



# Husky Oil Operations Limited

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November 28, 2012

## **Sahtu Land and Water Board**

P.O. Box #1  
Fort Good Hope, NT  
X0E 0H0  
By e-mail: [sahtuwat@allstream.net](mailto:sahtuwat@allstream.net)

**Attention: Angela Love, Regulatory Specialist**

Dear Angela:

**Re: Land Use Permit Application - S12X-006  
Slater River Groundwater Baseline Drilling Program  
Comments received From GNWT-Environment and Natural Resources**

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Husky Oil Operations Limited (Husky) has received comments from GNWT-Environment and Natural Resources dated November 21, 2012 regarding the subject application. Husky submits the following information in response to the letter. ENR's comments are listed below with their respective responses.

## **WILDLIFE**

### **Wildlife Considerations**

#### **Comment(s):**

ENR recognizes the attention paid to wildlife within Husky Oil Operations Ltd. (Husky)'s Class A Land Use Permit Application (S12X-006); Class A Land Use Permit Application (S11A-003); and Type B Water License Application (S11L1-003). Much of Husky's planned wildlife mitigation measures are contained within their Environmental Protection Plan (EPP).

ENR appreciates the reference to wildlife and bird regulations contained within the *Wildlife Act*, as well as reference to the publication *Flying Low...Think Again*. ENR also appreciates Husky's application of a 'no-hunting and no-harassment' policy to personnel working on site, and the proponent's commitment to taking standard bear precautions by managing food waste appropriately.

ENR agrees with MVH Canada Inc.'s recommendation for Husky that there be a follow-up program to inspect any reclamation work during the summer following operations.

**Recommendation(s):**

1. ENR would recommend that the proponent gather commitments and mitigation measures related to wildlife in a short Wildlife and Wildlife Habitat Protection Plan (WWHPP). Such a plan would include components related to wildlife that are currently scattered throughout Husky's Environmental Protection Plan (EPP), such as the Bear Safety Plan, as well as the recommendations contained herein.
2. As cited in the EPP, the proponent should be aware that no wildlife should be disturbed, chased, or harassed by human beings on foot, in a motorized vehicle, or by aircraft. Chasing, harassing or molesting wildlife is prohibited by the *Wildlife Act* (s. 38(1) a). Destruction, or disruption of eggs and/or nests, including inactive nests, is also prohibited by the *Wildlife Act* (s. 38(1) d);
3. The proponent will ensure that no wildlife will be purposefully encouraged to habituate to human presence (i.e., do not feed wildlife);
4. The *Species at Risk Act (SARA)* states that adverse effects on listed species must be identified and assessed, and regardless of significance, mitigated and monitored (Section 79). It is ENR's view that the treatment of those species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) but not yet listed under the Act should be treated in a manner consistent with listed species;
5. That the proponent utilize and follow the attached ENR "*General Bear Encounter Response Guidelines*", and
6. Any defence of life and property kills must be reported to the appropriate ENR office immediately at the ENR Sahtu Regional Office: 867-587-3515 during office hours or the 24-Hour Emergency Wildlife Officer at (867) 587- 2422.

**Response:**

1. Husky will prepare a short, concise Wildlife and Wildlife Habitat Protection Plan (WWHPP) and will submit it to ENR prior to the commencement of this program.
2. Acknowledged.
3. Acknowledged.
4. Acknowledged.
5. Acknowledged.
6. Acknowledged.



### **Wildlife Monitors and Reporting**

#### **Comment(s):**

As ENR heard repeatedly at a Sahtu Land Use Planning Board workshop in Norman Wells (1-3 November 2011) with representatives from all 5 communities (RRCs, Land Corporations, Band Councils, etc.) – it is very important that the Wildlife Monitors make both written and verbal reports back to the company, the RRCs, the SRRB, and ENR. A written report at the end of the project summarizing wildlife observations would be well received by all stakeholders, including the company.

#### **Recommendation(s):**

1. Wildlife Monitors should be provided with a digital camera and GPS to properly record and locate observations; and
2. That Wildlife Monitors make both written and verbal reports back to the company, the RRCs (in Tulita and Norman Wells in this case), the SRRB, and ENR.

