

## Review Comment Table

<b>Board:</b>	SLWB
<b>Review Item:</b>	ConocoPhillips - S14S-001 - Geotechnical Land Use Permit Application
<b>File(s):</b>	<a href="#">S14S-001</a> <a href="#">S14S-001</a> <a href="#">S14S-001</a> <a href="#">S14S-001</a>
<b>Proponent:</b>	Conoco Phillips
<b>Document(s):</b>	<a href="#">Land Use Permit Application</a> (2mb) <a href="#">Withdrawal of Bear Island Portion</a> (1mb) <a href="#">Removal of Activities Outside EL470</a> (444KB) <a href="#">Figure 2_revised area of Application</a> (1 MB)
<b>Item For Review Distributed On:</b>	Feb 7 at 09:11 <a href="#">Distribution List</a>
<b>Reviewer Comments Due By:</b>	Feb 28, 2014
<b>Proponent Responses Due By:</b>	Mar 7, 2014
<b>Item Description:</b>	<p>Dear Sir/Madam:</p> <p style="text-align: center;"><b>Re: Land Use Permit Application ConocoPhillips Canada Geotechnical Exploration Program Request for Comments</b></p> <p>Attached for your review and comment is a Land Use Permit Application from ConocoPhillips Canada. The requested program from ConocoPhillips includes;</p> <ul style="list-style-type: none"> <li>• Conduct geotechnical borehole drilling within and partially outside Exploration Licence 470 during two operating seasons each year (December to April and June to October).</li> <li>• ConocoPhillips plans to drill approximately 100 boreholes per year to a maximum depth of 150m to investigate surficial deposits to analyze the extent of permafrost, borrow material sources, and collect data for infrastructure planning.</li> <li>• Please note that the application contains locations outside of EL 470; part of which is Sahtu Private Lands, as well as Commissioners and Private Lands on Bear Island.             <ul style="list-style-type: none"> <li>○ ConocoPhillips will provide confirmation of access rights to</li> </ul> </li> </ul>

<b>Contact Information:</b>	<p>the Sahtu Private Lands outside of their EL prior to Permit issuance.</p> <ul style="list-style-type: none"> <li>o ConocoPhillips has also included a letter withdrawing the Bear Island portion of the program, and as such should not be included as part of the application review.</li> </ul> <p>Please submit your comments or concerns in writing to our office through the <b>online review system</b>, no later than <b>Friday February 28, 2014</b>. <b>Comments shall be uploaded directly to the online review system</b>. If you are unsure of how to do this please contact the Sahtu Land and Water Board office. Should you need additional time, please contact us prior to the above noted date.</p> <p>Thank you for your time and effort on this matter.</p> <p>Tony Morris Regulatory Specialist</p>
<b>Contact Information:</b>	Tony Morris 867-598-2413 ext 223

## Comment Summary

Conoco Phillips (Proponent)			
ID	Topic	Reviewer Comment/Recommendation	Proponent Response
1	General File	<b>Comment</b> <a href="#">(doc)</a> ConocoPhillips' Cover Letter - Responses to Information Request - Geotechnical Assessment Program <b>Recommendation</b>	
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ID	Topic	Reviewer Comment/Recommendation	Proponent Response
1	General File	<b>Comment</b> <a href="#">(doc)</a> EC No Comment Letter <b>Recommendation</b>	
AANDC: Jan Davies			
ID	Topic	Reviewer Comment/Recommendation	Proponent Response
1	AANDC Comments	<b>Comment</b> <a href="#">(doc)</a> See Attached <b>Recommendation</b> See	<b>Mar 7:</b> <a href="#">(doc)</a> ConocoPhillips has reviewed the conditions proposed by

