Cameco Exploration Lighting Strike Incident

March 1, 2018

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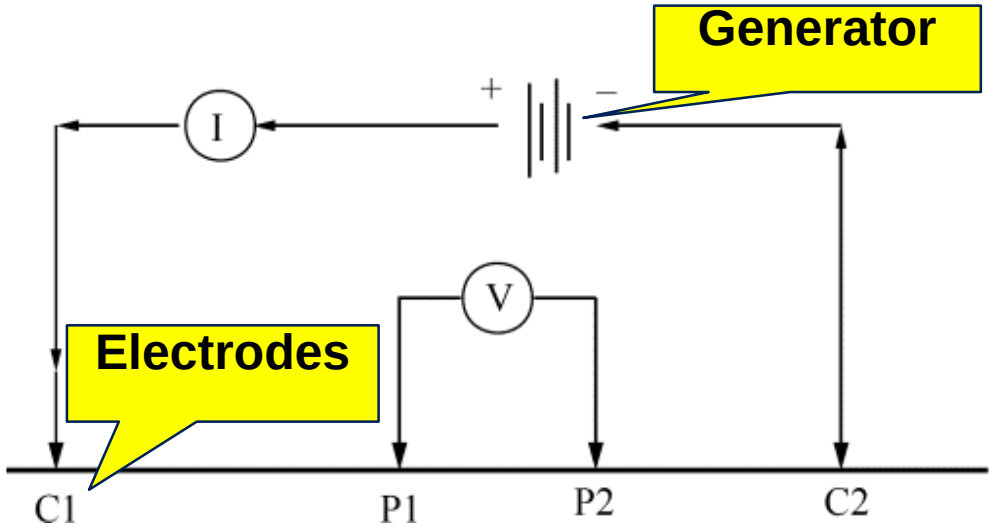
Outline

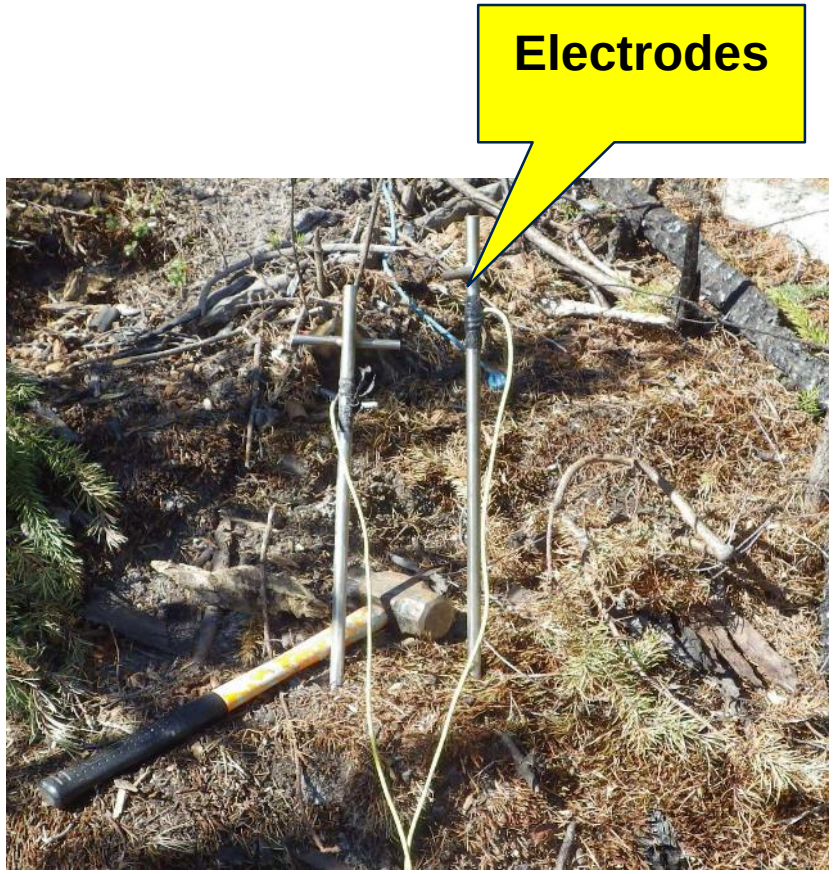
- Accident Description
- Immediate Response
- Root Cause Investigation
- Corrective Actions

