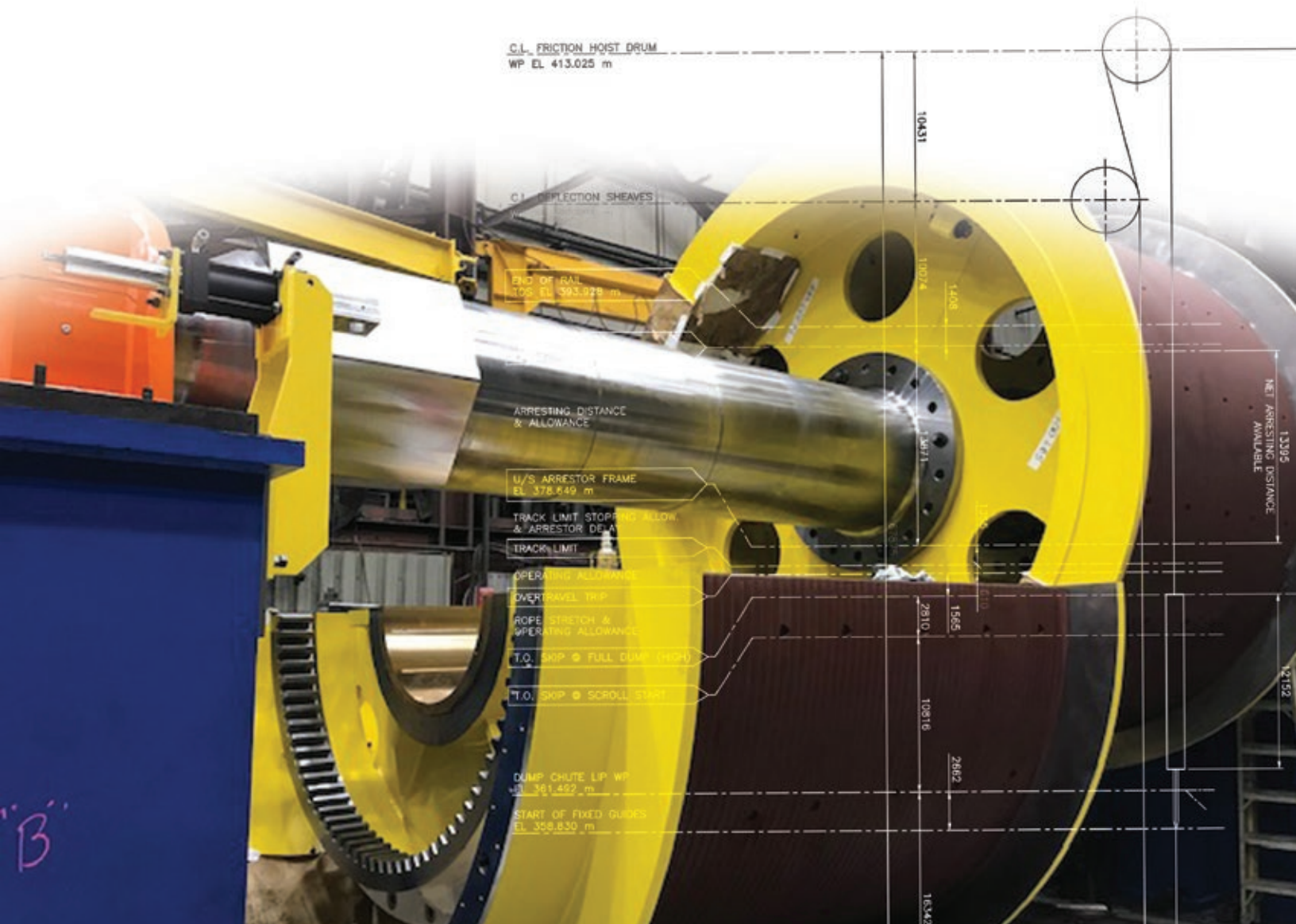


HOISTING EXCELLENCE

INTEGRATED DELIVERY OF HOIST PLANT ENGINEERING AND
ON-SITE SERVICES FOR UNDERGROUND MINES



INTEGRATION BY DESIGN

Cementation's specialized resource teams are designed to support our Clients throughout the entire life of mine. Our multi-disciplinary Engineering group supports a project from the early study phases through to procurement, while our Assets group is responsible for installation and commissioning of hoisting equipment, as well as ongoing support during operation. Cementation offers a single source solution which reduces our Clients' capital costs and improves schedules.



HOIST PLANT ENGINEERING AND INSTALLATION

Our areas of expertise in **hoist plant design** integration include:

- Drum, Blair multi-rope and friction (Koepe) hoists
- Surface or winze installations
- Hoist mechanicals and electricals integration
- Detailed hoist duty calculations
- Shaft layout optimizations
- Hoist limits and fleet angle layouts
- Conveyance arrestor designs
- Catenary rope vibration studies
- Shaft ventilation design
- Guiding systems (fixed or rope guided)
- Conveyances
- Sheaves (fixed and compensating)
- Ropes and attachments
- System peripherals
- Loading pockets

Our areas of expertise in **hoist plant installation** include:

- Complete mechanical and electrical installation:
 - Drum, Blair and friction hoists
 - Electrical drives and peripherals
 - Brake tubing
 - Major alignments
 - Low/medium voltage cable installations
 - Control wiring
- In depth QA document to include:
 - Schedules
 - Detailed procedures
 - Lift plans
 - Inspection and test plans
 - Installation documentation
- In-house surveys
- Commissioning support
- Engineer sign off on installation
- Issuing hoist plant 'Permit to Operate' by engineer

*Cover Photo - Cementation factory inspection of Hepburn hoist.

PROJECT LIFE CYCLE

From first concept to the commissioning of a project's hoist plant, Cementation's multi-disciplinary Engineering and Assets Groups bring value at any stage of the project life cycle: hoist plant studies, detailed design, procurement of major capital equipment, project delivery, plant equipment installation, rope removals and installations, engineer's review and issuance of permits, equipment inspections and assessments, plant maintenance training and plan development.



WORLD CLASS SERVICES FOR PROJECTS OF ALL SIZES

We partner with Clients on projects of all sizes and complexity. Our Team is scalable to meet your project needs and with years of accumulated knowledge and experience, we have the expertise to design, construct and commission hoisting plants to perform without exception!



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Hoisting Excellence MAY 2020 V1 Rev2



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