		Attached	<p>AANDC in terms of appropriateness and relevancy to the geotechnical application in the SSA. Reference to "the Board" is considered to be the SLWB.</p> <p>ConocoPhillips has the following comments and caveats: 1. Issues identified here are typically handled by a combination of SLWB and Access Agreement. 2. ConocoPhillips proposes a set-back of approximately 500m. 5. ConocoPhillips requests confirmation that drilling here refers specifically to hydrocarbon drilling, and does not apply to geotechnical drilling. 7. ConocoPhillips will consider this recommendation where possible, understanding that for most water courses on EL470 the ordinary high water mark is not delineated. 10. In this case 'the Board' is referring to the SLWB unless otherwise indicated. 18. The Permittee shall remove all wire from the land as the land-use operation progresses. - ConocoPhillips seeks clarification on proposed condition since it does not seem applicable to a non-seismic application. 21. As stated in the Geotechnical application - Reclamation section Application 26. During geotechnical activities during summer months, ConocoPhillips will comply with Condition 16 - small ATVs exert a pressure on the ground less than 35kPa. 36. During the summer activities, low pressure ATV use (less than 35kPa) may ford some small, shallow streams. Where this occurs, the crossing will be carefully selected to avoid disturbance to stream bed and channel and associated vegetation. 52. ConocoPhillips proposes conducting the archaeological survey overview to any new land disturbance not previously covered in the past historical resources survey within 60 days before start of operations. 62. ConocoPhillips seeks clarification of the term facility. 78. Disturbed areas associated with this</p>
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			<p>Application will include brush and tree cutting as needed. These areas will be allowed to regrow naturally. Disturbed areas associated with the geotechnical drilling will be very small in size. A 'cap' of Active layer material, including vegetation, will be replaced once drill cuttings are returned to the hole, as per the Reclamation Plan included in this Application. Natural recovery is recommended. Annual site inspection will monitor for successful regeneration and regrowth of disturbed areas. 85. The Plans submitted in this Application remain current. They will be replaced or updated if new Plans are developed that render the Plans in this Application to be obsolete. The Program Area Map in Appendix 2 represents potential areas of borrow. The geotechnical application is intended to determine the extent of material available for future applications. Future application will follow the standard SLWB LUP and WL application process. ConocoPhillips is committed to meeting all applicable regulatory requirements for site reclamation associated with ConocoPhillips activity on EL470. ConocoPhillips is obligated to reclaim the land used during its operations to the satisfaction of the ANNDL land Use inspector under AANDC requirements and through its Access Agreement with the Tulita District Land Corporation. ConocoPhillips also acknowledges the need to protect the public from potential liabilities resulting from industrial activities. However, for this specific workscope, ConocoPhillips considers that no security deposit is required. ConocoPhillips notes that there are various security deposits (in the form of Letters of Credit) already in place with AANDC and NEB for water licences, lands use permits and drilling activities. The scopes of these deposits overlap with</p>
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			the scope of this application which only covers the geotechnical activities. ConocoPhillips recommends that AANDC consider the overlap in scope and only recommend further security postings at this time if real gaps in security posting coverage are identified.
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**Fisheries and Oceans Canada: Triage Group Fisheries Protection Program**

ID	Topic	Reviewer Comment/Recommendation	Proponent Response
1	Fisheries and Oceans- Triage and Planning comments.	<p><b>Comment</b></p> <p><b>Subject: Conoco Phillips-S14S-001 Geotechnical Land Use Permit-Serious harm to fish can be avoided or mitigated</b> The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada received your proposal on February 7, 2014.</p> <p>Based on the information provided, your proposal has been identified as a project where a <i>Fisheries Act</i> authorization is not required given that serious harm to fish can be avoided by following standard measures. Proposals in this category are not considered to need an authorization from the Program under the <i>Fisheries Act</i> in order to proceed. In order to comply with the Act, it is recommended that you follow our guidance tools which can be found at the following website (<a href="http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html</a>). It remains your responsibility to meet the other requirements of</p>	<p><b>Mar 7:</b> ConocoPhillips will follow DFO's guidance tools which can be found at the following website (<a href="http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html</a>). Should ConocoPhillips plans change or some information have been omitted in the proposal such that the proposal meets the criteria for a site specific review, as described on DFO's website (<a href="http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html</a>), ConocoPhillips may complete and submit the request for review form</p>

		<p>federal, provincial and municipal agencies. Should your plans change or if you have omitted some information in your proposal such that your proposal meets the criteria for a site specific review, as described on our website (<a href="http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html</a>), you should complete and submit the request for review form that is also available on the website. Should you have any questions or concerns about the compliance of your proposal with the <i>Fisheries Act</i>, you may wish to engage an environmental professional familiar with measures to avoid impacts to fish and fish habitat (<a href="http://www.dfo-mpo.gc.ca/pnw-ppe/env-pro-eng.html">http://www.dfo-mpo.gc.ca/pnw-ppe/env-pro-eng.html</a>).</p> <p><b>Recommendation</b> DFO has no concerns provided measures to avoid harm are implemented for aspects of work that may have the potential to impact fish and fish habitat.</p>	
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**GNWT - Environment and Natural Resources: Central Email GNWT**

<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>
9	General File	<p><b>Comment</b> (<a href="#">doc</a>) ENR Comments and Recommendations</p> <p><b>Recommendation</b></p>	
1	Topic 1: Map Scale	<p><b>Comment</b> None</p> <p><b>Recommendation</b> Recommendation(s): 1) On the project map provides an overview of the program areas. A smaller scale map for</p>	<p><b>Mar 7:</b> ConocoPhillips will provide an annual report with drilled locations and total footprint using an appropriate scaled map.</p>

