



GWICH'IN LAND AND WATER BOARD
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STAFF REPORT

Prepared by Helga Harlander August 6, 2013

Application #	G13H004	Type	Type 'A' Land Use Permit
Activity	Fuel storage at James Creek highway maintenance camp		
Location	Dempster, km 14.2 – James Creek		
Proponent	GNWT Department of Transportation		

Application Summary

GNWT Department of Transportation applied for a land use permit to continue the current activities at the James Creek highway maintenance camp, fuel storage and operation of highway camp and associated facilities. The primary trigger for the land use permit is fuel storage (double walled storage tank with a capacity of to 90,000 liters storage of diesel fuel). Other facilities on the site include a highway maintenance camp, a maintenance garage, a laydown area for equipment and materials used in highway maintenance, and two landfarms for the treatment of hydrocarbon contaminated soil.

Process Timeline

- July 10, 2013 - application received
- July 11, 2013 - application to review organizations
- July 30, 2013 - deadline for comments
- August ?, 2013 - Board meeting

Discussion

- Fuel storage at the James Creek highway maintenance camp was previously permitted under land use permits G99H005 and G06H008. Since a preliminary screening has been conducted in the past for this activity, the board does not have to conduct a preliminary screening prior to making a decision on this application.
- There appears to be disagreement between DOT (Yellowknife) and AANDC/MACA as to land status. DOT claims that the land has been transferred to GNWT through the 'Transfer of Inter-Territorial Roads Program From the Government of Canada to the Northwest

Territories – Transfer Agreement (May 8, 1990), and that it is under the administration and control of the Commissioner. MACA's 'records indicate that the James Creek maintenance camp identified as SK-014 is unsurveyed Federal land.' AANDC asserts that 'permission to use and occupy the land has been authorized through the establishment of Reserve #106 M/4-1-1 for GNWT Department of Public Works June 3, 1985, but that 'administration and control remains with the Minister of DIAND.' AANDC further states that GNWT would have had to file an application to transfer the site to their administration and control (after the Transfer Agreement was signed), otherwise the land remains crown land reserved for GNWT's use. This issue had not been brought up when DOT applied for land use permits for this activity in 1999 or 2006.

- There are two landfarms on site, one established in 2001 and the other in 2009. The landfarms are lined and were established to treat soil contaminated by past fuel spills. (The latest major spill occurred in 2008.) Soil is periodically analyzed and compared against soil quality guideline criteria for Residential/Parkland land use. According to DOT, no treated soil has been removed from the landfarms to date.
- Written comments were received from Fisheries and Oceans Canada, Aboriginal Affairs and Northern Development Canada, Gwich'in Social and Cultural Institute, GNWT Environment and Natural Resources, and Environment Canada. (See Table 1 for comments.) The Ehditit Renewable Resource Council indicated that they will submit comments after their meeting on August 7, 2013. Tetlit Gwich'in Council staff relayed the importance of James Creek water quality to residents of Fort McPherson and concerns over the contamination at the site by phone.
- There are site assessment reports on file dated July 1999, November 1999, June 2009, September 2009, March 2011 and March 2013. The latest report indicates that there are heavily contaminated soil and groundwater present under the maintenance garage. According to that assessment, contaminants are contained and have not migrated to James Creek or impacted surface water quality in James Creek to date.
- Communication by DOT regarding monitoring and plans for remediation is not optimal. In the past, GLWB had to remind DOT to submit reports. As the review comments indicate, there is concern by various parties over soil and groundwater contamination at the site. A formal request by the GLWB to DOT to submit a remediation plan appears appropriate at this point. (The GLWB will distribute the proposed plan for review and comment to all stakeholders.)
- Although the latest site assessment indicates that the contaminants are not currently migrating towards James Creek, it is prudent to keep monitoring groundwater at the existing monitoring wells until remediation work has been completed.
- James Creek water quality monitoring was a condition of previous permits. Samples were collected at three locations (upstream, public access, downstream) and analyzed for petroleum hydrocarbons and oil and grease. This practice should be continued on an annual basis for the term of the new permit. (James Creek continues to be used as a drinking water source by area residents.

Recommendations

- Grant Land Use Permit G13H004, subject to the proposed terms and conditions, to GNWT Department of Transportation for a five year period.
- Request continued James Creek water monitoring on an annual basis
- Request submission of a remediation plan to the GLWB by October 31, 2013.
- Request continuation of groundwater monitoring until remediation work is complete.
- Encourage DOT to provide periodic updates to the Tetlit Gwich'in Council on James Creek water quality and remediation activities.