Event Description

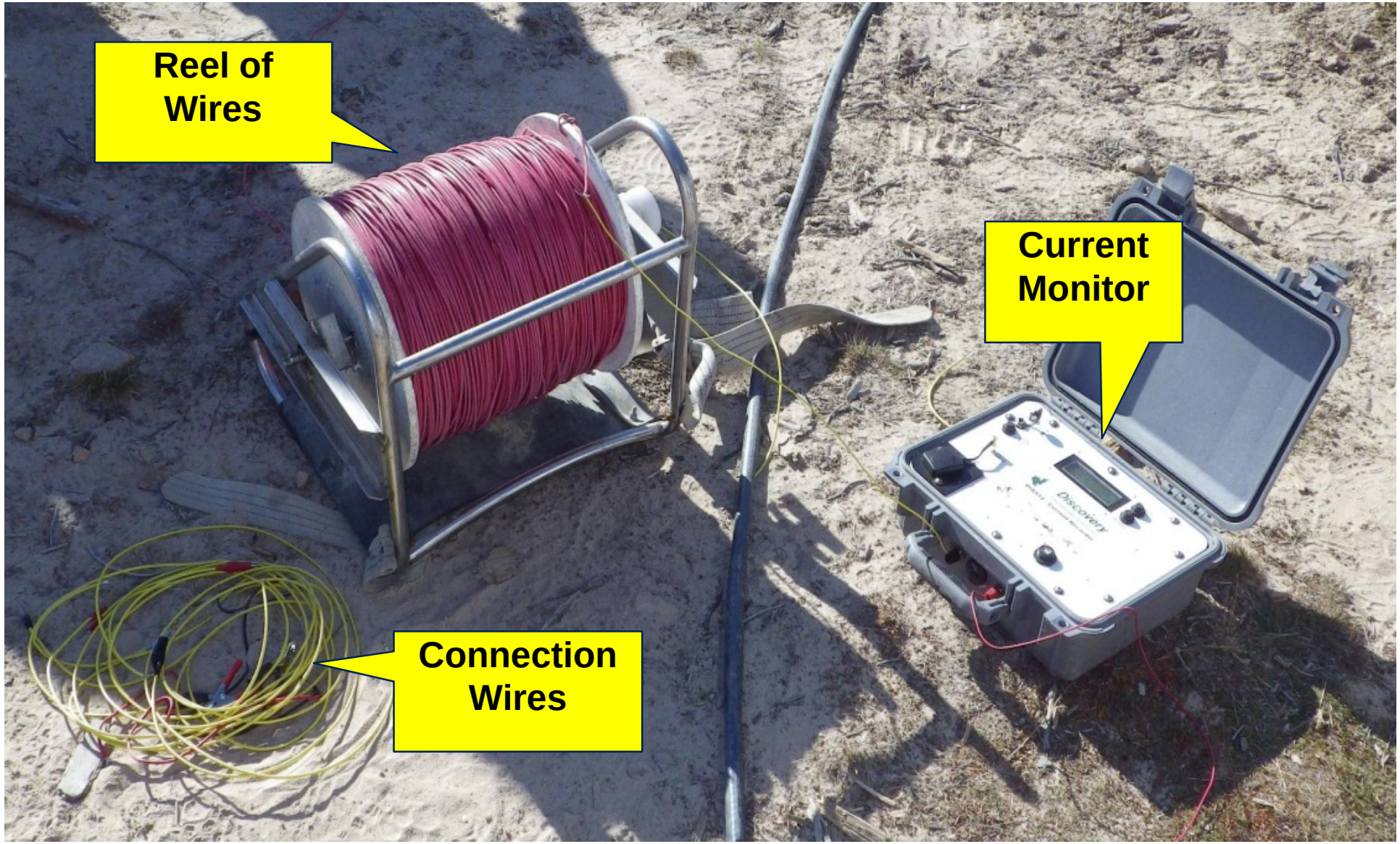
On September 2, 2013 at 3:20 pm, a geophysics contractor received an electrical shock and burns when performing exploration surveys on an aluminum boat near Hughes Lake SK. Lightning activities had been reported at the time of the work. The contractor lost consciousness shortly after the shock and regained consciousness after CPR. He was transferred to McArthur River's medical center via a helicopter then to the Royal University Hospital in Saskatoon via a medevac plane. He received further treatment and was release from hospital on September 8, 2013.

