment that

would be in operation at the proposed multiwell pad and battery site would be two gas wellheads and storage tanks, neither of which generates any noise. ConocoPhillips expected that the most significant noise would come from the fracturing of the wells, which would take about 2-3 weeks.

[73] ConocoPhillips made the commitment that it would not install compression at the proposed battery site for at least ten years. It further indicated that it was unlikely to seek to install compression as the Glauconitic Formation is rich in liquids and compression does not work on liquids.

Findings

[74] The panel notes ConocoPhillips commitment to access the proposed multiwell pad and battery from the west during construction, drilling, and completion so that heavy vehicles will not pass by Mrs. O'Connor and Mr. Leopold's residence. The panel also understands that ConocoPhillips's current operator already passes by Mrs. O'Connor and Mr. Leopold's property and will maintain the same route and travel frequency in the area. Therefore, the panel finds that there should be no new traffic in front of Mrs. O'Connor and Mr. Leopold's residence and that any concerns with traffic can be brought up with ConocoPhillips and Clearwater County.

[75] The panel recognizes that noise is an issue for those who live in the vicinity of oil and gas facilities. The panel notes that ConocoPhillips is required to abide by requirements in AER *Directive 038: Noise Control*, which outlines requirements for noise levels permitted during the day and at night, and that ConocoPhillips has reiterated its intent to do so. The panel notes that any noise from ConocoPhillips's construction, drilling, and fracturing will be temporary and that ConocoPhillips's has committed to relocate Mrs. O'Connor and Mr. Leopold's family during that time. The panel also notes that ConocoPhillips has agreed to not install a compressor for at least 10 years and finds that the concerns with noise from the multiwell pad and battery expressed by Mrs. O'Connor and Mr. Leopold have been satisfactorily addressed.

CONCLUSION

[76] For the reasons set out above, the panel hereby approves Applications No. 1743497, 1743503, and 1760257.

Dated in Calgary, Alberta, on February 11, 2014.

ALEBRTA ENERGY REGULATOR

<original signed by>

B. T. McManus, Q.C.
Presiding Hearing Commissioner

<original signed by>

R. C. McManus, M.E.Des.
Hearing Commissioner

<original signed by>

B. M. McNeil, C.Med.
Hearing Commissioner

APPENDIX 1 HEARING PARTICIPANTS

Principals and Representatives (Abbreviations used in report)

Witnesses

ConocoPhillips Canada Operations Ltd.
D. Wood
S. Colebrook

H. Parmar
J. Fleck
J. Gebert, P.Geol.
J. Ahlers, P.Eng.
J. Ho, P.Eng.
W. Heikkinen

M. O'Connor and P. Leopold
L. Snowball
D. Hryhor

Alberta Energy Regulator staff
R. J. Mueller, AER Counsel
K. Lilly, AER Counsel
M. Gonie
J. Koppe
J. Ryan
E. Zimmerman