		<p>actual drillings areas and new access areas would more suitable to understand the total project foot print after each year of drilling in the geotechnical assessment areas.</p>	
2	<p>Topic 2: Water Withdrawal and Water Logs</p>	<p><b>Comment</b> Comment(s): Appendix 1 of the EPP 3.3 Water Use Bathymetric surveys of various lakes within EL470 were performed in 2012, and again in 2013. The bathymetry survey maps and data from the 2012 surveys have been supplied to the SLWB in previous LUP and WL applications. Water requirements for the Program will be minimal. As per schedule IV of the Northwest Territories Waters Regulations (NWTWR), ConocoPhillips will be using less than 100m<sup>3</sup> of water per day for the geotechnical assessment; therefore a SLWB Water Licence is not required. The project also will not trigger the Department of Fisheries and Oceans Protocol for Winter Water Withdrawal requirement. Nevertheless, ENR would recommend that the proponent is required to utilize a water log which will detail the amounts of water withdrawn, the location of the withdrawals and indicating the water source from which the water has been withdrawn. This should be a project requirement, even if a Water Licence not required for the project, in order to keep accurate records of water withdrawals which will prove</p>	<p><b>Mar 7:</b> Recommendation 1 and 2) ConocoPhillips currently keeps a log of all water withdrawals, indicating the amounts withdrawn, according to location and water source. These logs are provided in the Annual Environmental Report to the SLWB and are available to the SLWB and others for review - by way of the SLWB public registry. ConocoPhillips will continue to maintain daily water withdrawal records for each source and for all volumes including those sources where volumes withdrawn are less than 100m<sup>3</sup>. ConocoPhillips understands recommendations 3,4 and 5 are directed to the SLWB. Recommendation 5) ConocoPhillips will inform the SLWB and ENR inspector if an artesian well is discovered during drilling activities. Recommendation 6) ConocoPhillips seeks clarification on what ENR means by additional water withdrawals.</p>

		<p>the proponent is not triggering a Water Licence and is using waters as indicated in the project description.</p> <p><b>Recommendation</b>  Recommendation(s): 1) That the proponent keeps a log of all water withdrawals, indicating the amounts withdrawn, the location of the withdrawals and identifying the waterbody or groundwater source from which it was withdrawn. 2) That the water withdrawal log be submitted to the SLWB or the inspector upon request. 3) That the SLWB makes the submission of the water log information a requirement of annual reporting to ensure the proponent has not triggered a Water Licence requirement and is using waters as described in the project description. 4) That the SLWB under no circumstances allows a project to withdraw and utilize waters under existing water licences from other projects. 5) That the proponent informs the SLWB and the inspector if an artesian well is discovered during drilling activities. 6) That the proponent clarifies the need for any additional water withdrawals for June to October project period.</p>	
3	Topic 3: Drilling Rig	<p><b>Comment</b> None</p> <p><b>Recommendation</b>  Recommendation(s): 1) That the proponent indicates what type of drilling equipment is being utilized for the project.</p>	<p><b>Mar 7:</b> As this is a multi-season application, ConocoPhillips has indicated in Appendix 3 "Anticipated Equipment List" the options for drilling equipment: a heli-portable auger drill or a track mounted drill.</p>

4	<p>Topic 4: Management and other Types of Plans</p>	<p><b>Comment</b> Comment(s): Non-clean cuttings will be containerized and removed according to the revised Waste Management Plan approved under LUPs S12A-005 and S13A-001. ENR expects all management and other types of plans to be project specific and submitted to regulators for review during the Board review process. ENR does not approve of any project plans that are not project specific and have not been forwarded to regulators and reviewers during the Board review process. If plans are used from other active permits or licences, they must be modified to be specific to the project and submitted to regulators and reviewers for review and comment during the Board application review process. Applications forwarded for review without project specific plans are considered by ENR to be incomplete applications, and therefore cannot be properly reviewed.</p> <p><b>Recommendation</b>  Recommendation(s): 1) If plans of any type are to be used from other active permits or licences, they must be modified to make them specific to the project application being reviewed. 2) That all plans are project specific and are forwarded to regulators and reviewers with the application being reviewed and commented upon during the Board Land Use Permit or</p>	<p><b>Mar 7:</b> ConocoPhillips understands and agrees with the need for annual updates to the Waste Management Plan as operational activities differ from year to year. In addition, ConocoPhillips notes that all revisions must be submitted to the Sahtu Land and Water Board for approval</p>
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5	<p>Topic 5: Noise Pollution and Residual Effects</p>	<p><b>Comment</b> Comment(s): Program-related residual effects generated by increased noise are expected to be negligible under normal operating conditions. The period of operation is short in duration, it is anticipated that the Program will be conducted over a period of approximately four weeks, twice per year. Adherence to the mitigations measures and protocols (Table 7-4) is expected to minimize the potential residual effects of the Program.</p> <p><b>Recommendation</b>  Recommendation(s): 1) The timing of the geotechnical assessment may have direct or residual effects upon local hunting seasons in the spring and fall with the increase in program related activities. Has Conoco had discussions with the local harvesters regarding</p>	<p><b>Mar 7:</b> ConocoPhillips has met with hunters, trappers and elders for traditional knowledge information for this and other related projects. Meetings took place in Tulita (December 5 2013 and February 25 2014), and also by way of community meetings in Norman Wells and Tulita during the week of February 18. In addition, ConocoPhillips met with the NWLC and beneficiaries and the TLC as well as with members of the TRRC and the NWRRC to discuss this Project. During these meetings noise was raised as a concern, including the possible impact of noise on wildlife and on hunting and trapping. There are no territorial noise guidelines in the Northwest Territories (NWT). The NEB filing manual recommends Alberta's AER Directive 038 as the default guideline for provinces or territories without any regulatory framework for noise. In addition, AUC's Rule 012 and the BC OGC guidelines are based on ERCB Directive 038. As a result, AER Directive 038 is the main reference document in this assessment.</p>

