

Bald Ridge Aggregate Project Annette Island, Alaska









- Large, excellent quality hard rock aggregate deposit
- Core drilling and testing program completed
- Environmental and mining permits approved
- Deep water port in proximity
- Business-oriented history of Tribe-timber, fishing, packing plant
- Significant tax advantages



#### Greetings,

On behalf of the Metlakatla Indian Community, I am pleased to introduce you to our Community and present an opportunity to develop a major construction aggregate business. On the following pages, you will learn about our people, the history of the Community, and our strong commitment to economic development.

The Bald Ridge Aggregate Project is described in some detail. As you will see, the project has progressed far beyond the prospect stage and is ready for final evaluation and development. Existing infrastructure advantages and possible business structures are also discussed.

We look forward to meeting with you and learning about your organization and its future plans. Should you feel that our project and Community could be a good match with those plans, we would welcome the opportunity to explore the possibilities of a long-term business relationship.

Sincerely,

Karl S. Cook

Karl S. Cook, Mayor Metlakatla Indian Community

### Introduction

The Metlakatla Indian Community of Annette Islands Reserve, Alaska is pleased to present this overview of the Bald Ridge Aggregate Project. The project is located on Annette Island, Alaska, south of the city of Ketchikan in southeast Alaska. The resource of the project is a large deposit of excellent quality aggregate rock.

The Community is seeking a company to form a joint venture with the Community or to lease the property with the objective of mining and producing high quality construction aggregate products. Annette Islands Reserve, where the project is located, is the only Indian reservation in the state of Alaska. Due to the unique federal trust status of the tribal lands, a company would not be subject to state taxes. There might not be federal taxes either, depending upon the business structure of the operating company.

## The People of Metlakatla

Metlakatla was founded by Tsimshian people who followed a missionary of the Anglican Church of England, Mr. William Duncan, to a new home in the United States of America from their previous home in British Columbia, Canada. The United States Congress granted recognition to the new community in 1891 by creating the Annette Islands Reserve, a federal Indian reservation. The population of Metlakatla is approximately 1,400.

Today, Metlakatla is an incorporated entity named "Metlakatla Indian Community." It is governed by an elected 12-member tribal council, a mayor, a secretary, and a treasurer. There are a number of committees and boards that assist the elected officials in managing facilities and services in the Community.

The Metlakatla people are business-oriented. In the past, they operated a sawmill and a fish packing plant. The main industries today are fishing (salmon, halibut, cod, and herring), a salmon hatchery, a cold-storage center, retail stores, and tourism.

#### **Location and Climate**

The town of Metlakatla on Annette Island is located 15 miles (24 km) south of the city of Ketchikan and approximately 600 miles (965 km) north of Seattle, Washington as shown in Figure 1. The Community has jurisdiction over the 130 square mile reservation and 3,000 feet of surrounding coastal waters.

The island has a maritime climate with relatively mild temperatures confined within narrow limits. Sub-freezing temperatures seldom extend beyond ten days duration. Temperatures reach about 85°F (30°C) nearly every summer.

The greatest percentage of precipitation, even in the winter months, occurs in the form of rain. The total annual average precipitation, including snow, is approximately 109 inches (277 cm). Some snow mixed with rain may occur as early as October. Appreciable snowfall seldom occurs from late March to late November. Accumulated snow depths of a foot or more are infrequent and, because of moderate temperatures, snow covers seldom persist more than a week or two.



Figure 1: Annette Island location

## Markets for Aggregate Products

The major potential markets for Bald Ridge aggregate products are:

- Seattle, Washington
- Portland, Oregon
- San Francisco, California
- Los Angeles, California
- San Diego, California
- Asian Countries
- Pacific Islands

There is a critical shortage of aggregate along the west coast of the United States, particularly in the San Francisco Bay area, Los Angeles, and San Diego County. The expansion of San Francisco International Airport, which has been delayed, will require about 100 million tons of aggregate.

Aggregate is currently being imported by sea into the United States by Canadian producers with operations in British Columbia. These construction materials are currently being sold in the Puget Sound area, San Francisco, Los Angeles, and San Diego. Canadian aggregate was used in a major expansion project at the San Diego Naval Base.

