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Starting in 2015, Vertical Access has worked with Puget Sound Energy to perform conditions assessments at two concrete dams. Lower Baker Dam (a gravity-arch dam completed in 1925) and Upper Baker Dam (a gravity dam completed in 1959) are located in Skagit and Whatcom Counties, Washington. As part of the conditions assessment, Vertical Access technicians gained hands-on access to selected areas using industrial rope access techniques. Once in place, technicians documented existing conditions using a direct-to-digital system called TPAS, for Tablet PC Annotation System. Using this system, notable and representative conditions such as cracks and spalls in the concrete were mapped out on elevation views of the dams. Photographs taken of each condition are hyperlinked to the annotated drawing, and automatically renamed with a file name that can be customized for the project. The deliverables provided to Puget Sound Energy include the annotated elevation drawings, photographs and a written report describing the observed conditions.

With the condition survey reports provided by Vertical Access, Puget Sound Energy is able to improve surveillance and monitoring of the dams. The annotated drawings and photographs serve as a baseline condition that provides reference for visual observations made during routine inspections. The inability to safely access the downstream face of the arch dam, the spillway chute, and concrete facewall of the gravity dam by other means have limited the quality of information available to identify new concrete defects or document ongoing deterioration. Isolated photographs taken during inspections are often difficult to confidently locate on a large structure because the photographs are focused on the defect. Use of TPAS to directly input visual and numerical survey information on the structure provides the detailed information to be accurately located and effective for monitoring deterioration.