#### **Response:**

1. Husky has purchased digital GPS cameras and will provide one to each of the wildlife and environmental monitors while employed on the program. Husky will also provide wildlife observation data cards to all monitors.
2. Husky requires that it is mandatory for both the wildlife and environmental monitors to fill out the observation cards and return them to the Husky Site Safety Supervisor. At the completion of the 2012/2013 winter program, Husky will prepare a digital map of all of the wildlife sightings throughout the entire program area and will submit a copy of the map to the NWRRC, TRRC, SRRB, and ENR. During the 2011/2012 winter program, Husky developed an external file transfer (FT) site in order to collect and post all of the monitor's checklists and photographs and sent a link to the NWRRC, TRRC, SRRB, and ENR (Norman Wells office). Husky did not receive any feedback that these agencies found the information useful but we will continue to share this information.

### **Sensitivity Periods and Set Back Distances**

#### **Comment(s):**

The Sahtu Land Use Planning Board has set out sensitivity periods and set-back distances (both horizontal and flight distances), which ENR would recommend that the proponent observes.

#### **Recommendation(s):**

1. Observe and put into effect the wildlife sensitive periods and recommended minimum setback distances from wildlife habitat and wildlife use areas as outlined in **TABLE 1**;
2. Observe and put into effect the recommended minimum flight altitudes and sensitive periods for wildlife as outlined in **TABLE 1**;



3. Observe the Peregrine Falcon (Raptor) Set-backs of 1000 m from March 1 to August 1<sup>st</sup> and 500m from August 2 to February 28<sup>1</sup>;
4. Observe a set-back distance from bear den sites of 800 m in order to comply with wildlife sensitive periods and recommended minimum setback distances from wildlife habitat and wildlife use areas as outlined in **TABLE 1**;
5. As cited in the EPP, the proponent will utilize the attached ENR "*Flying Low Brochure*";
6. That the proponent utilize and follow the attached "*2011 Northwest Territories Seismic Operations Guidelines*"<sup>2</sup>;

**TABLE 1:** Wildlife setbacks, minimum altitude and sensitive periods<sup>3</sup>

Species/Group	Habitat Type	Period	Horizontal Setback	Minimum Altitude
Black & grizzly bear	Dens	15 Oct - 15 May	800 m	300 m
Wolverine	Dens	15 Oct - 15 May	800 m	300 m
Wolf	Dens	1 May - 15 Sep	800 m	300 m
Dall's sheep	Lambing areas	01 May - 15 Jun	2000 m	300 m
Mountain goat	Goat habitat	Year Round	2000 m	300 m
Raptors	Nest sites	1 Mar - 1 Aug	1000 m	650 m
Raptors	Nest sites	2 Aug - 28 Feb	500 m	650 m
Waterfowl	Nest sites	01 Jun - 31 Aug	250 m	650 m
Waterfowl	Staging Areas / Concentrations	10 May – 20 Jun 15 Aug – 30 Sep	250 m	650m altitude, 1500 m lateral distance
Waterfowl	Concentrations	Year Round		650 m

**Response:**

1. Acknowledged.
2. Acknowledged.
3. Acknowledged.
4. Acknowledged.
5. Acknowledged.
6. Husky is planning to conduct a groundwater baseline drilling program. It is unclear how the "*August 2011 Northwest Territories Seismic Operations Guidelines*" would be relevant to this project.

<sup>1</sup> As set out in the *Proposed Revisions for Final Draft Sahtu Land Use Plan Discussion Document* June 2012, Sahtu Land Use Planning Board

<sup>2</sup> Wildlife setbacks, minimum altitudes, and sensitive periods should follow the more conservative distances outlined in *Proposed Revisions for Final Draft Sahtu Land Use Plan Discussion Document* June 2012, Sahtu Land Use Planning Board

<sup>3</sup> As set out in the *Proposed Revisions for Final Draft Sahtu Land Use Plan Discussion Document* June 2012, Sahtu Land Use Planning Board



### **Increased Access and Cumulative Impacts**

#### **Comment(s):**

One of ENR's main concern is the access road being used by people for activities not associated with the project itself – i.e., for hunting boreal woodland caribou or moose. If people from nearby communities wish to use the road for hunting – whether they are on snowmobile or vehicle – then nothing can prevent them from doing so. The prospect of accessing a new area may be enticing for some people.

ENR agrees that Husky's proposed operations, without considering the larger projects involving all oil and exploration companies on all contiguous parcels, can take place with minimal long-term effects if the proper mitigation measures are applied. However, the cumulative impacts of oil exploration and development activities, along with the considerable above-ground infrastructure and activity, cannot be ignored when reviewing these applications. Due to the expected cumulative impacts of increased oil and gas exploration activities in the present and future project areas, a coordinated regional approach in respect to anticipated Tulita District oil and gas projects is warranted – one that will include GNWT, Government of Canada, the Sahtu co-management boards, RRCs and Land Corporations, and the companies involved.

