Appendix A

Aurora Research Licence 15253

Licence No. 15489
File No. 12 404 797
July 04, 2014

2014
Northwest Territories Scientific Research Licence

Issued by:	**Aurora Research Institute – Aurora College** Inuvik, Northwest Territories
Issued to:	Mr. Ken Hansen Huksy Oil Operations Limited 707 - 8 Avenue SW Box 6525, Station D Calgary, AB T2P 3G7 Canada Phone: (403) 298-6655 Fax: (403) 297-7227 Email: Ken.Hansen@huskyenergy.com
Affiliation:	Huksy Oil Operations Limited
Funding:	Husky Oil Operations Limited
Team Members:	Darren Heck; Martin Lacroix
Title:	**EL462 & EL463 2013-2015 Surface and Groundwater Monitoring Program**
Objectives:	The study is to continue establishing the groundwater and surface water conditions within the exploration licences prior to and during oil and gas exploration activities.
Dates of data collection:	July 4, 2014 to October 31, 2014.
Location:	Exploration Licenses EL 462 and 463. South of the Mackenzie River in between Norman Wells and Tulita, NT. The area of study is bounded by: 65.3 N, -126.9 W (NW Corner) 64.6 N, -125.6 W (SE Corner)

Licence No.15489 expires on December 31, 2014
Issued in the Town of Inuvik on July 04, 2014

*** original signed ***

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Pippa Seccombe-Hett
Director, Aurora Research Institute

Aurora Research Institute - Aurora College
PO Box 1450 Inuvik NT X0E 0T0
Phone: 867-777-3298 **Fax:** 867-777-4264 **E-mail:** licence@nwtresearch.com

Instructions for Multi-Year Research

The NWT Scientific Research Licence is issued for one calendar year, and expires December 31 of the issuing year. Your research licence application was reviewed by community organizations under the perspective of multiple years of research activity.

Please note that the attached licence should not be considered a multi-year licence. Licences still have to be renewed annually, however, through a simplified process.

Licence renewal is not guaranteed, and may be slowed by lack of reporting and feedback to communities, concerns over researcher conduct, or in some cases significant changes in a community reality.

Kindly retain this letter with your licence, to guide you through renewal. Below are important points to be remembered:

1. October 31 of the issuing year is the deadline for submission of your simplified research licence renewal application. Instructions on how to complete the simplified application will be available through the Aurora Research Institute's online system (www.nwtresearch.com/polar).
2. Upon renewal, you will be prompted to update your contact information, confirm or expand locations, confirm your methodology and research time period.
3. Prior to the above submission, a 200-words summary report of field activities has to be submitted online, including preliminary findings if any. Extensions on summary submissions may be granted for research being conducted late in the calendar year.
4. A new complete application may be required, if significant changes in your research prompt new potential concerns or impacts. Some examples are: new research area involving community organizations that have not previously reviewed your application; new methodology or investigative field, raising new potential impacts; new time period, in potential conflict with local communities' traditional activities.

Please contact our office by phone at (867) 777-3298 ext. 231 or email at licence@nwtresearch.com if you would like more information, or if there are questions about changes in your research in future years.

Thank you and best wishes for a successful study!

Sincerely,

Jonathon Michel,
Manager, Scientific Services

Aurora Research Institute - Aurora College
PO Box 1450 Inuvik NT X0E 0T0
Phone: 867-777-3298 **Fax:** 867-777-4264 **E-mail:** licence@nwtresearch.com

July 04, 2014

Notification of Multi-Year Research Renewal

I would like to inform you that Scientific Research Licence No. 15489 has been renewed by:

Mr. Ken Hansen
Huksy Oil Operations Limited
707 - 8 Avenue SW
Box 6525, Station D
Calgary, AB
T2P 3G7 Canada
Phone: (403) 298-6655
Fax: (403) 297-7227
Email: Ken.Hansen@huskyenergy.com

to conduct the following study:
EL462 & EL463 2013-2015 Surface and Groundwater Monitoring Program

This is year 2 of a 3 year project.

Please contact the researcher if you would like more information.

