



December 5, 2008

US Army Corps of Engineers, Alaska District  
ATTN: CEPOA-CT  
P. O. Box 6898  
Elmendorf AFB, Alaska 99506-6898  
Attention: David Williams

Dear Mr. Williams:

As an update to our recent meetings and discussions, Kisaq LLC wanted to provide the Alaska District, US Army Corps of Engineers (Alaska District), with an update on the development of material sources in northwest Alaska.

1. Three NANA entities - NANA, Kisaq, LLC, NANA Pacific, LLC - and Brice Construction are teaming together to develop natural construction material resources to support construction needs in western Alaska, including coastal erosion protection and other potential Alaska District project requirements. Specifically, we are actively interested in developing quarries that can provide "A", "B" and "C" specification rock.
2. Our team has identified sites in both the Kivalina area and the Deering area that can provide materials to meet the "B" and "C" specifications. We have attached laboratory analyses that demonstrate that compliance, and request your approval of these materials.
3. If the Alaska District so desires, we are able to provide material samples to you for your own confirmation analysis.
4. Current information, based on testing of relatively surficial materials indicates that these sources may be too fractured to provide "A" specification rock. However, there is the potential that reduced weathering at depth may provide materials that also meet that requirement.
5. The team has also identified "A" specification material at an existing quarry in the Deering area previously approved by the Alaska District. That particular quarry has transportation challenges to the delivery of the materials to a barging location, but we expect seasonal management of production and transportation can address those issues.
6. The team is continuing the permitting process for the newly targeted facilities.
7. Our team also jointly provides the capabilities and expertise to support all facets of projects such as Kivalina, including permitting, design, construction, construction management, inspection, contract administration quarry operations and transportation logistics.



Our team fully expects that these sources can profitably provide reliable sources of natural construction materials in northwest Alaska that will be more economical and cost-effective to customers, such as the Alaska District, than sources that are currently being exported into the region. We are prepared to develop these sources for a variety of projects, starting with the next phase of work at Kivalina. This would also allow us to provide materials for regional projects in the foreseeable future at an improved cost. However, development of these sources is necessarily contingent on procuring a base contract, such as a sole-source contract for the next phase of Kivalina erosion protection, that will provide the financial justification to proceed with site development.

Sincerely,  
Kisaq, LLC

A handwritten signature in black ink that reads "Wm. E. Humphries". The signature is written in a cursive, flowing style.

William E. Humphries  
President

Cc: Chris Tew, Alaska District  
Alba Brice, Brice Construction  
Sam Robert Brice, Brice Construction  
Walter Sampson, NANA Regional Corporation  
Paul Glavinovich, NANA Regional Corporation  
Rose Barr, NANA Regional Corporation  
Jonathan Widdis, Akmaaq, LLC  
Joe Mathis, NANA Pacific, LLC

Attachments:

- A – Kivalina Site Material Laboratory Analysis Results
- B – Deering Site Material Laboratory Analysis Results

# **Attachment A**

## **Kivalina Site Material Laboratory Analysis Results**

ATTN: Paul 343-5086

# ALASKA

TEST LAB  
A Division of DOWL LLC

January 7, 2008  
W.O. #A32124

Mr. Paul Glavinovich  
Nana Regional Corporation, Inc.  
1001 E Benson Blvd.  
Anchorage, AK 99508

Project: Kivalina Seawall

Dear Mr. Glavinovich:

Alaska Testlab has completed the testing you requested as follows: Specific Gravity, Los Angeles Abrasion, and Ethylene Glycol. The results are listed in the table below.

ATL Lab No.	Date Received	Location	Test Method	Results
2195	12/17/07	Site 2 GPS 61	Ethylene Glycol CRD-C 148-69	Loss = 0%
2195	12/17/07	Site 2 GPS 61	Los Angeles Abrasion ASTM C535	Loss = 33%
2195	12/17/07	Site 2 GPS 61	Specific Gravity and Absorption of Coarse Aggregate ASTM C127	Bulk Specific Gravity (BSG) = 2.641 Bulk Specific Gravity (SSD) = 2.663 Apparent Specific Gravity = 2.701 Absorption = 0.8%
2196	12/17/07	Site 3 GPS 63	Ethylene Glycol CRD-C 148-69	Loss = 0.5%
2196	12/17/07	Site 3 GPS 63	Los Angeles Abrasion ASTM C535	Loss = 25%

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January 22, 2008

2196	12/17/07	Site 3 GPS 63	Specific Gravity and Absorption of Coarse Aggregate ASTM C127	Bulk Specific Gravity (BSG) = 2.647 Bulk Specific Gravity (SSD) = 2.665 Apparent Specific Gravity = 2.695 Absorption = 0.7%
2197	12/17/07	Site 4 GPS 64	Ethylene Glycol CRD-C 148-69	Loss = 0.1%
2197	12/17/07	Site 4 GPS 64	Los Angeles Abrasion ASTM C535	Loss = 25%
2197	12/17/07	Site 4 GPS 64	Specific Gravity and Absorption of Coarse Aggregate ASTM C127	Bulk Specific Gravity (BSG) = 2.594 Bulk Specific Gravity (SSD) = 2.631 Apparent Specific Gravity = 2.694 Absorption = 1.4%

If you have any questions regarding this report or if we can be of further service please call.