		<p>project activities and the effects of noise pollution in the project area during in the critical hunting seasons? Has Conoco commenced any research on residual effects of increased noise in the EL470 area? Please clarify these questions before the permitting process is completed.</p>	<p>Reviews on the effect of military and aircraft noise on wildlife suggest that continuous and predictable noise under 90 dBA has minimal impact on behaviour (Manci et al. 1988; Larkin 1994 ). Specific noise thresholds for KIs are not available; however, caribou appear to be most sensitive to noise disturbance during the spring calving period (Harrington and Veitch 1992; Murphy et al. 1993). Noise associated with a visual cue such as an aircraft or vehicle elicits a more intense response than noise alone (Horejsi 1981), particularly for caribou (Harrington and Veitch 1991). ConocoPhillips conducted a noise effects assessment as part of the 2013-2016 Two Well Application (submitted to the SLWB March 15, 2013). A noise impact assessment (NIA) is typically associated with a permanent facility that operates continuously. It is not common to conduct a NIA for an exploration program because of the short-term duration, intermittency, and remoteness of the activity. However, in response to community feedback an assessment of the potential noise effects from the 2013-2016 Program was conducted. Alberta Energy Regulator Directive 038 is a receptor-based regulating document. It defines daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) noise-level limits for dwellings within 1.5 km of the Program boundary. Noise level is evaluated in terms of a permissible sound level (PSL). The PSL is measured as the equivalent sound level (Leq), which represents the energy-average sound level taken over the daytime or nighttime period. Factors such as population density, transportation noise, duration of activities and seasons are considered in the PSL calculation. The baseline acoustic environment in a rural environment is equivalent to background ambient sound levels, which</p>
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			<p>come from primarily natural sources. Sounds include wind and rain interacting with natural surfaces (e.g., wind noise, vegetation rustling), stream and river movement, and animal noises (e.g., from birds and insects). These sources are somewhat variable on an hourly or daily basis because of changing natural forces and the influence of human activities. AER Directive 038 recommends that the average rural ambient sound level is approximately 35 dBA Leq(9) at night, based on research conducted by AER (AER 2007). Daytime ambient conditions are commonly 10 dBA higher than nighttime levels. ConocoPhillips has conducted some initial field spot noise measurements in and around the current drilling activities during 2014. These measurements indicated that typical noise on a lease during drilling activities is 50-55 dBA near the drill site, dropping to 39-42 dBA at the edge of the well pad. Values measured at 1.5 km from the well pad, on level terrain with low tree cover, were between 37 and 39 dBA. These sound levels at 1.5 km distance is comparable to the ambient sound level as prescribed in AER Directive 038. It is anticipated that noise emission associated with geotechnical work will be less than the noise effects from generated from a well pad. Therefore, the geotechnical work noise effects and are expected considered to have negligible effect be well below the noise levels considered to have an impact on wildlife. Noise associated with helicopter use is high and localized and of short-term duration. Mitigation for helicopter and geotechnical noise will include avoiding sensitive spring and fall wildlife periods, minimizing helicopter use as possible and avoiding program proximity to Twenty-five Mile Lake and Sucker Lake (note that ConocoPhillips has committed to add</p>
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			<p>a 500m buffer to the Sucker Lake Special Management Zone boundary) As part of the WWHMP, ConocoPhillips will continue to monitor wildlife activity in the vicinity of existing and proposed activities, to assist in assessing if there are potential impacts to wildlife. As per past programs, ConocoPhillips will consult with the local RRCs and cabin holders on Twenty-five Mile Lake and Sucker Lake prior to conducting geotechnical activities, to identify and further avoid possible noise effects to wildlife and people conducting on-the-land activities.</p>
6	<p>Wildlife Division Comments Topic 6: Disturbance of Caribou and mmoose During Calving and Fall Rut</p>	<p><b>Comment</b> Comment(s): Page 38 of the EPP indicates that geotechnical assessment work will take place between December and the end of April and between June to early-October. It is likely that operations outside of periods of snow cover will require helicopter support to relocate drill rigs and personnel. It is also stated that geotechnical activities will avoid sensitive periods for caribou and moose including the spring calving period (May-June) and fall breeding period (rut) (September-October). If the summer period of operations extends from June to early-October the end of the spring calving period and fall breeding period will not be avoided. The calving period for boreal woodland caribou (a federally and territorially listed species at risk) in the northern NWT is 29 April - 8 June, and the breeding season is 12 September - 22 October . Suspension of activities during the months of May/June and</p>	<p><b>Mar 7:</b> ConocoPhillips supports these recommendations:1) Helicopter supported geotechnical assessment work will be avoided during May 15 -June 1 and September 10 - October 12 to minimize disturbance to boreal caribou and moose during calving and breeding periods.</p>