SUMMARY OF RESEARCH
This licence has been issued for the scientific research application No.2680

The study is to continue establishing the groundwater and surface water conditions within the exploration licences prior to and during oil and gas exploration activities.

Groundwater Monitoring: Groundwater Level Measurements
The depth to groundwater at each well will typically be measured from the top of the well casing using a water level tape.

Groundwater levels will be measured prior to purging or sampling of the well to ensure the levels measured are representative of static conditions.

Where possible, all monitoring wells will be equipped with automatic level recorders to facilitate well and aquifer testing, and long term aquifer monitoring. Following the testing program, the recorders will be programmed to measure and record water levels on a minimum daily schedule.

Purging
Well purging will be completed prior to sampling, to remove standing water from the well and artificial sand pack surrounding the well, so that samples are representative of the formation water. Typical well monitoring activities rely on purging a minimum three casing volumes of water from the well, or in low permeability formations, purging the well dry once and allowing the well to recover. Alternative methods may be applied depending on the situation (e.g. purge to stabilized field readings of pH, EC and temperature). Purging will be conducted using dedicated bailers or ESPs.

Sampling
Shallow monitoring wells will be sampled immediately after purging or where this is not possible, within 24 hours following purging or upon well recovery. Field measurements of pH, EC and temperature will be collected immediately after the sample is brought to surface. The deep bedrock monitoring wells will be sampled using ESPs following hydraulic testing.

All water samples will be collected directly from the dedicated equipment or ESP discharge, and transferred directly into laboratory supplied bottles suited to the analyses required. The suite of parameters to be analyzed during the monitoring

program is summarized below. The full suite of parameters may not be necessary; therefore a staged approach on analytical parameters tested may be implemented.

Sampling Equipment
All non-dedicated sampling equipment will be appropriately cleaned and decontaminated between wells. All dedicated equipment will remain in the wells during monitoring activities, if possible. If it is necessary to remove any dedicated equipment (e.g. bailers and cord}, the dedicated equipment will be kept clean and temporarily stored out of the well, or alternatively disposed and subsequently replaced as needed.

All well purging and sampling, and sample handling will be conducted relying on clean disposable nitrile gloves, changed between samples or well activities to minimize opportunities for cross contamination of samples, wells or dedicated equipment.

Surface Water Monitoring: Flow Monitoring
Data loggers will be re-deployed for the hydrometric stations that were installed in 2012 at Bogg Creek, Slater River and Little Bear River and two additional hydrometric stations will be installed; one at Husky's bridge crossings at Bogg Creek and the proposed crossing location on the Slater River, to continue measuring the water level and barometric pressure throughout the open water season. Three to five flow/discharge measurements will be conducted during the open water season at varying water levels to continue establishing reliable stage-discharge relationships for these three basins.

Flow measurements at each station will be conducted using a Price Type AA meter (or similar) and flows will be measured by dividing the cross-section at each station into compartments (i.e. where possible, 20 points cross are standard). A 1-meter staff plate will be installed at each station to record water levels during flow measurements in relation to the data being collected by the Hobo loggers. Each station will be referenced to two temporary benchmarks and each station will be built using angle iron, PVC pipe, nuts and bolts and aircraft cable to secure the level loggers.

In the fall, the hydrometric stations will be decommissioned for the winter and the data loggers will be retrieved.

Surface Water Quality Sample Collection
Collect surface water samples on two occasions during 2013 (i.e. early summer (e.g. June/July) and early fall (e.g. September/October)) from the 45 locations. The water samples will be used to evaluate the water quality of surface water bodies flowing onto and off of EL 462 and EL 463. The two sampling events will allow the determination of variations in water quality occurring under differing flow conditions. The suite of parameters to be analyzed during the monitoring program is outlined below. The full suite of parameters may not be necessary; therefore a staged approach on analytical parameters tested may be implemented.

At each sample location, field parameters (i.e., pH, specific conductivity, temperature, dissolved oxygen, and oxidation reduction potential) will be measured using a YSI 556 multi-meter (or similar). Prior to use, equipment will be calibrated according to the Standard Operating Procedure (SOP) for field equipment calibration. Observed parameters will be documented according to the procedures outlined in the SOP for field documentation.

