NORTH YUKON REGIONAL LAND USE PLAN CONFORMITY CHECK

YESAB Project #	2014-0112		
Project Title:	Eagle Plains Multi-Well Exploration Program		
Date:	December 4, 2014	**Completed by:**	Sam Skinner
Submitted to:	YESAB Dawson Designated Office Box 5060 Dawson City, YT Y0B 1G0		

Project conforms to Regional Land Use Plan: (select one) **Yes**

Background Information and Conformity Check Analysis

Affected Landscape Management Unit(LMU)(s): (insert rows as needed for additional LMUs)
Map 1 and Section 6

LM Unit #	9	LMU Name:	Eagle Plains
Zoning:	IMA – Zone IV	Land Owner:	YG & VGFN

Landscape Disturbance Indicators:) Table 3.2, sections 3.3.1.1, 5.1.1
Surface Disturbance (ha):

LMU	Cautionary Level	Critical Level	*Current est. Level	Project Estimate	Total Estimate	Notific-ation Rqr'd***	Parties Notified
9	4811	6415	1295	126**	1386**	No	No

Linear Disturbance (km):

LMU	Cautionary Level	Critical Level	*Current est. Level	Project Estimate	Total Estimate	Notific-ation Rqr'd***	Parties Notified
9	4811	6415	1806	15.4**	1821**	No	No

*current estimated cumulative effects levels are to be provided by the Plan Parties. In the meantime, adjustments to the amount of historical disturbance estimated by the North Yukon Planning Commission (Appendix A2.5, Final Recommended Plan) combined with disturbances from YESAB project 2013-0067 (Eagle Plains 3D Seismic Survey) were used. Adjustments include natural recovery of disturbances as suggested by the Commission (20%) and the fraction of each disturbance that appears to be forested.
**estimates based upon the definition of Functional Disturbance, pg.3-2, North Yukon Regional Land Use Plan, June 2009. Estimates have been adjusted by the fraction of the proposed disturbance that appears to be forested.
*** the YLUPC shall notify the Parties prior to submitting the conformity check to YESAB if they are concerned cautionary or critical levels may be reached

Special Management Considerations: (Section 6, LMUs)	
LMU	Special Management Consideration
9	• Potential new all-season access roads into LMU #9 from Dempster Highway corridor require careful assessment and management. • 25% of this LMU was affected by wildfire in summers of 2004 and 2005

Affected Values and General Management Directions (GMD): (Section 5) Only include values identified in LMU. If no GMDs exist or are relevant, do not include in this table.	
Ecological Resources:	Corresponding GMD:
Wildlife	2.1.1 Reduce size, intensity and duration of human-caused physical surface disturbances (e.g., utilize low impact seismic, winter roads and enhanced reclamation). 2.1.2 Reduce other human land use impacts such as noise, smell and light. 2.2. Minimize habitat fragmentation as a result of human features. 2.2.1 Coordinate, manage and minimize new road and trail access. 2.3. Minimize potential habitat avoidance that results from human features and activities. 2.3.1 Avoid or reduce activities in significant wildlife habitats during important biological periods (e.g., utilize timing windows).

Heritage, Social, Cultural Resources:	Corresponding GMD:
	5.1.2 Minimize land use conflicts by avoiding or reducing the level of land use activities in important subsistence harvesting and current community use areas. 5.1.3 Avoid or reduce activities in significant heritage and current community use areas during important seasonal use periods (e.g., utilize timing windows).
Economic Development:	Corresponding General Management Direction:
	6.3.3 Manage location, scale and intensity of land use.

Plan Recommended Best Management Practices: (Section 5 following each value)	
Wildlife	• Avoid or minimize the creation of new access roads and trails; utilize existing routes unless their use will cause additional long term environmental impacts (e.g., permafrost degradation). • Avoid or minimize the size, extent, duration and level of activities in concentrated seasonal use areas. • Use appropriate operational timing-windows in significant wildlife habitats to minimize activities, whenever possible, during periods of wildlife use. **When new access creation is necessary:** • Non-permanent winter access routes should be developed and utilized versus all-season access routes. • Gate or otherwise restrict hunting along new access routes. • Where possible, direct new access routes through less significant wildlife habitats.
Porcupine Caribou	• Avoid using or crossing seasonal migration corridors with new access routes. • Define and implement safe operating distances from the herd. • Consider the following seasons when determining appropriate operational timing-windows (seasons when Porcupine caribou occupy the region) Winter: December 1 to March 31 Spring migration: April 1 to May 31 Early summer: July 1 to July 15 Mid to late summer: July 16 to August 7 Fall migration: August 8 to October 7 Rut: October 8 to November 30