The expanding populations and economies of Far East nations are well known. Japan and China, in particular, present good opportunities for aggregate sales. High quality aggregate products could be shipped in dedicated bulk carriers or perhaps as back haul loads in other types of vessels.



Figure 2: Project Location

Many Pacific islands lack good construction aggregate, since they are of volcanic or coral origin. These areas also could be potential markets for aggregate.

## **Project Site and Access**

The project is located on Annette Island, on the east side of Tamgas Harbor as shown on Figure 2. A view of the proposed quarry site from across the harbor is shown in Figure 3. Drill roads constructed during the exploration program can be seen in the photograph.

Access to the island is by scheduled ferry, boat, or floatplane. There is an abandoned Air Force base at the southern end of the island that can be used by land planes.

## Deposit Description and Test Results

The rock types of the Bald Ridge Aggregate Project have been determined to be granodiorite, granite, diorite, tonalite, and monzodiorite. The deposit as a whole is classified as a quartz diorite. Figure 4 shows the rock exposed at a small quarry near the project site. In 1999 and



Figure 4: Small Quarry at Bald Ridge

2000, an exploration program was conducted. A total of 27 core holes were drilled and 5,985 feet (1,824 meters) of 2.5 inch (6.35 cm) diameter core were recovered. A photograph of the drill used and the core obtained are shown in Figures 5 and 6.



Figure 5: Core Drill at Bald Ridge Site



Figure 6: Core Sample

Various tests were performed on the core, including specific gravity, the Los Angeles abrasion test, and the sodium sulfate soundness test.

The test results indicate that the rock is of excellent quality to produce a wide variety of aggregate products that meet and exceed federal and state construction standards. These products include aggregate for portland cement concrete, asphalt paving, riprap, armor stone, ballast, and road base.

The average specific gravity of the core samples was 2.65. The results from the Los Angeles abrasion, uniform hardness ratio, and the sodium sulfate soundness tests are shown in Figures 7 and 8.



Figure 7: Los Angeles Abrasion and Uniform Hardness Ratio



Figure 8: Sodium Sulfate Soundness Test

#### **Reserves and Mine Studies**

The deposit has been modeled using geologic and mine modeling software. Reserves have been estimated at 200 million tons with an additional 300 - 400 million tons of resources. Figure 9 shows a three dimensional computer generated view of the quarry and the surrounding terrain looking northwest with Tamgas Harbor in the foreground. Two alternative mine plans were developed. Both plans contemplate a production rate of three million tons per year at full production.



Figure 9: Proposed Quarry

Alternative 1 is to conduct all of the aggregate processing near the mine site. The various products would be transported to markets along the west coast of the U.S. and Canada by barge from a loadout facility on Tamgas Harbor at the processing plant. This barge site is too shallow for Panamax-class ships but a ship-loading facility, that could handle these ships, could be built about 1.5 miles (2.4 km) south of the mine site. Alternative 1 is shown in Figure 10. Alternative 2 is to perform the primary crushing at the quarry and then transport the crushed rock by a 2.8 mile (4.5 km) long conveyor belt north to Port Chester at the town of Metlakatla. Product processing and storage would be completed at the Annette Hemlock Sawmill site, which is no longer in use. This site is at a deep-water port, so dredging would not be required for Panamax-class ships, which require a depth of about 50 feet (15.2 meters). Figure 11 shows the general layout for Alternative 2.



Figure 10: Alternative 1



Figure 11: Alternative 2

Port Chester is shown in Figure 12. Tamgas Harbor and a portion of Bald Ridge are in the background on the far right of the photo. The sawmill loadout site is shown in Figure 13.



Figure 12: Port Chester



Figure 13: Loadout Site at Port Chester

#### **Bathymetry**

Bathymetry measurements for Tamgas Harbor and Port Chester are shown in Figures 14 and 15. These charts were taken from "Harbors in Clarence Strait" published by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, Coast Survey, 16th Ed., July 31, 1999.

