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MAPPING PERMAFROST-RELATED TERRAIN FEATURES WITH PURVIEW

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Mapping of permafrost features is generally done through interpretation of air photos or high resolution satellite imagery followed by fieldwork. A standard stereoscope is commonly used with hard copy stereo air photo pairs to identify various permafrost-related terrain features. Tetra Tech EBA takes a new approach, using PurVIEW™ software, which allows the mapper to see digital air photos on a computer screen with the aid of specialized 3D glasses. The advantages of this method over the standard stereoscope method include cost savings (less photos can be used, for example), increased accuracy (the digital photos are georeferenced and aerially triangulated), and utility (other layers can be added to the mapping). One of the key features of PurVIEW™ is the ability to zoom in and out to identify and delineate features that may not be visible at the original scale of the air photos. For example, one can zoom in to 1:3,000 scale without losing resolution when using an air photo pair taken at a scale of 1:40,000. This allows mapping of permafrost-related terrain features that may not have been previously identified, but which can have significant impacts on critical northern developments such as airports and mine infrastructure. Repairs to existing infrastructure and civil planning for future climate change involving permafrost loss can now be done with greater efficacy.