Task Description – DC Resistivity Surveys



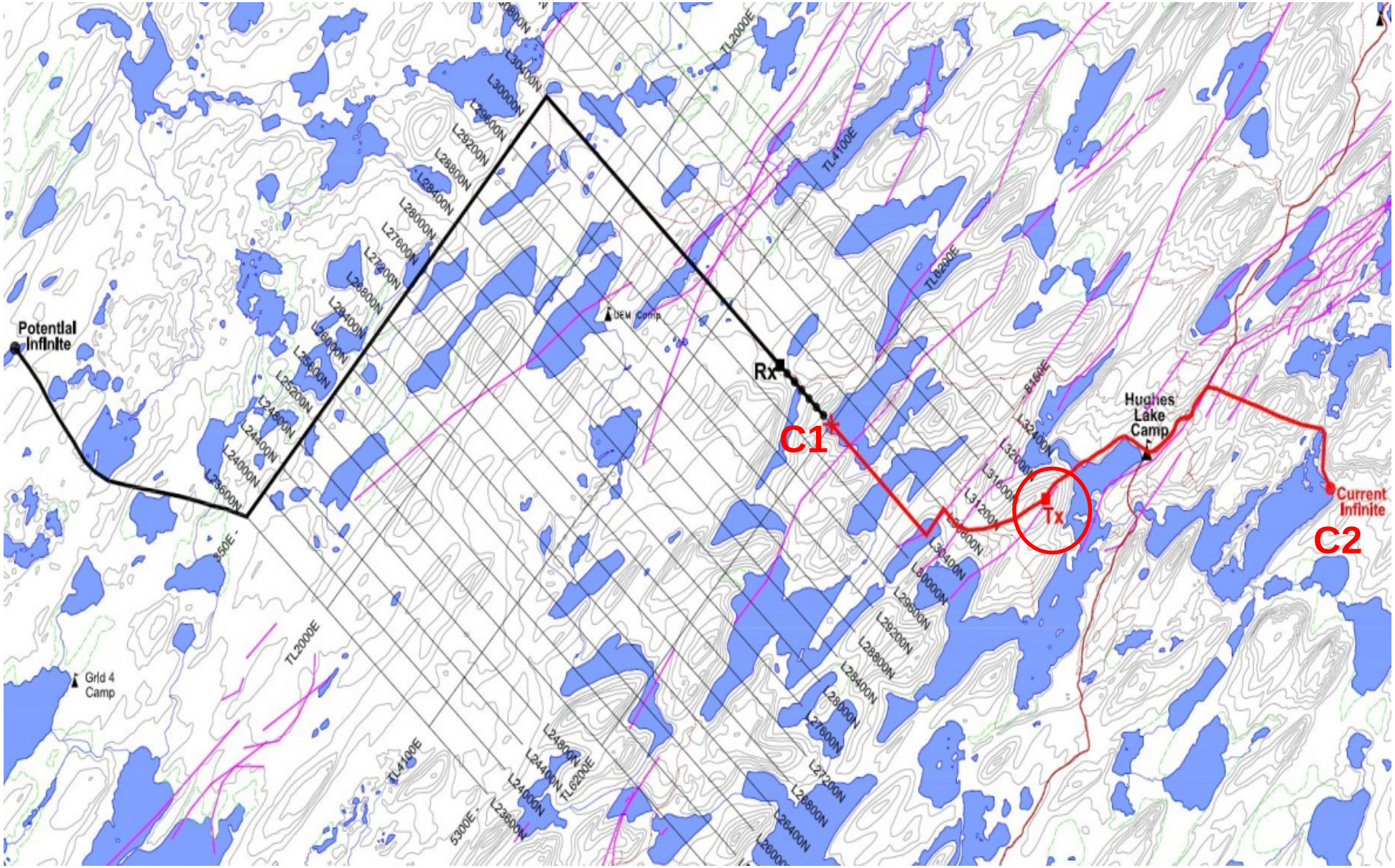


Task Description – Survey Equipment



Task Description – Task Demonstration

Task Description – DC Resistivity Surveys



Immediate Response

- Emergency Response
- Contractor Company Response
  - Procedural change to require one meter separation between employees and high voltage sources when in operation
  - Enforce PPE requirements of insulated boots and gloves
  - Use proper insulated connectors rather than wire twists when in boats
  - Monitor lightning and take longer delays when necessary
  - The reel and carrier must be fixed on the bow of the boat with no crew intervention required during transmit
  - Design and build a suppression system which works by shunting voltage greater than the expected transmission voltage to ground
  - Design and implement wireless lockout which allows workers to lockout the transmitter remotely

Root Cause Investigation

- Objective
  - Focus on Cameco’s contractor management program to identify contributing factors to the incident
- Causal Factors
  - Cameco’s contractor managers unclear of contractor management responsibilities
  - Contractor’s work instructions to address lightning hazard was inadequate
  - Performing survey on water introduces other hazards which were not considered before

Root Cause Investigation

- Root Causes
  - The Exploration Department’s contractor management risk assessment lacks clarity
  - The Exploration Department’s contract managers did not receive clear communication in regard to their responsibilities
  - Control methods were inadequate for the lightning hazard

Root Cause Investigation

- Corrective Actions
  - Request contractors to address the lightning hazard in addition to the seven corrective actions as identified by the contractor company
    - Use non-conductive watercraft or non-conductive shielding
    - Provide Cameco with a written procedure on the process to determine standby time
  - Align Cameco exploration’s contractor management program with the corporate standard
    - Develop forms, checklist, and contractor orientation packages
  - Communicate contractor management responsibilities to contract managers

Questions

Thank you!