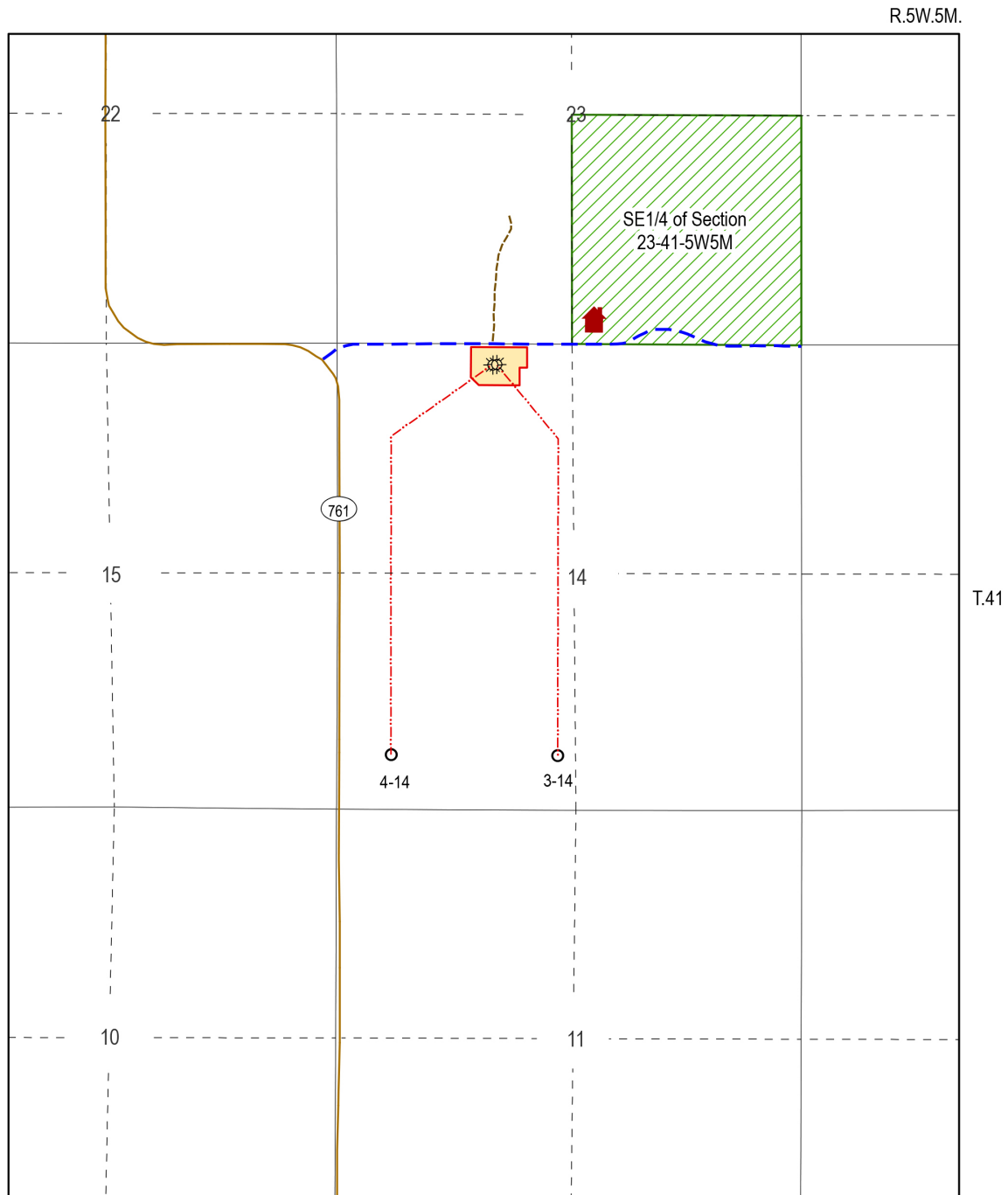
APPENDIX 2 COMMITMENTS

The AER notes that ConocoPhillips has made certain undertakings, promises, and commitments (collectively referred to as commitments) to parties involving activities or operations that are not strictly required under AER requirements. These commitments are separate arrangements between the parties and do not constitute conditions to the AER's approval of the applications. The commitments that have been given some weight by the AER are summarized below.

The AER expects the applicant to comply with commitments made to all parties. However, while the AER has considered these commitments in arriving at its decision, the AER cannot enforce them. If the applicant does not comply with commitments made, affected parties may request a review of the original approval. At that time, the AER will assess whether the circumstances regarding any failed commitment warrant a review of the original approval.

COMMITMENTS BY CONOCOPHILLIPS

- Water wells on the property of Mrs. O'Connor and Mr. Leopold will be tested before and after drilling and completion. The testing will include flow testing, routine potability, and bacterial analysis.
- No compression will be installed on the lease site for at least 10 years.
- ConocoPhillips will install speed signs and meet with employees and contractors to emphasize the need to drive responsibly and in accordance with all applicable traffic laws. All heavy vehicles will access from the west during the drilling and completions of the multiwell pad and battery.



Legend

---	Access road		Mrs.O' Connor and Mr.Leopold's property		Residence
○	Bottomhole		Paved road		
---	Horizontal leg		Private road		
	Lease boundary		Proposed well		

Figure 1. Map of the proposed multiwell pad and battery and surrounding area