Sincerely,

ALASKA TESTLAB

*Evelyn Valera*

David L. Andersen, P.E.

Technical Advisor

343-5686



April 4, 2008  
W.O. #A32124

Mr. Paul Glavinovich  
NANA Regional Corporation, Inc.  
1001 East Benson Blvd  
Anchorage, AK 99508

Project: Kivalina Seawall Project

Dear Mr. Glavinovich:

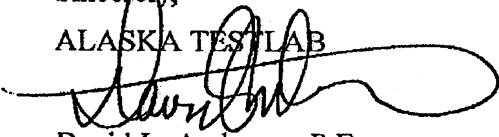
Alaska Testlab has completed the testing you requested as follows: Los Angeles Abrasion. The results are listed in the table below.

ATL Lab No.	Date Received	Location	Test Method	Results
277	3/20/08	Rock Sample Asikpik No. 2	Los Angeles Abrasion ASTM C131	Loss = 25%

All test results will be posted to the ATL website for your access. If you have any questions regarding this report or if we can be of further service please call.

Sincerely,

ALASKA TESTLAB

  
David L. Andersen, P.E.  
Technical Advisor



April 8, 2008  
W.O. #A32124

Mr. Paul Glavinovich  
Nana Regional Corporation, Inc.  
1001 E Benson Blvd.  
Anchorage, AK 99508

Project: Kivalina Seawall

Dear Mr. Glavinovich:

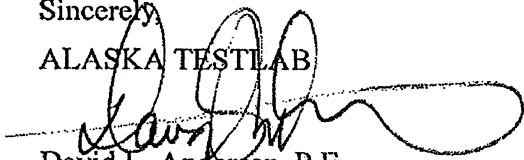
Alaska Testlab has completed the testing you requested as follows: Specific Gravity, Los Angeles Abrasion, and Ethylene Glycol. The results are listed in the table below.

ATL Lab No.	Date Received	Location	Test Method	Results
277	3/20/08	Rock Sample Asikpik No. 2	Los Angeles Abrasion ASTM C535	Loss = 32%
277	3/20/08	Rock Sample Asikpik No. 2	Specific Gravity and Absorption of Coarse Aggregate ASTM C127	Bulk Specific Gravity (BSG) = 2.645 Bulk Specific Gravity (SSD) = 2.668 Apparent Specific Gravity = 2.706 Absorption = 0.8%

If you have any questions regarding this report or if we can be of further service please call.

Sincerely,

ALASKA TESTLAB

  
David L. Andersen, P.E.  
Technical Advisor



*Asikpak*

May 15, 2008  
W.O. #A32124

Mr. Paul Glavinovich  
Nana Regional Corporation, Inc.  
1001 East Benson Blvd.  
Anchorage, AK 99508

Project: Kivalina Seawall

Dear Mr. Glavinovich:

Alaska TestLab has completed the Wet/Dry NPD testing you requested: The results are listed in the table below.

Client Sample Location	ATL Lab No.	Date Rec'd	Test Method	Results
Asikpak No. 2	277	3/20/08	Wet/Dry NPD	Loss = 6.38 %

All test results will be posted to the ATL website for your access. If you have any questions regarding this report or if we can be of further service please call.

Sincerely,

ALASKA TESTLAB

David L. Andersen, P.E.  
Technical Director



# **Attachment B**

## **Deering Site Material Laboratory Analysis Results**

It is difficult to estimate the volume of useable material present at this site because little to no in-situ rock was observed.

Due to the intensity of weathering and frost action, we were not able with hand tools alone to determine the in-situ structure. However, we believe that the steeper slope in the "area of interest" is indicative of good rock. The area of interest has a relief in excess of 200 feet and extends in a 1000-foot wide belt along the hillside for more than a mile. This material likely underlies the weaker hilltop material.

Table 1: Rock Quality

Site	Field Description	Sample Number	LA Abrasion	LA Degradation	Sulfate Soundness	Specific Gravity	Riprap Recommendation
Kugruk Lagoon East (2007)	Dolostone	DRG-07	38%	79	1%	2.66	May be suitable
Site H (2006)	Dolostone	H-1/H-2	32%	78	-	2.77	Colluvial
DOT	Riprap Specification		50% max	-	-	-	-
DOT	Base Course Spec.		50% max	45 min	9% max	-	-
DOT	Surface Course Spec.		50% max	45 min	9% max	-	-
DOT	Subbase Specification		50% max	40 min	-	-	-

West of Kugruk Lagoon:

The hill is gently sloping. No rock outcrops or rubble were observed. The surface was covered with sand and gravel-sized particles similar to that observed on the hilltops east of Kugruk Lagoon.

Inmachuk River Valley Lava Flows:

Lava flows along the Inmachuk River Valley were visually inspected to determine if the material exposed as high benches is similar in composition and durability to the olivine basalt collected in 2006 at Site I, in the Kugruk River Valley. Laboratory tests of random samples collected at Site I have shown that this material readily meets State DOT specifications for riprap, base course, surface course, and subbase use.

Along the Inmachuk River Valley, large areas of rubble are present but in situ exposures appeared to be thin and discontinuous along the sides of the river valley. The material observed in this area appears to be more porous than the olivine basalt sampled at Site I. The porosity varies within outcrops, ranging from scoria to vesicular basalt.