

NORTHERN GEOTECHNICAL ENGINEERING, INC. / TERRA FIRMA TESTING

Laboratory Testing

Geotechnical Engineering

Instrumentation

Construction Monitoring Services

Thermal Analysis

Clinton J. Banzhaf, P.E.

Senior Project Engineer

EDUCATION

B.S., Civil and Mechanical Engineering, Colorado School of Mines, Golden, CO - 2010 M.S., Arctic Engineering, University of Alaska, Anchorage, AK – 2017

GENERAL EXPERIENCE

Clinton has five years of experience as a project engineer for various civil/geotechnical engineering projects. As a project engineer, he has been a crucial part of a wide variety of projects including: pavement/road design; residential and commercial building foundations; tower foundations; permafrost foundations (North Slope); shallow and deep foundations; foundation repairs; off-shore platform foundation; pile design (pipe, pin, helical, freeze-back); weigh stations; dam safety inspections; dam repair and enlargement; along with drilling for geotechnical explorations and environmental testing. Clinton is a proven project engineer, and is known for his ability to assist in any way that is required to accomplish the task at hand. Clinton is an experienced field engineer that has recorded several hundred hours of subsurface exploration logging and interpretation. He has extensive experience with many forms of geotechnical and ice data acquisition techniques including: hollow-stem and solid augers, mud and air rotary, direct push, sonic drilling, standard and modified penetration test sampling, hard rock coring, and test pit excavation. Clinton is experienced project manager and completing tasks that include the coordination and management for subsurface exploration programs and construction projects throughout the entire State of Alaska. Clinton is experienced with the complications and problems that are encountered in remote parts of Alaska. Clinton has a background in construction Quality Assurance and Quality Control (QA/QC), serving as a QC inspector (for earthworks, ice roads, and pile installation). Clinton is excellent at working with contractors, design firms, and clients to obtain the best cooperation and quality of work possible. Clinton has an additional four years of experience working in construction (as an equipment operator and field lead), exploration drilling, and other engineering-related tasks.

KEY PROJECTS

<u>Point Thomson VSM Inspection, Point Thomson, Alaska, Alaska Frontier Constructors and CH2MHill, 2013-2015</u> – At Point Thomson, Clinton provided quality control for the various foundation piles installed onsite. This included logging each pile boring, materials inspection and pile installation. Clinton also performed quality control for the placement of sand slurry.

Furie Offshore Platform KLU #1-3, Cook Inlet, Alaska, Watson Company, Inc., 2012-2014 Clinton oversaw and performed subsurface explorations from an offshore jack-up platform and provided engineering recommendations and capacities for a permanent production platform foundation. Clinton's field duties included geological logging of each exploration, and the collection of appropriate samples for laboratory analysis. He was also responsible for the generation of a geotechnical laboratory program and a associated report detailing the activities conducted, subsurface conditions encountered, and providing recommendations concerning pile foundation and installation.

Loomis Building Foundation Retrofit, Anchorage, Alaska, Spreng Associates, Inc., 2012-2013 Clinton directed a subsurface exploration program to assess causes for extreme foundation settlement. During the exploration effort, Clinton identified significant amounts of peat soils, and later determined that the structural fill under the foundation was migrating into the peat. He designed a pin pile retrofit to provide additional support to the existing foundation.

<u>Halliburton Shop Building, Deadhorse, Alaska, Klassen Corporation, 2011-2012</u> — Clinton organized and oversaw the execution of a subsurface exploration program beneath of, and adjacent to, existing buildings to develop foundation design recommendations for a new shop building. Several existing buildings were being demolished to make room for one large shop building and to eliminate foundation settlement issues from thawing permafrost. Two foundation designs where recommended: freeze-back piles and a passively refrigerated foundation. In an effort to expedite the construction schedule, we adjusted the pile design to account for the existing thaw bulbs located within the footprint of the demolished buildings, instead of waiting for the thaw bulbs to re-freeze (which would have significantly delayed the construction).

<u>Town Place Suites by Marriot, Anchorage, Alaska, Denali Land, LLC, 2011-2012</u> – Clinton directed a subsurface exploration program for the geotechnical recommendation and construction of the Town Place Suites. The project was planned for an area that was overlain with poor-quality fill that was not properly compacted. The subsurface exploration program focused on verifying the extent of the fill and providing adequate geotechnical information to provide a suitable foundation design. The report included the necessary recommendations for the foundation and the associated utilities, parking, and drainage.

Emmonak High School, Emmonak, Alaska, Larson Consulting Group, Inc., 2011-2012 — Clinton directed a subsurface exploration program in support of the design and construction of additions to Emmonak High School. The project consisted of soft, saturated silt and loose, saturated sand. Clinton designed helical piles to support the building and utilities along with a gravel road section.

PROFESSIONAL REFERENCES

Kurt Esveldt, Trident Seafoods Corporation, Seattle, WA (206) 783-3818 Dave Grenier, P.E. – Principal, Triad Engineering, Anchorage, AK (907) 561-6537 Micah Schoming, P.E., CRW Engineering Group, LLC, Anchorage, AK (907) 562-3252

PROFESSIONAL QUALIFICATIONS

License	2015	Professional Civil Engineer – Alaska (CE 14856)
Certificate	2014	ACI Concrete Field Testing Technician Grade 1
Certificate	2011	Troxler Nuclear Densometer Operations
Certificate	2010	NCEES Fundamentals of Engineering
Qualification	2013	Elmendorf Richardson Base Pass
Qualification	2013	Exxon Mobil Pt. Thomson Security Badge
Qualification	2013	Arctic Pass Tier II
Qualification	2011	North Slope Cooperative Badge - Unescorted (2014 refresher)
Member	2010	American Society of Civil Engineers