Table 1 Summary of review comments for land use permit applications G13H004

Organization (Date comments received)	Comments	Disposition of comments (Land Use Permit Part and Condition # e.g. Part B, Conditions 5 = B5)
GTC/GLR	no submission	no action required
GSCI (July 30, 2013)	<p>We have reviewed the above application against our heritage databases. As noted in the project information document, the project activities will not exceed the current/previous footprint. However, the GSCI has the following concerns:</p> <p>As noted in the previous application review (G06H008), there are numerous traditional trails in close proximity to the camp. This indicates a high level of traditional use – and the general area has also been noted as a hunting area. Trails also often indicate an increased likelihood of undiscovered archeological materials. The trails were used by Fort McPherson residents, for travelling purposes and for hunting caribou, wolverine, and waterfowl throughout the general area. Therefore, the GSCI requests that camp inhabitants are informed that traditional trails are located in the vicinity, and instructed to respect (leave alone) any heritage or traditional use remains such as blazed trees, old cabins, archeological materials, or other materials if they venture from the camp. As with any application, if archeological or heritage materials are encountered during development or operations within the Gwich'in Settlement Area, all work must cease immediately as required by law, and the GSCI and the Prince of Wales Northern Heritage Centre in Yellowknife must then be contacted.</p>	<p>-conditions C15, C16 -forward comments to DOT</p>
GRRB	no submission	no action required
GLUPB	no submission	no action required
Ehdiithat DGO	no submission	no action required
Ehdiithat RRC (July 12, 2013)	The Ehdiitat RRC's next meeting is not until August 7 th , 2013. The Ehdiitat RRC will forward any comments or concerns about the project at that time.	tbd
Gwichya DGO	no submission	no action required
Gwichya RRC	no submission	no action required
Nihtat DGO	no submission	no action required
Nihtat RRC	no submission	no action required
Tetlit DGO	phone call – preservation of James Creek water quality is important to Tetlit Gwich'in; concerns about contamination at the site; James Creek is still being used as a water source by;	- Letter (request to provide updates to Tetlit DGO or RRC)
Tetlit RRC	no submission	no action required
Hamlet of Fort McPherson	no submission	no action required

Environment Canada
(July 30, 2013)

As requested by the GLWB, Environment Canada (EC) has reviewed the land use permit application G13H004 regarding the James Creek Highway Maintenance Camp, submitted by the Government of the Northwest Territories (GNWT) - Department of Transportation (DOT). The following specialist advice, in the attached "Reviewer Comment Table", is provided pursuant to 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 has reviewed the attached Final Remediation Pre-Treatment Assessment Report (Oxy Technologies, March 28, 2013), but has not provided comments as remedial treatment works have not been proposed at this time. It is understood there is historical hydrocarbon contamination at the James Creek Highway Maintenance Camp that has resulted in the contamination of ground water and soil, however the contamination is not currently a threat to James Creek (Oxy Technologies, March 28, 2013). The extent of the contamination has been modeled, and assessments are ongoing to determine the potential risk to surface water in James Creek. EC recommends that remediation work plans be provided to the GLWB and distributed for review and comment prior to any remediation works on site.

- Letter (request for remediation plan)

If there are any changes to the provided plans and/or more information becomes available, EC should be notified, as further review may be necessary. Should you require further information, please do not hesitate to contact me at (867) 669-4707, or murray.somers@ec.gc.ca.

- Letter (request for remediation plan)

Topic: General

Comment: All mitigation measures identified by the Developer, and the additional measures suggested herein, should be strictly adhered to. This will require awareness on the part of the Proponents' representatives (including contractors) conducting operations in the field.

Recommendation: EC recommends that all field operations staff be made aware of the Developer's commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.

-forward comments to DOT

Topic: Requirements of the Fisheries Act

Comment: Subsection 36(3) of the Fisheries Act specifies that, unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. The definition of a deleterious substance (Subsection 34(1) of the Fisheries Act) includes "any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water." Subsection 36(3) makes no allowance for a mixing or dilution zone at the point of deposit.

Recommendation: Comment for the Developer's Information.

