

ENVIRONMENT AND SOCIO-ECONOMIC

Water Quality

Report: 35. Baseline Data Collection – Water Quality, River Sediment, Soil, and Vegetation Samples from the Peace River Watershed – 2007

Prepared by: Golder Associates Ltd.

Summary: The purpose of this study was to provide preliminary baseline data from the Peace River in regards to water quality, and to analyze river sediment, soil, and vegetation samples for metals and other contaminants. Data from this study will be used to direct further studies and as model inputs in some studies (e.g., mercury, water temperature, and climate modeling). The study area included 24 sample sites along the Peace River and tributaries from the Peace Canyon Dam to the BC-Alberta border.

Water sample analysis results were compared against British Columbia Water Quality Guidelines and Council of Canadian Ministers of Environment (CCME) guidelines for the protection of freshwater aquatic life for total and dissolved metals. Sediment samples were analysed for metals and compared to CCME or BC Sediment Quality Guidelines, and soil samples were analysed and compared to BC Contaminated Site Regulations for park land use. The spatial and temporal distribution of metal detections in water samples were analysed for linkages to levels of total suspended solids originating in the tributaries. Water temperature data was recorded and used to assess temperature regimes and assess the general influence of tributary inflows on the Peace River.