Wetlands, Lakes and Rivers	• Minimize construction of new permanent river crossing structures and routing new all-season access roads through Major River and other riparian corridors. • Where new all-season or winter access roads and/or trails are required to cross Major River and other riparian corridors, these should be designed, constructed, and used in a manner that minimizes direct and indirect impacts to fish, wildlife and their habitats. • Surface disturbance and land use activities within and adjacent to Major River and other riparian corridors should not result in diminished water quality, quantity or flow.
Heritage, Social, Cultural Resources:	• In identified current community use areas exploration and construction activities should be minimized or mitigated during subsistence harvesting periods.
Transportation and Access	• Avoid or minimize the creation of new access roads and trails; utilize existing routes unless their use will cause additional long term environmental impacts (e.g., permafrost degradation). • Where new all-season or winter access roads and/or trails are required, these should be designed, constructed and used in a manner that minimizes direct and indirect impacts to fish and wildlife, their habitats and human viewscapes (i.e., minimize size and extent of features). • Avoid important trapping, harvesting, and current use areas. • Avoid using or crossing wildlife seasonal migration corridors with new access routes. • Whenever possible, land use activities should be coordinated to utilize the same access route(s). • Reclamation requirements and decommissioning strategies should be considered during planning and assessment of new road and access features. • Limit and/or control use

Additional Analysis or Comments:

Cumulative Effects

- The cumulative effects analyses of this project, and its predecessor (2013-0067), were complex. As described by the footnote on page 1, total cumulative effects estimates were based in part on the historical disturbance estimated by the North Yukon Planning Commission (NYPC). The estimates were adjusted by estimated natural recovery rates of the old disturbances (80%, see Appendix A5 of the NYPC's *Final Recommended North Yukon Land Use Plan* (January, 2009), and the amount of the new (this project and 2103-0067) and old disturbances that were forested (the NYPC's definition of recovery was restricted to forested areas). This analysis was done spatially to better account for overlaps between surface disturbances.
- The proportion of disturbance that was forested was determined using the ecological land classification data that was used by the NYPC.
- In order to simplify the analysis and to minimize double counting of features, the contribution of new access for 2013-0067 was ignored. Most access from that project overlapped seismic lines.
- These adjustments reduced the amount of estimated surface disturbance from 49.9km^2 to 13.8 km^2, and linear disturbance from 6391km to 1821km. Without these adjustments, the cautionary level would be exceeded.
- The nature of these adjustments has been communicated to all Parties to the North Yukon Land Use Plan (YG & VGG), but a full discussion has not yet occurred (to the knowledge of YLUPC).
- Considering the NYPC's definition of disturbance as any disturbance that facilitates travel by people or animals, and their definition of recovery (in forested areas) as when woody vegetation (trees and shrubs) approximately 1.5 metres in height, there is a good case for including shrubby areas in the definition of disturbance. If this was the case, the predicted cumulative effects indicators would come in closer to the cautionary level.
- When considering the combined surface disturbance of the 3D seismic program (2013-0067) and the projected surface disturbance of this program:
    - 60% of surface disturbance is from seismic line cutting
    - 25% of surface disturbance is from borrow pits (gravel extraction)
    - 13% of surface disturbance is from access (roads)
    - 2% of surface disturbance is from well pads.
    - Most of the potential surface disturbance of this proposal is from borrow pits.
    - Therefore, purely from a surface disturbance perspective, gravel use, and by extension, all-season road development should be minimized. See comments under access below.

Access

- The North Yukon Regional Land Use Plan made the following recommendation:
  In advance of significant levels of energy sector activity, an access management plan should be developed for the Eagle Plain oil and gas basin.
  - An access management plan should have been in place before this proposal was evaluated. One should be developed by the Parties to the North Yukon Land Use Plan in advance of subsequent phases (and therefore permits) of energy sector activity in Eagle Plains.
  - Despite the absence of such an access management plan, this proposal contains a number of elements that would be expected in such a plan. However, potential residual issues include:
    - It is unclear whether or not any exploratory wells will be accessed with all-season roads for the initial drilling and assessment.
      - Text on p. 15 of the proposal indicates that 14 wells will be drilled in the summer "to ensure that the timeline laid out is kept to."
      - Text on p. 82 of the proposal seems to indicate that each well is to be initially accessed in winter, with the subsequent development of an all-season road only if flow testing is required.
    - The text on p. 82 would be most compatible with the Plan.
    - A number of well sites list on p. 15 as being candidate summer well are close to the Dempster Highway or the to-be-upgraded Chance Road. However, a few appear to be far enough from an all season road that winter access should be reconsidered. These could be: Chance S #2, Parkin B Loc 2, Velvet Loc 2, Beach House, and Jungle 1.
    - Limiting the number of access points, for especially all season roads should be an important consideration.

Injection Wells

- Text on p. 73 of the proposal indicates that the suspended well Blackie M-59 is being considered as an injection well. This well is outside the North Yukon Planning Region, and is in the Peel Watershed Planning Region. This, in addition to access complications, could make this well a poor choice.