-forward comments to DOT

Topic: Spill Reporting

Comment: Please note that according to the Aboriginal Affairs and Northern Development Canada's (AANDC) Guidelines for Spill Contingency Planning (April 2007), all releases of harmful substances, regardless of quantity are to be reported to the NWT / NU 24-hour Spill Line, (867) 920-8130 if the release is near or into a waterbody, is near or into a designated sensitive environment or sensitive wildlife habitat, poses imminent threat to human health or safety, poses imminent threat to a listed species at risk or its critical habitat, or is uncontrollable. In the event of an environmental emergency, EC's focal point for coordination and provision of science and technical advice (including spill modeling) during a response will originate from the National Environmental Emergencies Centre (NEEC) in Montreal via notification through the appropriate territorial/provincial spill line.

Recommendation: Comment for the Developer's Information.

-forward comments to DOT

	<p>Topic: Landfarming Comment: The Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils (SAIC, 2005) should be consulted as they contain landfarming specifics including minimum distances from landfarms to surface waters (500 m). Reference: SAIC Canada. 2005. Federal guidelines for landfarming petroleum hydrocarbon contaminated soils. With respect to the remediation of petroleum hydrocarbon contaminated soils, please note that Environment Canada has a number of documents available that references design, siting, operation, monitoring, sampling and analytical methods, decommissioning and closure as well as record keeping and reporting for cold climate land farming/bioremediation facilities. Please contact this office if you wish a copy of any of these: - Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils. SAIC Canada (Science Applications International Corporation), December 2005 - Bioremediation of Petroleum Hydrocarbons in Soil and Groundwater Under Cold Climate Conditions: A Review, Implications for Applications in Canada , Dale Van Stempvoort and Pamela Grande, National Water Research Institute in Burlington, December 2005 - Cold Climate Bioremediation: A Review of Field Case Histories. Pamela Rogers, Research Assistant, Department of Civil & Environmental Engineering, University of Alberta, July 2005 <u>Recommendation:</u> Comment for the Developer's Information.</p> <p>Topic: Project Information – Scope of Project Comment: In the LUP G13H004 Project Information package, the Developer makes reference to a proposed bridge construction project. Developer Quote: "The Department of Environment and Natural Resources, Government of the Northwest Territories identifies a number of species that are either threatened or of special concern with ranges within which the proposed bridge construction project is located." Environment Canada suspects that the mention of a proposed bridge construction project was likely added to the project information in error. <u>Recommendation:</u> The Developer should clarify whether or not a bridge construction is planned as part of the LUP G13H004 Project. If a bridge construction is planned, then the Developer should provide bridge construction plans for review and comment prior to the issuance of the LUP G13H004.</p> <p>Topic: Fuel Storage Comment: The LUP application states that the site has a 90,000 L above ground fuel storage tank (AST), however the associated Final Remediation Pre-Treatment Assessment Report indicates that the on site AST holds approximately 75,000 L, with an additional indoor AST that holds approximately 1,150 L. <u>Recommendation:</u> The Developer should be aware of this discrepancy. Fuel storage tank type and volume influence the reporting and regulatory requirements of the Project. See the CEPA Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations, and the CEPA Environmental Emergency Regulations (E2 Regulations).</p> <p>Topic: Fuel Storage Comment: EC recognizes that fuel will be stored on site. The Developer should be aware of the regulations and associated reporting structure for any fuel storage tanks associated with the LUP. <u>Recommendation:</u> Please refer to the CEPA Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations. These regulations apply to both outside, aboveground and underground storage tank systems (including the piping and other tank associated equipment) under federal jurisdiction containing petroleum and allied petroleum products that have a capacity greater than 230 litres. This includes tanks located on federal or Aboriginal lands. Exceptions are pressurized tanks, mobile tanks, tanks regulated by the National Energy Board, and outdoor, aboveground storage tank systems that have a total combined capacity of 2500 litres or less and are connected to a heating appliance or emergency generator. All storage tank system owners must identify their tank systems to EC and installation of new systems must comply with the regulation's design requirements. Further information on these regulations can be found at www.ec.gc.ca/st-rs.</p> <p>Topic: Fuel Storage Comment: EC recognizes that fuel will be stored on site. The Developer should be aware of the regulations and associated reporting</p>	<p>-forward comments to DOT</p> <p>-forward comments to DOT</p> <p>-forward comments to DOT</p> <p>-forward comments to DOT</p>