The depth at the proposed barge loadout site for Alternative 1 at Tamgas Harbor near the quarry, which is too shallow for ships, is 6 fathoms (36 feet or 11.0 meters). At Port Chester, the depth at the ship/barge loadout site for Alternative 2 is about 18 fathoms (108 feet or 32.9 meters).



Figure 14: Tamgas Harbor Bathymetry



Figure 15: Port Chester Bathymetry

#### Infrastructure

Power on Annette Island is supplied by the Metlakatla Power and Light Company, which is owned and operated by the Metlakatla Indian Community. The utility has two hydroelectric generation plants with a combined capacity of 5.0 mw, a 3.3 mw diesel generator, and a 1.2 mw battery energy storage system. One of the two hydro-electric plants is the 3.9 mw Purple Lake hydro plant, which is located about 0.6 miles (1.0 km) from the Bald Ridge Aggregate Project, as shown in Figure 16.



Figure 16: Purple Lake Hydroelectric Plant

There is a dock at Port Chester for the ferry that operates between Metlakatla and Ketchikan. The current schedule is two round trips per day, five days per week. The ferry transports cars and trucks as well as passengers. There are also two small boat harbors, a barge dock, and a floatplane dock. The ferry is shown in Figure 17.



At one time, the abandoned Air Force base on the island was used as the airport for Ketchikan. There is a 7,500-foot (2.3 km) paved runway and a 5,700-foot (1.7 km) gravel crosswind runway accessible by road from the town of Metlakatla.

Community services include water, sewage, trash removal, telephone, and television. Metlakatla also has a medical center, schools, a police department, and a volunteer fire department.

# Metlakatla Aggregate Business Structure

The Metlakatla Tribal Council, in May, 2004, created the Metlakatla Tribal Aggregate and Construction Company (MTACC), a tribal corporation. MTACC is a for-profit entity with a board of directors empowered to improve the economic condition of the Community through the sale of aggregate products. In December, 2004, the Council transferred control of the Bald Ridge project to MTACC by means of a Mineral Development Agreement. This agreement was approved by the Bureau of Indian Affairs, U.S. Department of the Interior.

## **Federal Regulations**

Agreements between Indian entities and other parties and mining operations on Indian reservations such as Annette Islands Reserve are regulated by federal law. The laws are interpreted in the Code of Federal Regulations (CFR). The main CFRs that apply are:

- 25 CFR 225 (Indian Mineral Development Act of 1982, mineral agreements, tribal lands) states that:
  - All terms are negotiable except the operating regulations of the Bureau of Land Management and the royalty regulations of the Minerals Management Service.
  - The Tribe may negotiate directly with other parties.
  - No particular form of agreement is prescribed.
  - The approval of the Secretary (Bureau of Indian Affairs) is required.

Figure 17: Metlakatla-Ketchikan Ferry

- 25 CFR 216, 43 CFR 3590 & 3600 Mine plan approved by the Bureau of Land Management consisting of:
  - Mining plan of operations
  - Reclamation plan
- 25 CFR 216.8 Performance (reclamation) bond
- 25 CFR 211.24 Lease bond

### **Permits Required**

The permits required and the status of each is as follows:

- Environmental Assessment (for 3 million tons per year operation) approved with "Finding of No Significant Impact" by the Bureau of Indian Affairs in 2004.
- Mine Plan (Mining Plan of Operations and Reclamation Plan for Phase 1, 75,000 tons per year, on-island sales) – approved by the Bureau of Land Management in 2006.
- Corps of Engineers Permit for Phase 1 Mine Plan – approved in 2008

The Phase 1 Mine Plan and the Corps of Engineers permit would have to be amended and approved for a larger operation with barge or ship loading facilities.

#### Taxation

No state taxes would apply to an operation on the Reservation. Since the Tribe is not subject to federal taxation, a tribally-owned operation would not pay federal income taxes either.

### **Possible Business Agreements**

MTACC will consider any business arrangement that can be beneficial for all parties. Some possibilities are:

- Lease of property with royalties on sales
- Joint venture
- MTACC as project owner with partner as contract operator (operation would not be subject to federal income tax)





#### **Contact Information**

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