

Project	Client Type	Location	Scope of Work	Date
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 risk review of design	Battery recycling plant	USA	Carry out corrosion risk assessment of pilot to inform final design and operation inspection protocols	Current
Coating specification review	FPSO	NL, Canada	Carry out a review to optimise coating specification and maintenance/inspection intervals to allow asset service life extension	Current
Structural steel corrosion integrity	Gold Mine	Nunavut, Canada	Specifications for coatings. Development of corrosion map for process plant based on collected field data. Corrosion map informs inspection optimization and future re-coating work.	Current
Innovations in self-healing coatings for structures	Gold Mine	Nunavut, Canada	Partnering with a novel coating company in the USA to design and assess the performance a self-healing coating. Expecting to see an increase in coating life of 50-90%.	Current
Corrosion Control Plan	Potash Mine	SK, Canada	Developing a Corrosion Control Policy for operations as part of design. Combining this	Current

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for new-build potash mine			with a detailed plan for technical field data collection/monitoring, optimization of RBI programs and corrosion maintenance activities.	
Corrosion engineering for 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
Investigation into domestic water pipe	Undisclosed	Ontario, Canada	Domestic water pipe failures due to pitting corrosion; investigating cause and providing expert witness report.	2021
CIL tank repair / coating specification	Gold Mine	Nunavut, Canada	Assessed inspection data, developed coating specifications and QA/QC procedures for internal CIL tank lining.	2021
Structural steel corrosion models	Potash Mine	SK, Canada	Creating corrosion models to predict external and internal corrosion rates for process plant structural steel. Predicting service life and data inputs to interface with project digital twin. Coating specifications for structural steel and concrete.	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

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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 optimization 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	Gold Mine	Dominican Republic	Developed a full Corrosion Control Management Plan, connecting technical corrosion issues to business level KPIs. Plan 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).	2018-2020
Corrosion monitoring program	Gold Mine	Dominican Republic	Designed corrosion data collection and inspection program for process tanks and structural assets across site. Reviewed and updated coating specifications for steel.	2019

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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. Unearthing tunnel proved analysis to be correct. Collapse would have caused long-term shutdown, costs of \$100sM and possibly injury/loss of life.	2019
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	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	2018

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water treatment works			into inspection approaches to allow work order prioritization.	
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 selection for pumphouse	Zinc Mine	Alaska, USA	Carried out a design review to identify corrosion risks and evaluate current project specifications for structural materials and coatings to ensure durability.	2018

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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