

**Phase I: Results of an Archaeological Reconnaissance for the  
Blue Lake Hydroelectric Project Expansion  
(FERC No. 2230)**

Prepared by:



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Blue Lake Hydroelectric Project (FERC No.2230)  
City and Borough of Sitka Electric Department  
105 Jarvis Street, Sitka, Alaska 99835

September 22, 2008

Phase I: Results of an Archaeological Reconnaissance for the Blue Lake Hydroelectric Project  
Expansion (FERC No. 2230)

By

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## **Introduction**

The City and Borough of Sitka Electric Department (CBS) is in the process of applying for an amendment to the Project's existing FERC license to reflect two significant changes in Project design: 1) addition of a third generating turbine at or near the existing powerhouse and 2) raising the Project dam as much as 83 feet from the existing spillway height of El 342 to El 425. The proposed expansion would result in significant physical change, primarily related to inundation of land around Blue Lake and the areas necessary for access roads and new powerhouse.

As part of the amendment process, the FERC requires compliance with Section 106 of the Historic Preservation Act of 1966 (HPA). The Act requires federal agencies to protect or mitigate for the loss of archaeological, historical or cultural properties that are listed or eligible for listing on the National Register of Historic Places. As part of this effort CBS contracted with Paleo Logics, Wrangell, Alaska to conduct an archival search and a Phase I reconnaissance survey of the Area of Potential Effect to document the presence or absence of cultural resources affected or potentially affected by Project activities, and according to the findings, propose Phase II investigation activities.

## **Background**

### Physical Environment

During the Pleistocene most of Southeast Alaska was covered by continental ice sheets and coalescing alpine glaciers. The soils, vegetation, and animal life within this glaciated terrain developed primarily after the retreat of continental ice sheets around 14,000 years ago.

The topography in and around the Project is generally rugged, steep mountainous terrain. Blue Lake occupies a narrow, U-shaped, glacially formed valley that is fed by Blue Lake Creek and numerous, small intermittent drainages, and drained by Sawmill Creek. The lake is 3.5 miles long, over one-half mile wide, and 500 feet deep in places. The Sawmill Creek canyon (outside the APE) is steep, well entrenched and difficult to access, whereas Blue Lake Creek (inside the APE) is a meandering drainage with shallow side banks cut into glacial deposits. In the flood prone areas are numerous relic channels and an abundance of devil's club. Areas of disturbance are characterized by thick alder patches.

Vegetation in the APE is primarily Sitka spruce, Western hemlock and cedar forest. A thick under-story is composed of blueberry, huckleberry, devil's club, and other forbs and mosses. Surface sediments in forested areas are organic, with fine-grained overbank deposits along the drainages. All of the Project area is characterized by bedrock and coarse deposits of glacial outwash.

### Land Use

The first small generating system on Sawmill Creek was built in 1913; comprised of a small rock crib dam, flume and powerhouse, and operated until 1947 when a flood washed everything away. The first major foreign investment for Japan after World War II was the contract to build the Alaska Lumber and Pulp Company (AL&P) (later Alaska Pulp Corporation, APC)) saw mill in 1957 in Silver Bay, at the mouth of Sawmill Creek. The land was acquired under the Tongass Timber Act in 1947. The plant was built in 1959, and closed in 1993. Blue Lake was planned as a source of process water, but soon expanded into the construction of a concrete dam to facilitate hydroelectric power and storage. Downstream improvements to the system were completed in the late 1980s.

The Kiks'adi used the Sawmill Creek drainage and intertidal zone for numerous subsistence activities for centuries. Today, any archaeological evidence of early intertidal and near-shore land use is under the old APC site which also includes Sitka's Blue Lake powerhouse and wastewater treatment facility areas.

Mining activity in the Silver Bay area influenced the history of Sitka and that of Southeast Alaska, though the occurrences of gold in Silver Bay may have more historical than geological significance. Activity includes historic mines, prospects, and mineral occurrences around Silver Bay itself, as well as properties east of Sitka in the Indian River basin. Prospecting for gold in the area began around 1871 and continued on a sporadic basis well into the 1990s. The first gold reportedly discovered in the Sitka area was gold-bearing float in the Indian River. Prospecting at the head of Silver Bay soon followed. Though the Silver Bay properties contributed little to Alaska's mining industry, they represented several firsts in the industry. The State's first lode gold mine and first stamp mill were in the Silver Bay area.