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	<p>structure for fuel storage volumes associated with the LUP. <u>Recommendation:</u> Please refer to the CEPA Environmental Emergency Regulations (E2 Regulations). These regulations outline over 200 types of hazardous substances (including fuels), and associated storage quantity thresholds for emergency planning. The E2 Regulations may require persons who own or manage specified toxic and hazardous substances at or above the specified thresholds to provide required information on the substance(s) and their quantities and to prepare and implement environmental emergency plans (E2 plans). Further information on these regulations can be found at http://www.ec.gc.ca/ee-ue/default.asp?lang=En&n=9605FFBD-1.</p> <p>Topic: Fuel Transfer Comment: Fuel or hazardous substance transfers <u>Recommendation:</u> Secondary containment or a surface liner (drip pans, fold-a-tanks, etc.) should be placed under all containers or vehicle fuel tank inlet and outlet points, hose connections and hose ends during fuel or hazardous substance transfers. Secondary containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst-case scenario).</p>	<p>-forward comments to DOT</p> <p>-conditions C20, C22, C24 -forward comments to DOT</p>
Fisheries & Oceans Canada (July 17, 2013)	DFO has reviewed the land use permit application for G13H004 for impacts to fish and fish habitat under the Fisheries Act. DFO has determined that there are no potential impacts to fish and fish habitat. As such, DFO has no concerns.	no action required
AANDC (July 30, 2013)	<p>Aboriginal Affairs and Northern Development Canada (AANDC) reviewed the above mentioned application. While we understand the intentions and the importance of this application, AANDC has serious concerns that the applicant does not indicate how it intends to reclaim the site and address the ongoing issues (Hydrocarbon contamination) associated with previous land use permits.</p> <p>If the GLWB decides to issue a land use permit under this application, AANDC suggests that the GLWB request a reclamation plan from the applicant which outlines how and when the reclamation of this site will occur. Further, please find the attached land use conditions that AANDC would like attached to such a permit.</p> <p>- proposed land use permit conditions</p>	<p>-Letter (request for remediation plan) -forward comments to DOT</p> <p>-included most condition (eliminated some conditions after further discussion with inspector)</p>
MVLWB	no submission	no action required
MVEIRB	no submission	no action required
NWT ENR (July 30, 2013)	<p>The Department of Environment and Natural Resources has reviewed the annual report at reference based on its mandated responsibilities under the <i>Environmental Protection Act</i>, the <i>Forest Management Act</i>, the <i>Forest Protection Act</i> and the <i>Wildlife Act</i> and provides the following comments and recommendations for consideration by the board.</p> <p>Topic: Environmental Impacts Comment(s): The proponent has an existing Spill Contingency Plan. Plan includes a waste management. Plan was developed in accordance to the GNWT Environmental Protection Act and Regulations Recommendations: The proponent should adhere to the following:</p> <ol style="list-style-type: none"> 1) Use attached Bear Encounter Response checklist when calling ENR if problem with bears. (attached) <p>Topic: Water Monitoring Comment(s): In the project information package it is noted that operation and maintenance of the camp will not affect surface water. However, it is indicated that the mitigation of groundwater is possible based upon the Fuel Spill Contingency Plan and Oxytek report. In addition, there is impacted groundwater on-site that has the potential to migrate. In the application it is not mentioned if there is a sampling program to ensure there is no release of contaminants to the environment other than a brief sentence in Section B Mitigations.</p> <p>Recommendation(s):</p> <ol style="list-style-type: none"> 1) Please include a summary of all Surveillance Network Program (SNP) stations currently in operation on-site as noted under Section B Mitigations. 2) Please provide a narrative on all groundwater monitoring activities (including frequency) and how these will be included in the sampling program into the future. 	<p>-forward comments to DOT</p> <p>-forward comments to DOT (Note: information is on file)</p>