		<p>September/October should be implemented to avoid disturbance to caribou and moose during the calving and breeding seasons.</p> <p><b>Recommendation</b>  Recommendation(s): 1)  Helicopter supported geotechnical assessment work should be avoided during May/June and September/October to minimize disturbance of boreal caribou and moose during calving and breeding periods.</p>	
7	Topic 7: Wildlife Mitigation and Monitoring Plans	<p><b>Comment</b> Comment(s):  Section 7.3.5.7 of the EPP states that ConocoPhillips is working on a Wildlife and Wildlife Habitat Protection Plan (WWHPP), for submission to the SLWB at a later date. ENR looks forward to reviewing the WWHPP and encourages the proponent to engage with the Wildlife Division of ENR and the Sahtu Regional ENR office during the development of this plan.</p> <p><b>Recommendation</b>  Recommendation(s): 1) ENR recommends that submission of the WWHPP be included as a condition of the LUP and be subject to approval of ENR and the Board. This requirement is now included in Land Use Permits issued by the Mackenzie Valley Land and Water Board.</p>	<p><b>Mar 7:</b> ConocoPhillips is preparing a WWHPP. This plan is intended to be a single overarching document that will support current and proposed programs, thus avoiding the confusion and redundancy of having multiple WWHPP attached to various Permits. ConocoPhillips will provide annual updates to address new activities, as required.</p>
8	Topic 8: Cumulative Effects on	<p><b>Comment</b> Comment(s):  Section 8.3.1.1 of the EPP states the project will create 80</p>	<p><b>Mar 7:</b> A portion of Explor's seismic exploration program (S11B-004) from Table 8-2 was omitted, and has now been</p>

<p>Wildlife</p>	<p>ha of new disturbance, although the exact location and dimensions of areas of new disturbance required for the program are not available. The contribution of activities described within this LUP application to cumulative effects should be provided in the context of the total footprint of ConocoPhillips' past, ongoing and proposed activities within EL470. The extent of ConocoPhillips current footprint was not provided in the cumulative effects assessment. The Regional Study Area map (page 10 of Appendix 1B in S14S-001 LUP application) does not appear to capture the full suite of ongoing and future projects considered in the cumulative effects assessment (Table 8-2 of the EPP). For example, the map does not appear to include the proposed footprint of Explor's seismic exploration program (S11B-004, included in Table 8-2 of the EPP). ENR notes that shapefiles for that project are available on the SLWB public registry. Without a more detailed breakdown of the regional disturbance footprint referred to in sections 8.3.1.1 and 8.3.2.4.2 of the EPP it is difficult to assess the accuracy of the cumulative effects assessment. Up-to-date records of existing and proposed disturbance footprints from projects in the region are required to support the assessment and</p>	<p>included in Table 8-2 (see attached document for revised table). The SLWB public registry was again consulted to ensure the assessment contains a complete list of past, ongoing, or proposed development within the RSA. No further updates were required. However, as the GIS shapefiles of many past projects and activities in the RSA are not available on the SLWB public registry, the cumulative effects assessment was not limited to just these shapefiles and activities listed on the SLWB public registry. Thus, in addition to GIS data available in the SLWB public registry for the projects listed in Table 8-1 and Tables 8-2, the assessment included further GIS data of disturbances within the RSA obtained from additional sources as part of the overall disturbance footprint. This additional regional disturbance footprint data includes: . digitized cut lines and disturbances from aerial imagery; . the GNWT winter road; . NWT communities; . the Canol Trail; . the Enbridge pipeline; and . quarries. This information was included to more accurately reflect the past impacts within the RSA in an effort to produce the most current estimate of the level of existing disturbance and cumulative effects possible. 1) ConocoPhillips agrees to provide SLWB with shapefiles indicating the size and location of areas of new disturbance created by the geotechnical assessment program, to post on the SLWB public registry once the project is complete. 2) ConocoPhillips is not able to provide a more detailed breakdown of the footprint of their existing and proposed activity components associated with the proposed geotechnical program, since the exact locations are yet to be determined and each drilling location will be informed by the results of previous locations - it will be an iterative approach.</p>
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		<p>management of cumulative effects on wildlife and wildlife habitat. As EL470 overlaps with the range of boreal woodland caribou, GNWT also requires this information to track the condition of the boreal caribou range with respect to the 35% habitat disturbance threshold set out in the national Recovery Strategy, and to inform development of range plans for this species.</p> <p><b>Recommendation</b>  Recommendation(s): 1) ENR recommends that ConocoPhillips provide the SLWB with shapefiles indicating the size and location of areas of new disturbance created by the geotechnical assessment program to post on the SLWB public registry once the project is complete. 2) ENR recommends that ConocoPhillips include a more detailed breakdown of the footprint of existing and proposed components of their activities within EL470 in cumulative effects assessments associated with future LUP or WL applications.</p>	<p>However, as the program unfolds, ConocoPhillips proposes that they will consult with ENR as to the location and timing of new drill holes and related access, as they are identified, for ENR review and comment. Consultation with ENR would be scheduled to review the shapefiles being submitted, and to consider the upcoming access and drill locations, and field program schedules and activities. <b>Mar 7: Cumulative Effects Assessment - Table 8-1 &amp; 8-2</b></p>
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**GNWT - Prince of Wales Northern Heritage Centre: Glen Mackay**

<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>
1	Archaeological Site Protection	<p><b>Comment</b> The archaeological impact assessment (AIA) referenced in Section 6.1 of the EPP focused on 14 specific project components in EL470. Based on the map of Potential</p>	<p><b>Mar 7:</b> ConocoPhillips agrees to conduct a pre-development archaeological impact assessment for boreholes and associated access that are not located in areas already disturbed by development activities or in areas included in the 2012</p>