Sample preparation
Fresh bottles and filters will be used at each location to obtain samples; and clean latex or nitrile gloves will be used during the field program and replaced frequently at every sample collection point. Sterile laboratory-supplied sample containers with appropriate preservatives will be used for sampling. Once collected, the samples will be kept cooled at approximately 4 degrees Celsius and shipped under chain-of-custody to the selected analytical laboratory.

Laboratory Analyses
Surface water and groundwater will be analyzed by a laboratory accredited for specific analytical tests under the Canadian Association for Laboratory Accreditation Inc. (CALA), which conforms with requirements of ISO/IEC 17025. There is currently no CALA accreditation for Stable Isotope analysis, but various University Laboratories have specialized in isotope analysis and have initiated accreditation trials.

All laboratory directions regarding appropriate bottles, filtering and preservation will be followed and sample containers will be filled consistent with the analytical requirements. In general, any parameter that requires filtering will be filtered in the field (or in town as necessary), and subsequently preserved if necessary. When there are adverse weather conditions or an increased potential for cross-contamination while filtering, samples will be filtered when teams return to town and have clean facilities to filter appropriately. Sample containers will be labelled immediately and placed in appropriate coolers or packaged for shipping.

QAIQC

Quality assurance/quality control {QAIQC) samples will be collected. Common QA/QC samples may include: field blanks, equipment blanks, trip blanks and blind duplicates or replicates. Field blanks will be collected in the field, using laboratory supplied blank water. Blind duplicates or replicates will be collected from the well immediately after the original sample, filling bottles for similar analytical groups for the original and then for the duplicate, before filling bottles for other analytical groups. Blind duplicates will be labelled with a fictitious name or sample number, leaving the laboratory "blind" to the origin of the sample, or the fact that it is a QA/QC sample. Field blanks (to monitor cross contamination due to the sampling equipment) and trip blanks (to monitor cross contamination derived from storage or transport of the samples) will be collected as deemed necessary.

Record Keeping
All well development activities will be recorded in field notes, including: the start date and time of development activities, the total volume of water removed during development, methods used for well development, any actual field measurements (e.g. pH, temperature, and EC) and the volume removed at the point the measures were taken, and any other qualitative observations.

All well monitoring observations will be recorded, identifying the well, the date and the time of the observations. Details of all equipment and methods used will also be recorded.

All purging and sampling activities will be recorded in field notes, including: well identification; purge volumes; purge water observations or field measurements; purging start and finish times; type and number of containers filled; field filtering details; preservative details; and QA/QC sample details. The field notes will provide an accurate record of the activities completed.

Groundwater samples submitted to the laboratory will be documented on a chain of custody form which will include the analytical requirements. The chain of custody form will be signed and dated by each person having custody of the samples to the point of delivery to the laboratory.

Reporting
Husky will prepare a combined surface water and groundwater monitoring report on an annual basis and submit it to the Sahtu Land and Water Board (SLWB) at the end of December of each year. This will allow for analyses, interpretation and report preparation of all sampling events, the last of which will occur in the fall. Upon submission to the SLWB, it is Husky's understanding that the information becomes public. Husky will also share information gathered for the programs with the community and community leadership during public consultations.

The report will include recommendations for any changes to the programs based on the findings obtained to date, obvious data gaps and any collaborative review of data from other research or studies in the area. The analytical suite will be reviewed annually and adjusted based on scientific judgment and may choose to increase the analytical suite for parameters of interest.

This study is being conducted on behalf of Husky Oil Operations Limited. The results of this study will be incorporated into Husky's stakeholder engagement/community consultation program.

The fieldwork for this study will be conducted from July 4, 2014 to October 31, 2014.

Sincerely,

_____
Jonathon Michel,
Manager, Scientific Services

DISTRIBUTION
Department of Fisheries and Oceans Canada
Fort Norman Métis Land/Financial Corporation
Norman Wells Renewable Resource Council
Sahtu Land and Water Board
Sahtu Renewable Resources Board
Sahtu Secretariat Incorporated
Tulita Dene Band Council
Tulita District Land Corporation Limited

Tulita Renewable Resource Council