The Blue Lake basin is not rich in extractable mineral deposits, and there is no evidence of recent mining in the basin. The nearest mining claim to the Project is called Pande Basin, also known as Glacier Lake Placer, which is owned by Pande Basin Gold Mining Company. This is an expired placer mine located at approximately 457 m (1371 ft) above sea level, UTM coordinates: Zone 8,

Northing 6327843, Easting 495455; T 055S, R 065E, Sec. 1 of the Copper River Meridian. This claim was registered in 1895 and the survey recorded in 1900. The claim itself is outside of the APE; though a portion of the corduroy road near the confluence of Blue Lake Creek and Blue Lake built to access the mine was recorded by Paleo Logics during the relicensing process in 2005.

The Blue Lake Creek drainage system may have also been used by fur trappers, in which case evidence of these activities may include culturally modified trees with alcove notching to support martin traps, small trap cribs built out of logs to store traps when not in use, or expedient structures built from logs for shelter.

## **Proposed Phase II Field Survey Methodology**

The survey is designed to identify, document and evaluate archaeological sites and cultural resources within the Blue Lake Project APE. The survey will adhere to methods outlined in the USDA-FS Alaska Region cultural resources handbook. The guidelines call for both surface and subsurface examinations to ensure meeting survey goals. Field surveys of the Project are divided in two phases: Phase I, archival research and a reconnaissance survey to generally evaluate sub areas within the APE in terms of the likelihood or actual existence of historical or cultural properties (this Phase has been completed); and Phase II, a more extensive survey, including excavations if necessary to document site component distribution.

The archival research is presently being conducted by Patricia Browne Research, Anchorage, Alaska. During the reconnaissance phase (September 15<sup>th</sup>-18<sup>th</sup> 2008) a general survey within the APE was conducted with emphasis on areas to be disturbed by construction or inundation. The purpose of the survey was to define high and low probability areas.

### Area of Potential Effect (APE)

The fieldwork is divided into two primary areas, below and above the Project dam. The APE above the dam is based on the inundation area of the maximum proposed dam height, or El 425. The APE perimeter will generally, but not absolutely delineate the boundaries of the fieldwork. The APE below the dam includes all the area necessary to construct access roads, staging areas, and the surge tank, tunnel, and powerhouse. The fieldwork will be conducted at different levels of intensity depending on environmental conditions (i.e., degree of slope, vegetation, slide areas, and type of surface matrix).

### Survey Strategy

The proposed survey method requires a three-person pedestrian survey of the approved APE utilizing soil probes, a metal detector, and hand-held GPS units. Fieldwork will include daily survey notes, digital photographs, and the collection of GPS location data. A draft report will be submitted to CBS and review agencies for review, followed by a final report. Depending on weather conditions the order of survey is as follows: Blue Lake shoreline, above the dam, and

below the dam. The survey will require five to seven days to complete depending on what is found and weather conditions.

- A boat survey will be conducted along the Blue Lake shoreline, going ashore where feasible for additional inspection. The Blue Lake shoreline is considered a low probability landscape for cultural resources but should be inspected regardless.
- A pedestrian survey with subsurface testing will be conducted on all natural ground within the APE using random transects and utilizing a 2 cm x 85 cm open-faced soil probe. Subsurface assessments will be supplemented by examining exposed surface areas such as roads, tree root wads (tip-ups), animal trails, eroded banks and any unaltered intertidal areas.
- The corduroy road recorded by Paleo Logics in 2005 near the confluence of Blue Lake Creek and Blue Lake built to access the Pande Basin mine was flagged during the recent Phase I survey. The corduroy road will be recorded on a Forest Service site form with GPS location data attached. Other sub areas within the APE will be inspected for additional road and associated components. A Minelab X-Terra metal detector will be used in areas with historic potential.
- The survey will also focus on other cultural features such as culturally modified trees (CMTs), trap cribs, can dumps, fish traps, structures, etc.
- No sites have been found thus far to warrant a formal excavation. Should excavation become necessary, CBS and cooperating agencies will be notified.

In order to complete the fieldwork in 2008 it will be necessary to begin work during the first week in October to avoid scheduling conflicts and the onset of winter. If you have any questions regarding this Phase II archaeological survey proposal please give me a call at 907.874.2842.

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