		<p>2014 Geotechnical Assessment Areas (Appendix 2), it is unclear how many boreholes will be drilled outside of the areas assessed during the AIA. This value is also unknown for future years of the land use permit. It is important that geotechnical testing not occur in areas with high potential for unrecorded archaeological sites before an archaeological impact assessment is completed.</p> <p><b>Recommendation</b> The PWNHC recommends that the proponent conduct a pre-development archaeological impact assessment for boreholes (and associated access) that are not located in areas already disturbed by development activities or in areas included in the 2012 AIA.</p>	AIA.
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**Sahtu Renewable Resource Board: Deborah Simmons**

<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response Board Staff Response</b>
1	General Concerns	<p><b>Comment (Submitted after Due Date)</b> The SRRB has general concerns about the future consequences of CPC conducting geotechnical investigations in and around parts of the lease that are important for harvesters, such as Twentyfive Mile Lake and the Fish Lakes. At this early stage, the Board wishes to flag concerns about the possibility of establishing quarries or building all-weather roads, pipelines, and/or wells in and around those areas. CPC includes a map showing some</p>	<p><b>Mar 7:</b> ConocoPhillips supports on-going consultation and environmental work which continues to help inform planning for this Application and for possible future applications.</p>

		<p>of the cultural sites and important wildlife habitat areas in and around the lease that are particularly valued by local community members (S14S-001 Appendix 1B, Figure G). It is not clear how or whether CPC would ensure that those areas continue to provide good habitat for fish, moose, furbearers, etc. if these areas become quarry sites or well pads or are crossed by all-weather roads and pipelines.</p> <p><b>Recommendation</b> The SRRB supports the idea of "early work" advocated in the Mackenzie Valley Environmental Impact Review Board's guidelines to provide opportunities for discussion of future expansion possibilities during the planning process, before pre-screening takes place.</p>	
2	Ungulate Monitoring	<p><b>Comment (Submitted after Due Date)</b> The map of traditional knowledge values (S14S-001 Appendix 1B, Figure G) shows area around the proposed 325-person camp is good moose habitat, therefore moose health should be closely monitored. ENR collar data has also identified caribou all through the mountain side of the CPC's lease.</p> <p><b>Recommendation</b> The SRRB recommends that CPC partners with Susan Kutz and Anja Carlsson (University of Calgary) and commits to collecting scat samples found in the lease. Scat samples will</p>	<p><b>Mar 7:</b> ConocoPhillips agrees to contact Susan Kutz and Anja Carlsson with University of Calgary, to consider opportunities to support their research on animal health. This discussion will be in the context of overall Project work on EL 470, beyond the scope of this Application.</p>

		<p>be analyzed in a lab for stress hormones in response to physical and social stressors and have been suggested as biomarkers of overall health. Stress hormones in scat gives an indication of stress on a short term scale (hours and weeks). This ongoing project aims to establish the baseline stress levels of moose and caribou and to test if these stress levels are related to other health measures and if stress levels are higher in areas with industrial development. The SRRB will provide CPC with detailed sampling information.</p>	
3	Sensitive Periods for Moose	<p><b>Comment (Submitted after Due Date)</b> CPC is proposing to operate from June through to the end of October. While it will avoid peak calving season (May 15th - June 1st) it will not avoid peak rut/ breeding season (September 10th - October 12th)</p> <p><b>Recommendation</b> The SRRB recommends CPC halt its activities from September 10th to October 12th to avoid the peak rut and breeding season.</p>	<p><b>Mar 7:</b> ConocoPhillips will not conduct geotechnical activities during the peak calving season May 15 - June 1 and the peak rut/ungulate breeding season September 10-October 12. The anticipated work will be performed by a small crew operating a tracked drill and/or a heli-portable drilling rig and as such, is not an intensive operation.</p>
4	Vegetation and fish population/habitat assessments	<p><b>Comment (Submitted after Due Date)</b> CPC states: "Fish population assessments will be performed as conditions and circumstances allow during the course of proposed program activities" (EPP, p.52) and "Vegetation assessments will be performed as conditions and circumstances allow during the course of proposed</p>	<p><b>Mar 7:</b> ConocoPhillips will continue to review environmental data and monitoring programs and gather new environmental information as required to support new and on-going work and applications.</p>