#### **Recommendation(s):**

1. The potential impacts of the activities could extend beyond the proposed project area; therefore, a cumulative effects assessment should consider an area larger than that set out in the applications; and
2. One of the greatest concerns is access routes into areas that previously were relatively inaccessible. It is recommended that prior to the commencement of project activities, the proponent hold meetings and discussions with ENR, Tulita and Norman Wells RRCs; and the SRRB to determine how or if access should be restricted on the proposed project seismic lines and access points.

#### **Response:**

1. Husky agrees that a regional cumulative effects assessment is likely warranted for the area. Husky is still in the process of evaluating its exploration licences and, at this time, is unable to predict the long term plans for the properties. Upon receipt of information from its ongoing evaluations that suggest an economic project is present, Husky will be in a better position to communicate its long terms plans. It should be noted that it is also difficult to predict the long term plans of other operators in adjacent exploration licences which would be included in the "larger area" that the SRRB is referring to. One of the challenges for a cumulative effects assessment is lack of baseline data in the area. During the exploration phase, Husky has initiated baseline environmental studies for wildlife, habitat, and surface & groundwater and this information can be found in the Land Use Permit Application S12F-007 and Water Licence S12L8-007 application binder for the All-weather Access and Associated Facilities. Husky is prepared to share the data with the aforementioned organizations upon request. Husky would be willing to participate in a regional approach that includes the organizations identified in the review.
2. Husky operated the winter access road in 2011/12 which will be utilized again in 2012/13 for the baseline groundwater monitoring program. During field operations, this road is



managed through a security checkpoint where it intersects the GNWT Winter Road. All traffic is radio-controlled and all vehicles are subject to search. Husky has no control over access road use once the field operations have been completed each winter season.

Husky's experience in 2011/2012 did not find a high demand for local access to the project area. Seismic lines were cleared primarily through the practice of mulching. Regrowth of shrubs was noticeable during the summer of 2012. It is expected that continuing natural regrowth will eventually restrict movement along seismic lines.

## FORESTRY MANAGEMENT

### Forest Protection

#### Recommendation(s):

- 1) There is the potential for the proposed activity to cause, or be at risk from a forest fire. ENR requests that the Proponent adhere to the Forest Fire Prevention and Suppression Guidelines for Industrial Activities, available from a local ENR Office, or download a copy from:

<http://www.nwtfire.com/cms/sites/default/files/Guidelines%20for%20Forest%20Fire%20Prevention%20and%20Suppression.pdf>

- 2) The *Forest Management Act* and *Regulations* prohibits anyone from cutting, using or transporting timber, or damaging standing timber unless:
  - Authorized with a Timber Permit
  - Authorized by license
  - Exempted from holding a permit or license.

The proponent should contact the local ENR office at (867) 872-6400 for more information on obtaining a Forest Management Authorization, if required;

- 3) If the Proponent plans to dispose of brushing material by burning, or utilize the location through the spring and summer (May 01 – September 30), the closed season, they may require a Permit to Burn, as per the *Forest Protection Act* (Section 10(1) and 21). The Proponent should contact the local ENR office and/or Forest Officer at (867) 587-3507 for more information on obtaining a Permit to Burn.
- 4) If the site brush and tree cover is not merchantable then it should be piled up accordingly (and not mixed with soil) so that it can be burned or spread out at a later date. If merchantable wood is involved; either merchantable firewood or saw timber, it should be cleanly set to one side of the operation and made available for recovery;
- 5) With respect to forest protection, ENR requires that the Proponent contact the local ENR office and/or Forest Officer at (867) 587-3507 with details, if clearing or disposing of flammable material. As per Section 11(2) of the *Forest Protection Act*, a fire may be kindled



or started during the closed season for the purpose of disposing of flammable material, only if a suitable device, capable of confining the fire, is used.

- 6) For the disposal of timber, ENR would require a Forest Management Authorization be in place, prior to, removal from the site of any of the timber resource for sale or use as fuel wood or saw logs.

**Response:**

1. Acknowledged.
2. Acknowledged.
3. Acknowledged.
4. Acknowledged.
5. Acknowledged.
6. Acknowledged.

**ENVIRONMENTAL PROTECTION**

**Groundwater Baseline Drilling Waste Management Plan**

**Recommendation(s):**

ENR does not support the disposal of these outsourced waste streams to community facilities unless an assessment of the environmental and economic impacts of disposal of the waste is conducted, and it is demonstrated the facility has been designed and is operated to accommodate the waste stream in question.