	<p>3) Please include all monitoring SNP stations and piezometers on the Site Diagram for reference. This should also include a narrative on how they are used to mitigate impacts to the surrounding environment.</p> <p>Topic: Engineered Landfarm Treatment Unit Comment(s): This plan indicates the existence of an Engineered Landfarm Treatment Unit (LTU) Located at the North End of the site (Appendix D) and no supporting documentation is included in the application package.</p> <p>Recommendation(s):</p> <ol style="list-style-type: none"> 1) Since an LTU is currently in use to treat collected petroleum hydrocarbon (PHC) contaminated soil on site, further information should be supplied as part of this authorization; <ol style="list-style-type: none"> a) As-built Drawings of the facility, stamped by an engineer currently authorized in the NWT; b) Operation and Maintenance Plan for the treatment facility; c) Proposed monitoring locations, to ensure no off site migration of contaminants; and d) Current Treatment rates and supporting analytical data. The LTU is considered a feature of the camp and should be included in the land use application. 2) Please clarify and confirm the intended future usage of the LTU. <p>Topic: Waste Management Plan Comment(s): The proponent has not provided a Waste Management Plan (WMP) in the application package. DOT should indicate where they currently dispose of on-site waste (hazardous and non-hazardous). It should not be assumed that the disposal of waste, resulting from remote activities, will be accepted into NWT community facilities.</p> <p>Recommendation(s):</p> <ol style="list-style-type: none"> 1) ENR recommends that the WMP is designed for inclusion in a Field Guide for use by all team members of the James Creek Maintenance Camp. The WMP must contain, at a minimum: <ol style="list-style-type: none"> a) The identification of waste storage and transport mitigative measures to prevent wildlife attraction. Whether garbage is stored for the purpose of on-site or off-site disposal (i.e. road or air transport), it must be stored in an airtight sealed container to prevent wildlife from being attracted to odors; b) The WMP should include the identification of non-hazardous, hazardous, combustible and non-combustible wastes, as well as plans for waste segregation and the strategy for implementation; <ul style="list-style-type: none"> ▪ A detailed listing of waste treatment and disposal plans; ▪ Treatment, testing and disposal methods for all waste products proposed for release to the environment; ▪ A listing of expected waste types and quantities to be transported off-site; ▪ The identification of acceptable and alternate hazardous waste disposal plans and disposal facilities; ▪ Alternate disposal options in the case that the referenced community's waste handling facility cannot accept the proposed and estimated waste types and quantities listed; 2) In addition to the above, the WMP must include information about the receiving community/ facility ensuring that its Water License authorizes the disposal of each waste stream. The WMP must demonstrate that the community has been consulted and has consented to the use of its infrastructure for disposal of the waste types and quantities in question, and the disposal of the wastes of question will not contravene the NWT <i>Environmental Protection Act</i> and related Regulations and Guidelines. <p>Topic: Remediation Action Plan Comment(s): DOT has provided a consultant's (Oxytek) report indicating that there is significant contamination located on-site (soil and groundwater). The Oxytek report did not provide any remedial actions other than summarizing the current contamination on-site.</p> <p>Rcommendation(s):</p> <ol style="list-style-type: none"> 1) Please provide the following: <ol style="list-style-type: none"> a) An interim remedial action plan highlighting DOT's timelines and potential remedial options should be provided 	<p>-forward comments to DOT (Note: Available information is on file)</p> <p>-forward comments to DOT</p> <p>-forward comments to DOT</p> <p>-Letter (request for remediation plan) -forward comments to DOT</p>
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	<p>and included in the LUP. Currently there are areas of environmental concern that require remedial action.</p> <p>b) It has been shown that there is the potential for migration pathways in less densely packed and coarse-textured sand and gravel. In the event that impacted groundwater reaches a pocket (or through bedrock fracturing) please provide action plans to mitigate the spread of contaminants. These action plans should be based upon analytical data that is part of the Site sampling network.</p> <p>Topic: Spill Report Comment(s): The Fuel Spill Contingency Plan provides a copy of a spill report form (Appendix A) that is currently not the most recent form that is to be used by the NT Spill Line.</p> <p>Recommendation(s): 1) Use the most up to date Spill Report Form located at http://www.enr.gov.nt.ca/_live/documents/content/NTNU_Interactive_Spill_Form.pdf when reporting a spill.</p> <p>Topic: Fuel Spill Contingency Plan Comment(s): This plan is specific to fuel spills and does not incorporate the potential for the unintentional release of other hazardous substances that may be present (ie Glycol, Sewage, Nitrates, etc). Reportable amounts of other hazardous substances are listed in Appendix F.</p> <p>Recommendation(s): 1) Throughout this entire document, it should be made clear that this Contingency Plan does not only apply to Fuels but also to all hazardous materials that are listed to be on site (Appendix F). This will allow the operators and site staff, who should be familiar with this plan, to ensure the protocols are enacted if a release of ANY hazardous substance is released causing a spill.</p>	<p>-condition C24 -forward comments to DOT</p> <p>-condition C24 -forward comments to DOT</p>
GNWT ECE –PWNHC	no submission	no action required
GNWT - ITI	no submission	no action required
GNWT – Environmental Health	no submission	no action required