

Project	Client Type	Location	Scope of Work	Date
Investigation into domestic water pipe failure	Undisclosed	Ontario, Canada	Domestic water pipe failures due to pitting corrosion; investigating cause.	Current
Corrosion Control Plan for operating gold mine	Gold Mine	Nunavut, Canada	Supporting the development of a site-wide corrosion management plan to ensure corrosion risk due to saline water is managed throughout operations. Designed to zipper into existing asset management plan structure. Corrosion engineering input into failure of piping, tanks, structure, concrete. Designing ongoing integrity program. Focus on high quality data collection to allow future decision making (budgets, resources, scheduling, risk) and service life analysis.	Current
Corrosion Control Plan for new-build potash mine	Potash Mine	SK, Canada	Developing a Corrosion Control Policy for operations as part of design. Combining this with a detailed plan for technical field data collection/monitoring, optimization of RBI programs and corrosion maintenance activities. Creating corrosion models to predict service life and data inputs to interface with project digital twin.	Current
Corrosion engineering input into potash mine design	Potash Mine	SK, Canada	Technical de-risking of design of concrete, steel and underground assets for a new potash facility to ensure 70-year service life. Corrosion engineering input into piping, tanks, structure, concrete design. In-depth concrete modeling and design of embedded monitoring system to track corrosion risk.	Current

Project	Client Type	Location	Scope of Work	Date
Drilling rod failure	Drilling company	Ontario, Canada	Premature drilling rod failure due to corrosion and environmentally assisted corrosion. Investigation and recommendations for remedial actions.	2021
Material selection for SAG mill liners	Gold Mine	Dominican Republic	Analysis of operational and physical data to determine the cause of failure of SAG Mill liners and optimize material selection.	2021
Process tank corrosion	Nickel Mine	MI, USA	NDT inspection, analysis and recommended repairs for process tanks to extend service life.	2020
Steel bridge portfolio optimisation	Municipal	ON, Canada	Phase 1 of scope collected corrosion field data to populate a service life prediction model for steel bridges to allow portfolio optimization and review of design/repair strategies (Phase 2).	2020
Corrosion risk analysis at landfill site	Landfill Site	QB, Canada	Carried out a corrosion risk analysis for residential properties due to intermittent, elevated landfill gas emissions.	2020
Cathodic protection to repair existing port loading structure	Coal Terminal Port	BC, Canada	Inspection, design, commissioning and inspection for cathodic protection for an existing port structure – switched the CP to a galvanic type system to allow team on remote site to more easily upkeep and maintain system.	2019-2020
Corrosion Control Plan for operating	Gold Mine	Dominican Republic	Developed a full Corrosion Control Management Plan, connecting technical corrosion issues to business level KPIs. Plan	2018-2020

Project	Client Type	Location	Scope of Work	Date
gold mine			is now in implementation by the local team with ICE in support. Technical input provided for integrity monitoring programs / repair designs for structures, tanks, vessels, piping (wear/corrosion/pitting).	
Corrosion monitoring program	Gold Mine	Dominican Republic	Designed corrosion data collection and inspection program for process tanks and structural assets across site.	2019
Structural corrosion monitoring for office building design	New office building (coastal location)	CA, USA	Working with multinational technology company to design their new 4000-person office in The Bay area. Corrosion risk and design input into the selection and durability of weathering steel.	2019
Repair of Mechanically Stabilised Earth (MSE) Wall	Gold Mine	Dominican Republic	Tracked the degradation of MSE wall over 5 years. Modelled service life to determine optimal point of intervention. Designed repair of acidic corrosion attack of rebar. Included cathodic protection and embedded monitoring to continue data collection for risk tracking. Use of embedded concrete monitoring and cathodic protection in the concrete repair.	2019
Underground Tunnel corrosion	Gold Mine	Dominican Republic	Tracked the acidic degradation of the galvanized steel tunnel (which runs underneath the stockpile) using NDT, inspection and monitoring. Modelled service life to push for urgent repair. Collapse would have caused long-term shutdown, costs of \$100sM and possibly injury/loss of life.	2019

Project	Client Type	Location	Scope of Work	Date
Structural steel inspection and repair	Gold Mine	DRC	Inspection of site wide structural assets and design of a data collection program to inform future maintenance activities	2019
Corrosion Control Plan improvement for waste water treatment works	Municipal	ON, Canada	Took an existing corrosion policy and improved it in-line with best practices, strengthening the link between operational activities and C-suite level concerns. Input into inspection approaches to allow work order prioritization.	2018
Corrosion Control Plan for new-build gold mine	Gold Mine	Nunavut, Canada	Technical de-risking of Arctic gold mine design where process water has high salinity. First installation for mining of an embedded concrete corrosion remote monitoring system.	2018
International corrosion research program for concentrate shipping	Mining Associations (MAC, ICA, ICMM)	Canada, Australia, UK	Project involved ~15 mining companies Worldwide. ICE worked as Specialist Research Director through ICMM to direct three major research programs. Large complex group of stakeholders worked to improve IMO / EU regulations for corrosivity testing of mineral concentrates in shipping.	2018
Corrosion risk review of Process Plant design	Junior Silver Mine	Nunavut, Canada	Early concern in project about saline water impact on the design. ICE carried out an early risk review with the project team to identify highest risks and developed a budget estimate for the project.	2018
Materials and coating	Zinc Mine	Alaska, USA	Carried out a design review to identify corrosion risks and evaluate current project	2018

Project	Client Type	Location	Scope of Work	Date
selection for pumphouse			specifications for structural materials and coatings to ensure durability.	
Internal corrosion of seawater pipeline	Copper Mine	Chile	Carried out a corrosion risk review on the corrosion and corrosion control system in a seawater conveyance line. Analysis revealed microbial corrosion causing risks to production and environmental compliance. Recommended structured approach to risk mitigation and inspection.	2018
Failure investigation for cast iron components	Flywheel Technology Company	Canada	Components were shipped to client and located in a coastal region. Recommendations for coatings and materials to increase component longevity.	2017