Hazen is an industrial research and development company, specializing in the mining, chemical, energy, and environmental industries worldwide since 1961.

Our core business is performing and interpreting experimental work to provide design criteria and other technical information for new and existing processes.

We solve complex problems that require input from experts across chemical, metallurgical, environmental, and engineering fields. Hazen’s staff includes engineers, chemists, scientists, technicians, and craftsmen.

Our services are designed to support your project-specific needs from bench-scale experiments to continuous pilot plants. Hazen’s facilities are located on one research campus, providing convenience and efficiency.

CLIENT SERVICES

RESEARCH, DEVELOPMENT, AND DEMONSTRATION
- Bench-Scale Experiments
- Pilot Plant Operations
- PEA, Prefeasibility, and Feasibility Support

ENGINEERING AND CONSULTING
- Flowsheet Development and Process Design
- Pilot Plant Design and Construction
- Preliminary CAPEX, OPEX, and Economic Assessment
- Commercial Plant and Process Evaluations
- Process Design

ANALYTICAL LABORATORIES
- Inorganic Analysis
- Radiochemistry
- Fuels Analysis
- Fire Assay
- Method Development

FABRICATION
- Machining and Welding
- Instrumentation and Controls
- Custom Equipment
CAPABILITIES

ANALYTICAL
ICP–OES • ICP–MS • XRF • Flame, Cold Vapor, and Hydride AA
• LECO • Wet Chemistry Methods • Ion Chromatography • Fuels Analysis
• Screen Fire Assay

COMMINUTION
JK Drop Weight Test • Bond Work Indices • Abrasion Index • SMC
• SAG • Integrated Full Drop–Weight and SMC Test

SAMPLE PREPARATION
Crushing, Grinding, and Sizing • Blending, Splitting, and Compositing
• Analytical Standards

MINERALOGY
Optical Microscopy • XRD • Microprobe • QEMSCAN • Laser Diffraction
Size Analysis

PHYSICAL BENEFICIATION
Mechanical and Column Flotation • Magnetic, Electrostatic, Gravity, and Size Separation

THERMAL PROCESSING
Roasting • Calcining • Fluid-Bed Reactors • Rotary Kilns
• Induction Furnaces • Multiple-Hearth Furnace • DSC/TGA/DTA

HYDROMETALLURGY
Atmospheric and Pressure Leaching • Pressure Oxidation • Crystallization
• Precipitation • Solvent Extraction • Ion Exchange • Electrochemistry
• Solid/Liquid Separation • Rheometry/Viscometry

INSTRUMENTATION AND CONTROLS
P&ID Development • SCADA System Design and Implementation
• Control Strategy Documents • Control Panel Design and Fabrication

RESOURCE RECOVERY AND WASTE MINIMIZATION
Urban Mining • E-Scrap • Fly Ash

ENVIRONMENTAL STUDIES
Hazardous Waste Treatability and Research Development and Demonstration Studies • Thermal Desorption • Soil Washing
• Attrition Scrubbing • Soil and Waste Stabilization • Land Farming

ENERGY AND FUELS
Coal • Petrochemical • Biomass • Energy Storage • Energy from Waste

LICENSES AND CERTIFICATIONS
Radioactive Materials • Hazardous Waste Treatability • NELAC