Stantec

Alvin Tong P.Eng.

Senior Geotechnical Engineer

Alvin is a senior geotechnical consultant with 17 years of experience in option analysis, detail design, cost estimates, construction quality assurance, project management, and geotechnical inspection. He has worked on large, civil construction and mining developments as an owner representative and engineer-of-record. He was the design engineer and project lead for several tailings cover and mine remediation projects. He is also responsible for feasibility studies and design of large scale tailings and mine facilities, technical reviews, deliverables, and project management ranged from mine feasibility studies, geotechnical inspections, and construction projects.

EDUCATION

Bachelor of Applied Science in Geological Engineering, Geotechnical Option, University of British Columbia, Vancouver, British Columbia, 2002

MEMBERSHIPS

Professional Engineer, Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists

PROJECT EXPERIENCE

MINE CLOSURE DESIGN

Lupin Mine Closure | Nunavut, Canada | Project Manager

Conducted detailed evaluation of existing cover performance and comparison to original design and license approval; installation of instrumentation and site investigation to carry out performance monitoring on the closure activities; and design and complete execution plan for landfarm for on-site hydrocarbon treatment, reopen underground work for disposal, and decommission all tank farm facilities.

Ulu Exploration Site Closure | Kitikmeot Settlement, Nunavut, Canada | Project Manager

Designed and completed execution plan to reopen underground work for disposal, evaluated underground dewatering options, and decommissioned all tank farm facilities. Designed and completed execution plan for landfill for inert debris disposal and evaluate long term stability; and provided evaluation of long term stability of site roads and mine pads.

Thor Mine Pilot Project | Trout Lake, British Columbia, Canada | Project Manager

Provided a background evaluation, conducted a site inspection, and supervise the cover construction over a small tailings facility in a remote mountainous region. The work was done a part of permit requirement to ensure the tailings is closed according to best available practice geotechnically and geochemically. The deliverable are construction as-built and water quality review summary reports.

Lorado Uranium Tailings Cover | Lorado, Saskatchewan, Canada | Design Lead

Provided detailed evaluation of alternative remediation cover options and their feasibilities; construction quantities take off and unit cost estimates for tender purposes; and engineering technical to client for prime contractor bid evaluation.

Faro Mine Closure, GSC Cover Construction | Faro, Yukon, Canada | Project Engineer

IFC design and construction Engineer for the project. Conducted detailed design for the cover including following components: regarding of waste, slope stability, geosynthetics, surface water management, borrows, and overall cost estimate. Conducted field studies for identified site condition and quarry locations. Technical site support for field modifications and quality assurances. Report writing included cost estimate, design report and ongoing proposal for further works.

Tundra Mine Remediation Project | Fort Smith, Northwest Territories, Canada

Responsible for construction package, including cost estimate, IFC drawings and specifications. Presented project design and construction sequence to different experts and government agencies for review and assurance. Provided IFC package for tendering, including design report, cost estimate, IFC drawings and specifications.

Teck Coal Selenium Study, Test Cell Construction | British Columbia and Alberta, Canada | Project Engineer

Site Engineer for the project, responsible for construction of the test cells and liaison with the Client. Continued support for Client post construction and data collection.

Mount Washington Reclamation Project | Vancouver Island, British Columbia, Canada | Project Engineer

Design engineer and construction engineer for the project. Conducted preliminary design for the reclamation including following components: cover options, under drains, surface drains, borrow and quarry locations, haul roads, re-vegetation, closure, and overall cost estimate. Conducted field studies for identified site condition and quarry locations. Report writing included cost estimate, design report and ongoing proposal for further works.

Faro Reclamation Project, Haul Road Closure Component | Faro, Yukon, Canada | Project Engineer

Design engineer for the project. Responsible for preliminary closure methods, recommendations, and cost estimate. Report writing included detailed technical report for proposal purpose.

FEASIBILITY STUDIES

Dumont Project | Quebec, Canada | Design Lead

Managed and conducted site investigation using Sonic, CPT and testpit methods and laboratory program. Conducted evaluation of supporting terrain analysis and seismic reflection to model overburden stratigraphy. Provided Feasibility design for open pit slope, tailings storage facility, waste dump designs; conceptual construction staging and methodology in conjunction with mine planning; and report writing and other technical support for project.

Confidential Frac Sand Project | Design Lead

Collected geotechnical and evaluated hydrogeological data from existing database and new drilling program; completed a stability model using FLAC® to determine underground craven development and "pillar" spacing; presented data evaluation and stability results for client evaluation and continual technical support.

Selwyn Project | British Columbia, Canada | Design Lead

Planned and executed site investigation using Heli-portable Sonic drill, helicopter air reconnaissance and laboratory testing; evaluated overburden stratigraphy combining the site investigation results with terrain analysis (including permafrost), geophysical sub-terrain investigation (seismic) and historic borehole information. Provided a Pre-feasibility level overburden evaluation and open pit slope stability modeling review and conducted report writing and technical support for subcontractor management on behalf of client.

GEOTECHNICAL ENGINEERING

OPTA East Tailings Facility Design, Alberta | Design Project Manager

Provided project management, and design review on OPTA East Tailings Facility construction design. The construction design requires integrating the permit design with site condition, design updates, construction and methods, instrumentation, and performance monitoring and compile construction drawing and quantities for. Attend weekly progress meeting to provide update, feedback, scheduling, budgeting, and technical evaluations between different project teams and client representatives.

Confidential Feasibility Tailings Facility Expansion Design, Brazil | Lead

Provide options evaluation for tailings facility expansion for owner evaluation and selection; provide feasibility design for tailings facility expansion using the filtered tailings technology, include staging, water management, construction methods, instrumentation, and performance monitoring and compile design report with drawing and quantities for permitting and operation budget.

Dry Stack Tailings and Mine Rock Storage Facility Construction Design, Turkey | Lead Designer

Lead designer and co-project manager for the construction design for the central valley dry stack tailings facility and mine rock storage facility. Manage the design team to meet high seismic and environmental design criteria. The final design is a doubled lined facility with shear keys and underdrains to meet criteria. The final deliverable is a detailed design report for permitting and detailed construction drawings and specifications for construction.

Confidential Liquefied Natural Gas Client | British Columbia, Canada

Provided technical review of the existing documents and information; conducted site reconnaissance to characterize site conditions; provided technical recommendations on additional site investigation plan to reduce data gaps and design risks; technical support and preparation of tender documents; and Technical Report writing for documentation.