		<p>program activities" (EPP, p.31)</p> <p><b>Recommendation</b> The SRRB encourages and appreciates CPC's effort to collect new baseline data on vegetation and fish population/habitat when they are exploring new areas not previously covered in their study.</p>	
5	<p>Boreal woodland caribou habitat assessment and range planning related to the Federal and NWT "threatened" status.</p>	<p><b>Comment (Submitted after Due Date)</b> The SRRB is required to participate along with Renewable Resources Councils, government and industry in finding ways to understand boreal woodland caribou populations and range as the basis for legally required range and recovery planning, which should incorporate the area of the proposed activity,.</p> <p><b>Recommendation</b> The SRRB recommends that CPC continue to support the caribou genetics monitoring study lead by Jean Polfus and Dr. Micheline Manseau (University of Manitoba) and commits to collecting scat samples found in the lease. Scat samples will be analyzed for mtDNA and nuclear genetic material. Genetic analysis will allow identification of individual caribou within the lease. This project aims to establish population structure and understand the interplay between the boundaries of different types of caribou. This is especially relevant to the CPC lease where two different</p>	<p><b>Mar 7:</b> Assuming continued exploration activity on EL470, ConocoPhillips looks forward to working again with the SRRB to continue to support the caribou genetic monitoring study lead by Jean Polfus and Dr. Micheline Manseau (University of Manitoba). This may include collecting scat samples found in the lease, and assisting in the training and supervision to help local wildlife and environmental monitors working for ConocoPhillips to collect and submit caribou scat samples.</p>

		<p>ecotypes of caribou co-occur (boreal woodland and mountain woodland) yet the Species at Risk status of the two differs (federally "threatened" for boreal and "species of special concern" for mountain). The genetic data will also provide important baseline information about the current genetic identities of caribou in the area which can be monitored over time for changes in population structure or the type of caribou in the lease. Long term monitoring could also include non-invasive genetic capture-mark-recapture to estimate population size. The researchers would provide CPC with detailed sampling information.</p>	
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P.O. Box 2100  
Inuvik, Nt X0E 0T0

February 26, 2014

Mr. Tony Morris  
Regulatory Specialist  
Sahtu Land and Water Board  
P.O. Box 1  
Fort Good Hope, NT X0E 0H0

BY EMAIL: [tony.morris@slwb.com](mailto:tony.morris@slwb.com)

**RE: Conoco Phillips Land Use Permit Applications: - S14S-001 -  
Geotechnical Assessment Program in the Tulita District, Sahtu Region,  
Northwest Territories**

Aboriginal Affairs and Northern Development Canada (AANDC) recently reviewed the above mentioned applications and submits our comments for review by the Sahtu Land and Water Board (SLWB). These comments are inclusive of the North Mackenzie District.

As per the Project description submitted for S14S-001 the reviewer does not see any negative impacts at this stage. AANDC would like the SLWB to pay particular attention to the Environmental Protection Plan that was submitted for review is lacking in detail in respect of the lengths the proponent plans for new access lines.

As for securities it is difficult to determine land use as they do not specify other than once on how many areas will be cleared for the drill rig or helicopter pads, nor the amount of fuel that will be used from existing LUP's, as result this was not added into the securities. Aside from these concerns at this stage for the Geo-Tech program, the mitigation measures described and the LUP terms and conditions for the program will minimize any potential damage to the areas in question.

The concern here is once the Geo-Tech work finds sources suitable for their future needs then the long term may have a potential effect with regards to habitat, cabin owners and local harvesters within the area.

With the exception of the above concern, AANDC has no other immediate concerns related to the land use permit application. A security deposit for the land based component of \$12,850.00 is recommended to be sought from the proponent prior to commencement of operations (calculation attached).

Please find attached the recommended land use permit conditions that AANDC requests be incorporated into the permit should it be determined by the Board that one be issued.

If you have any questions, please contact me at 867-777-8906 or via email at [Donald.Arey@aandc-aadnc.gc.ca](mailto:Donald.Arey@aandc-aadnc.gc.ca).

Regards,

A handwritten signature in black ink, appearing to read 'D. Arey', written in a cursive style.

Donald Arey  
Resource Management Officer III  
North Mackenzie District Office - Inuvik

## Land Use Permit Security Worksheet

Application Number: S14S-001

Input  
Amount    Multiplier

<b>Camp (C1)</b>			
<b>Temporary Structures</b>			
Input number of tent frames or weatherhaven (3.5m x 4.2m)	0	\$200.00	\$0.00
Input number of trailers (3.5m x 15.2m)	0	\$300.00	\$0.00
Input total square metres of other temporary structures (i.e. core shacks)	0	\$2.50	\$0.00
<b>Fixed Structures</b>			
Input total square metres of fixed structures	0	\$25.00	\$0.00
<b>Solid Waste</b>			
For non-burnable material, input # of person days per season	0	\$1.00	\$0.00
For burnable material, input # of person days per season	0	\$0.50	\$0.00
<b>Total C1</b>			<b>\$0.00</b>

<b>Regulated / Hazardous Materials (R1)</b>			
Based upon on site volume			
Explosives; up to 500 kg (~pallet) dry explosives input 1, if none, input 0			
	0	\$500.00	\$0.00
Additional Explosives; input total kg >500			
	0	\$0.50	\$0.00
Drilling Muds (oil based); enter number of 63 m <sup>3</sup> (or equivalent) containers			
	0	\$1,000.00	\$0.00
Used Oil, Lubes and Antifreeze: enter number of pieces of heavy equipment			
	4	\$500.00	\$2,000.00
Other: _____ _____ _____			
<b>Total R1</b>			<b>\$2,000.00</b>