**Recommendation(s):**

**EPA Industrial Waste Guidelines:**

1. The proponent commits in writing that they will not use current NWT EPA Guidelines to facilitate the disposal of oil and gas industrial wastes in community disposal facilities.

**Response:**

1. There will be no oil and gas industrial wastes generated by the groundwater baseline monitoring program. Wastes generated will be consistent with the drilling of domestic water wells. There are no plans to dispose of drilling material in community disposal facilities.



## Wastewater Evaporation

### **Comment(s):**

The *Slater River Project Groundwater Baseline Drilling Waste Management Plan*, Section 2, Waste Types, APPLICABLE WASTE TREATMENT METHODS, Page 13, states that Evaporation may be used to reduce the quantity of a waste containing a fluid that can be readily evaporated at low temperatures [100C or less] such as water.

In the case that evaporation of industrial wastewater is proposed, mitigative measures are required to be implemented. Evaporation or boil off of waste will result in the deposit of waste and contaminants to air, which if not appropriately mitigated, can be an on-site health and safety risk as well as a vector for transport and transfer of contaminants to land and water.

### **Recommendation(s):**

1. Regarding evaporation of industrial wastes, it is recommended that the Proponent is required, at minimum, to integrate requirements of the Alberta Energy Utilities Board (ERCB) *Guide 58, Oilfield Waste Management Requirements for the Upstream Petroleum Industry*, Section 17.5 Mobile Thermal Treatment Units. Specifically, *Section 3. Notification of Operations*, P. 93, states that Mobile Thermal Treatment Units are regulated under the *Alberta Environment Code of Practice for Small Incinerators*, September 2005. This Code of Practice states that thermal desorber units (*Section 6, Operational and Emission Requirements, 6.6, page 11*) must meet the following requirement:

*"No person shall operate a thermal desorber unless: (a) the temperature in the combustion chamber is greater than the boiling point of the least volatile chemical constituent."*

### **Response:**

1. An evaporator does not have a combustion chamber. It uses an external heat source applied to a vessel containing fluid. The applied heat results in the evaporation of liquid and the release of volatile components from the solution. There is no burner chamber present in that the water is not combusted.

## Treated Solids for Use as Road and/or Quarry Fill

### **Comment(s):**

The *Slater River Project Groundwater Baseline Drilling Waste Management Plan*, DRILLING WATER / MUD MANAGEMENT, p 14, states that, with respect to accumulated solids, samples will be sent to an accredited lab for analysis of pH, Salinity and Electrical Conductivity, and the results will be compared against the Canadian Council of Ministers of Environment (CCME) standards. And, if the solid portions of the waste meet the CCME criteria, the solids will be incorporated as fill for road or quarry construction.

The CCME criteria proposed to determine and assess the appropriate use of these solids for road and/or quarry fill are not provided.

### **Recommendation(s):**

1. That the proponent provides the proposed CCME Criteria for use to determine suitability of treated solids for use in road or quarry construction. Further, it should demonstrate the Board's approval that this criteria is acceptable for the purpose described.



**Response:**

1. CCME guidelines for the parameters described below:

pH	6-8	Soil Quality Guidelines (Residential/Parkland)
Salinity	40mg/L	Protection of Aquatic Life (Freshwater)
EC	2 dS/m	Soil Quality Guidelines (Residential/Parkland)

The material will consist of drilling solids (dirt/rock cuttings), drilling mud consisting of freshwater and bentonite and groundwater. MSDS sheets for bentonite have been provided in the Spill Response Plan.

**Surface and Groundwater Mapping and Monitoring**

The water use for the proposed project is to be included in Water License S11L1-003. However, water license S11L1-003 was not scoped to include the water use for this application. Therefore, we would like to provide the following comments for consideration by the Board.

The Proponent plans to conduct an active surface and groundwater baseline monitoring and drilling program. It is understood that other proponents planning future fracture stimulation projects in this region are currently planning for, or are in the process of ground and surface water monitoring and mapping, to determine baseline conditions prior to conducting fracture stimulation projects. Baseline information should include to the extent possible, mapping of surficial and ground water in the vicinity of the drilling activity.

**Recommendation(s):**

1. ENR requests a clarification from the Proponent, NEB, and the SLWB that current project based surface and groundwater mapping and monitoring will be integrated into other future drilling projects and regional efforts for baseline information gathering and assessment, in a coordinated and integrated manner.

**Response:**

1. Husky has designed the groundwater and surface water sampling program to measure similar parameters with respect to water quality. Husky has also been in discussions with other operators in the area with similar groundwater sampling programs. It is the intent that the information collected will be compatible for incorporation into more regional studies.

