

Environmental Baseline Data Collection Program BP Canada Energy Company Mist Mountain Coalbed Gas Project

The Mist Mountain Coalbed Gas Project, located in southeast British Columbia, is a project by BP Canada Energy Company (BP Canada) to assess whether natural gas in British Columbia's Crowsnest Coalfield can be produced in a safe, economic and environmentally responsible manner. The project includes three to five years of environmental studies, technical development research and consultation prior to a decision on commercial development. BP Canada has internally mandated environmental assessment as a necessary component of project appraisal and has requested that Matrix Solutions Inc. (Matrix) design programs to collect baseline environmental data in a number of areas including hydrology, hydrogeology, fish and fish habitat, water quality, wildlife, avalanche mapping, air quality and socio-economics.

BP Canada is following its internal process, Environmental Requirements for New Projects, which will include an environmental and social impact assessment at the end of the appraisal period. The appraisal includes environmental baseline data collection, social impact assessment, and technical appraisal of the resource.

Environmental Data Collection Objectives

Matrix developed the overall environmental programs and works with consultants to refine and conduct the specific field programs. The first year of data collection was 2007 and programs continued in 2008 and 2009. Several of the water, fish and wildlife programs will continue beyond 2009. Objectives of the baseline data collection programs are:

- To characterize the study area on a regional scale;
- To gather and review the existing research data for the study area, or adjacent areas, and use the existing data as the foundation for baseline programs; and
- To collect data over three to five years that reflect the current condition of the study area:
 - Hydrology, hydrogeology and water quality programs build on existing data and return to established sites as well as new sites for the years of project appraisal by BP Canada, providing a baseline regional water characterization in the study area;
 - Fish and fish habitat studies were designed to characterize habitat in representative streams, and to determine the presence of fish at sites over four or five seasons;
 - Wildlife studies were designed to maximize existing data which, in some cases such as grizzly bears, is up to 30 years of data from various researchers and studies. Wildlife studies were designed to:
 - Coordinate with other ongoing research in or near the study area;
 - Monitor animals and habitat use through track counts;
 - Contribute to ongoing DNA studies on grizzly bears (study area extended to incorporate BP Canada's area of interest);
 - Develop databases of observations of animals, including species at risk, observed in the study area;
 - Develop models to correlate environmental resources with habitat selection observed in the field, to provide a tool to aid in eventual footprint planning.

Impact Assessment

Although BP Canada has a conceptual idea of how many wells it might take to commercially develop the field, this concept will be refined based on results of exploratory drilling to determine the nature of the natural gas in the coal. Until then, the footprint (how many wells, in what configuration, in which particular portion of the study area and developed over what time frame) cannot yet be determined, so project impact assessment cannot commence. This provides the opportunity to continue with environmental baseline data collection both before and while exploratory drilling occurs.

Once a project footprint is determined, the specific impacts from that footprint will be modelled against the baseline data. The impact assessment takes in full field development, over time, and includes potential impacts in the construction, operation and reclamation stages of development.

Additionally, once BP Canada's plans for development are determined, a cumulative impact assessment will also be completed. This type of assessment includes the potential impacts of not only BP Canada's project, but other announced or anticipated projects within the BP Canada study area. One of the limitations to cumulative impact assessment is getting accurate footprint information for other projects, particularly those in early planning stages. However, assessment can proceed based on types of infrastructure likely to be needed for various projects (roads, pipelines, open pit mine, etc.).

BP Canada anticipates that the impact assessments for the Mist Mountain project are a further two to five years away, as they anticipate proceeding with exploratory drilling starting in 2010.

Site Specific Pre-Development Assessments

In addition to the broader regional studies, site specific pre-development assessments will be conducted for individual exploratory drill locations proposed by BP Canada. Matrix has developed site specific assessments and environmental protection plans to ensure that construction personnel can anticipate and mitigate environmental impacts. These plans include:

- Inventory of soil and vegetation on the sites;
- Observations of wildlife use of the sites and use of baseline habitat model results to predict overall wildlife use of the site;
- Proximity to aquatic resources and characterization of those resources; and
- Mitigation and environmental protection plans that include:
 - Regulatory set backs from streams;
 - Timing windows for construction related to fish and wildlife regulations;
 - Mitigation measures for managing potential sedimentation;
 - Soil salvage and conservation measures; and
 - Vegetation conservation measures, including controls for invasive species.