<b>Hydrocarbon Storage and Transfer (H1)</b>			
Based upon on site volume			
<b>Gasoline and Diesel</b>			
Enter total volume of gasoline&diesel <25,000 L			
	0	\$0.50	\$0.00
Enter total volume of gasoline&fuel > 25,000 L			
	0	\$0.25	\$0.00
Total Gasoline and Diesel			
	0		\$0.00
When fuel is within bermed site or has other safety feature, enter 1, otherwise enter 0			
	0	25%	\$0.00
<b>Aviation Fuel</b>			
Enter total volume of aviation fuel < 25,000 L			
	0	\$0.50	\$0.00
Enter total volume of aviation fuel > 25,000 L			
	0	\$0.25	\$0.00
Total Aviation Fuel			
	0		\$0.00
When fuel is within bermed site or has other safety feature, enter 1, otherwise enter 0			
	0	25%	\$0.00
<b>Total H1</b>			<b>\$0.00</b>

<b>Land Disturbance (L1)</b>			
<b>Disturbed Surface Area</b>			
<i>(Developed surface area that may require restoration through the use of scarification, reseeding, fertilizing or other similar techniques)</i>			
Enter number of hectares disturbed			
	0	\$1,000.00	\$0.00
<b>Other Land Disturbances</b>			
Creek Crossings; enter number of creek crossings			
	13	\$500.00	\$6,500.00
Off-Road Activities; if any activities are likely, enter 1			
	1	\$500.00	\$500.00
Sump Factor; enter total area occupied by sumps in m <sup>2</sup>			
	0	\$10.00	\$0.00
Well Factor; enter number of wells.			
	0	\$25,000.00	\$0.00
<b>Total L1</b>			<b>\$7,000.00</b>

**Land Use Permit Security Worksheet (continued)**

**Application Number:**

**Input  
Amount Multiplier**

<b>Equipment (E1)</b>			
Based upon type of equipment			
Enter number of pieces of heavy equipment (i.e. dozer, forklift, large gensets)	3	\$1,000.00	\$3,000.00
Enter number of drills	1	\$1,000.00	\$1,000.00
Enter number of light vehicles (trucks, atvs, snowmobiles, boats)	3	\$250.00	\$750.00
Enter number of small generators or pumps	2	\$100.00	\$200.00
Enter number of empty fuel storage tanks	0	\$500.00	\$0.00
<b>Total E1</b>			<b>\$4,950.00</b>

<b>Security Calculation</b>			
<b>Preliminary Calculation</b>			
Enter amount from C1			\$0.00
Enter amount from R1			\$2,000.00
Enter amount from H1			\$0.00
Enter amount from L1			\$7,000.00
Enter amount from E1			\$4,950.00
Preliminary Calculation, total of above	<b>A</b>		<b>\$13,950.00</b>
<b>Multipliers</b>			
Site Access Multiplier. If the project has all weather road access enter 1, if ice road access enter 1.5, if air access enter 2	<b>B</b>	1.5	
Performance Multiplier. If applicant has successfully completed the terms of a LUP enter 0.85, otherwise enter 1	<b>C</b>	1	
Environmental Risk Factor. If location has high environmental value or unusual environmental risk enter 2. If location is previously disturbed enter 0.75. Otherwise enter 1.	<b>D</b>	2	
<b>Calculated Security</b>			
Multiply preliminary calculation (A) by performance multipliers (B, C and D)	<b>E</b>		<b>\$41,850.00</b>
<b>Existing Securities</b>			
List existing associated permits and amount of overlapping security			
Permit: S12A-005 -winter access			\$29,000.00
Permit: S13A-001			\$0.00
Permit:WL S12L-001			\$0.00
Permit:S13L1-004			\$0.00
Overlapping Securities, total of above	<b>F</b>		<b>\$29,000.00</b>
<b>Final Security Determination</b>			
Subtract overlapping securities (F) from calculated security (E)			<b>\$12,850.00</b>

<b>Comments</b>
None



Environment  
Canada

Environnement  
Canada

Prairie and Northern Region  
Environmental Protection Operations Directorate  
5019 52<sup>nd</sup> Street, 4<sup>th</sup> Floor  
Yellowknife, NT X1A 2P7

February 28, 2014

EC File No.: 5410 000 032/001  
SLWB File No.: S14S-001

Tony Morris  
Regulatory Specialist  
Sahtu Land and Water Board  
Box 1, Fort Good Hope, NT X0E 0H0

Via Online Submission

Attention: Mr. Morris,

**RE: S14S-001 – ConocoPhillips Canada Resources Corp. – Geotechnical Land Use Application**

Environment Canada (EC) has reviewed the information submitted by ConocoPhillips Canada Resources Corp. for the above mentioned application, in consideration of EC's mandated responsibilities arising from the *Canadian Environmental Protection Act 1999* (CEPA), the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act* (MBCA) and the *Species at Risk Act* (SARA).

EC does not have any comments at this time.

Please do not hesitate to contact me at (867) 669-4744 or [loretta.ransom@ec.gc.ca](mailto:loretta.ransom@ec.gc.ca) if you have any questions.

Sincerely,

Loretta Ransom  
Senior Environmental Assessment Coordinator, EPO

cc: Carey Ogilvie (Head, Environmental Assessment North, EPO)