



Fact Sheet

Phase 2: Human Health Risk Assessment of Oil and Gas Activities in Northeastern B.C.

The Ministry of Health has contracted Intrinsic Environmental Sciences Inc. to complete Phase 2 of the human health risk assessment of oil and gas activities in northeastern British Columbia. Intrinsic was awarded the contract following a comprehensive competitive bid process. The Ministry of Health led the evaluation process. Representatives from the Northern Health Authority, Ministry of Environment, Ministry of Energy, Mines and Natural Gas, and the Oil and Gas Commission participated in the evaluation committee.

The Intrinsic team is composed of specialists in toxicology, epidemiology, medicine, air quality, water quality, and emergency response planning. In addition to Intrinsic, the companies that make up the team include: RWDI Air Inc., Matrix Solutions Inc., Skystone Engineering Inc., McDaniel Lambert Inc., and Borden Ladner Gervais LLP. The team also includes a three-member advisory panel to provide an independent perspective on the design and approach of the Phase 2 assessment, and the interpretation of the results.

The Phase 2 assessment will focus on local health areas 81, 60 and 59 (the region), and is intended to investigate the potential impact of oil and gas activities on human health. The assessment will proceed as follows:

Task 1: Information Collection and Issues Identification

Intrinsic will conduct an information search/environmental scan to establish the scope and extent of oil and gas activities in the region. This initial research will examine the overall nature of oil and gas operations, emission sources and chemical discharges, to determine what information is available and where data gaps exist. It will also identify the chemicals related to oil and gas activities to which people could potentially be exposed.

A review of publicly available reports related to the potential human health effects associated with oil and gas activity will be conducted, and the findings will help guide the design of the Phase 2 assessment. This review will include reports produced for the local health areas, the province, and other jurisdictions that have oil and gas activity. An example of one such report is the preliminary assessment report prepared by the Northern Health Authority's medical health officer.¹

As part of this step, Intrinsic will review the report of the Fraser Basin Council² commissioned under Phase 1, which summarizes public concerns about the potential health impacts related to oil and gas activities in northeastern B.C.

Intrinsic estimates that Task 1 will be completed by spring 2013.

Task 2: Completion of the Human Health Risk Assessment

The human health risk assessment will be conducted using widely accepted methods that have been endorsed by regulatory organizations worldwide, including Health Canada, the US Environmental Protection Agency, the World Health Organization and other leading health agencies. This step will involve examining the potential human health effects that can be caused by the chemicals emitted, discharged or released into the environment from oil and gas activities,

¹ *Population Health and Oil and Gas Activities: A Preliminary Assessment of the Situation in North Eastern BC*. A Report from the Medical Health Officer to the Board of Northern Health.

² Fraser Basin Council. 2012. *Identifying Health Concerns Relating to Oil and Gas Development in Northeastern British Columbia*. Human Health Risk Assessment: Phase 1 Report.

as well as the exposures to these chemicals that people in the region might experience. This information will be used to estimate the risks to public health from oil and gas activities.

The manner in which people might be exposed, whether through land, air or water, will be considered. The chemical exposures that could potentially occur under both normal operating conditions and as a result of possible accidents or malfunctions will be examined. The assessment will also consider how the potential effects of chemical exposure could vary among individuals, including those that can be more susceptible, such as children and the elderly.

Estimated exposure levels will be compared to limits for the protection of human health and other toxicological information developed by peer-reviewed scientific research and regulatory agencies. The results of these comparisons will serve as the basis for determining the potential health risks and prioritizing conditions or situations that will help focus Task 3: Review of Regulatory and Policy Frameworks.

Intrinsic expects Task 2 to be completed in late fall 2013.

Task 3: Review of Regulatory and Policy Frameworks

As part of this task, current regulatory provisions for managing risks from oil and gas activities in British Columbia will be reviewed. The purpose of this exercise is to determine to what degree the protection of human health with respect to oil and gas activity is captured within existing provincial regulatory frameworks, with a view to identifying potential improvements.

Intrinsic anticipates that Task 3 will be completed in fall/winter 2013.

Task 4: Recommendations for Monitoring and Managing Health Impacts

Based on the combined outcomes of the project, recommendations will be made to the B.C. Ministry of Health regarding:

- Monitoring programs that could be developed to better define the chemical exposures that people in the region might experience from oil and gas activities, and the corresponding potential health risks.
- Management strategies that could be implemented to reduce any potential health risks related to oil and gas activities.

Completion of Task 4 is scheduled for spring 2014.