**Ground Water Mapping and Monitoring Terms or Conditions****Recommendation(s):**

1. ENR wishes confirmation from the SLWB that groundwater mapping and monitoring commitments of the proponent, and any related requirements determined, are specially included as Terms/Conditions in the associated Water Licences for such activities to ensure enforcement, inspection, compliance and follow-up mechanisms are in place.
2. ENR also recommends monitoring of groundwater in the vicinity of any well sites for at least the duration of the water licence, and for an extended period if the groundwater samples are found to be contaminated by project activities.



**Response:**

1. Acknowledged.
2. The purpose of the Husky's groundwater monitoring program is to establish current groundwater conditions and changes, if any, over time. A semi-annual monitoring program is planned that will continue for the term of the permit, or longer if contamination is detected.

**Surface and Groundwater Tracking**

**Recommendation(s)**

1. ENR recommends that a water use log be utilized to track the volumes of water from the Mackenzie River, groundwater wells, and other surface waters if the water licence is later amended to use other sources of water for the project. The log should also be available to the SLWB or the inspector upon request.
2. ENR recommends that the proponent contact the SLWB immediately if they have reached the threshold of the total allowable water allowed in the Water Licence for the project, and request an authorization from the Board to exceed the allowable amount, if necessary, by an amount to be approved by the SLWB.

**Response:**

1. Acknowledged.
2. Acknowledged.

**Tracking and Manifesting of Hazardous Wastes**

**Comment(s):**

ENR wishes to clarify the manifesting of Hazardous Waste and ENR's involvement in this process.

The use of a movement document (hazardous waste manifest) in the NWT is not required by the TDG regulations. Please note that the use of a movement document is required by the *Guideline for the General Management of Hazardous Waste in the NWT*<sup>4</sup>, and by hazardous waste regulations in other provinces, and by Environment Canada's *Interprovincial Movement of Hazardous Waste Regulation*.

Further, all parties involved in the disposal of hazardous wastes, the generator, the carrier and the receiver must be registered and provided with the appropriate registration number. The registration numbers are required to meet compliance with the TDG Regulations."

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<sup>4</sup> Government of the Northwest Territories, 1998. Guideline for the General Management of Hazardous Waste in the NWT. Also available online at:

[http://www.enr.gov.nt.ca/live/pages/wpPages/Waste\\_Management\\_Program\\_publications.aspx](http://www.enr.gov.nt.ca/live/pages/wpPages/Waste_Management_Program_publications.aspx)



To clarify, the registration of generators, carriers and receivers is not required by the TDG regulations. ENR registers generators, carriers, and receivers of hazardous waste according to the *Guideline for the General Management of Hazardous Waste* in the NWT similar to other hazardous waste regulations in other provinces.

**Response:**

Acknowledged.

**Recommendations – General**

- 1) That Husky utilize as applicable the attached the “*August 2011 Northwest Territories Seismic Operations Guidelines*”; and
- 2) An *Environmental Management Report* for the project should be prepared and provided to the RRCs in Tulita and Norman Wells, the SRRB, and ENR. Community meetings should be held in Tulita and Norman Wells to present and discuss results of the report.

**Response:**

1. Husky is planning to conduct a groundwater baseline drilling program. It is unclear how the “*August 2011 Northwest Territories Seismic Operations Guidelines*” would be relevant to this project.
2. Husky will provide communities and interested regulatory agencies with the data obtained from the investigation.

**Regional Environmental Assessment**

1. ENR recommends that Husky Oil Operations Ltd. participate in any future Regional Environmental Assessment of the region, if and when such an assessment takes place.

ENR is aware and understands that this project will help establish reliable baseline information that will be helpful in avoiding potential significant adverse effects to the environment from future gas and oil exploration and production. ENR believes that if the appropriate mitigation measures and Terms and Conditions are applied by the Board this project will not have significant adverse impacts on the environment and the project may proceed.

**Response:**

Acknowledged.



I trust the additional information and clarifications provided are sufficient for your requirements to deem the application complete. Should you have any further requests for information, please contact the undersigned by telephone at (403) 298-7273, by fax at (403) 298-6001, or by email at [kim.richardson@huskyenergy.com](mailto:kim.richardson@huskyenergy.com)

Sincerely,  
**HUSKY OIL OPERATIONS LIMITED**



Mr. Kim Richardson  
Drilling Superintendent – NWT

Cc: Patrick Clancy, GNWT-ENR

