PRINCIPAL METALLURGIST

Location: On-Site (Chattanooga, TN)

Type: Full-Time

WHO WE ARE

Kunin Technologies is revolutionizing the critical mineral supply chain by implementing advanced separation systems with traditional unit operations to capture value from overlooked resources. Ore grades are falling globally, and conventional extraction leaves recoverable metal in material that mines and refineries write off as waste. Tailings, effluents, and legacy sites hold real value that existing separation technology can't reach economically.

Utilizing Kunin Technologies' proprietary mass manufacturable nano-separation systems, significantly more value can be produced from each resource, reducing waste, and unlocking domestic critical mineral production. Kunin is developing metal recovery flowsheets and reprocessing facilities from operating refinery effluents, decades-old tailings stockpiles, and even centuries-old Superfund sites.

Kunin is a team of process engineers, polymer scientists, and organic chemists with a 10k sq. ft. hydrometallurgical and organic synthesis lab in Chattanooga, TN. Kunin is pushing forward metal recovery projects across scandium, gallium, germanium, copper, cobalt, rhodium, and gold.

To achieve metal abundance, humanity must bring separation science down its own Moore's Law: fix the idiot cost index for micro and nano scale separation materials. This requires mass manufacturing novel ion-exchange media form factors which previously struggled from high costs.

WHAT YOU'LL LEAD

You own the metallurgy behind Kunin's metal recovery projects: what is in the feed, how it will behave in every unit operation, and what the test program must prove before a flowsheet is allowed through its next stage gate. You work alongside the Principal Process Engineer, who owns the flowsheet and engineering package, and you own the material. This includes:

- Leading metallurgical characterization of feeds, intermediates, and residues: mineralogy, deportment, speciation, and the sampling programs that make the numbers defensible.
- Designing and running metallurgical test programs from bench to pilot: leaching, solid-liquid separation, ion exchange, solvent extraction, precipitation, crystallization, and electrowinning, with mass balances closed to the quality a bankable study requires.
- Owning the metallurgical basis of design: kinetics, extraction and recovery curves, reagent consumptions, impurity deportment, and the scale-up factors handed to engineering.
- Running variability and locked-cycle testing that proves the flowsheet is robust to the feed Kunin will actually receive, not the sample it was developed on.
- Selecting and managing external metallurgical laboratories and specialist consultants, and auditing their work.
- Authoring the metallurgy sections of stage-gate reports and feasibility studies, and defending them with partners, offtakers, and investors.

- Mentoring the Metallurgist and the laboratory team on test design, data quality, and interpretation.

WHO YOU ARE

- 10+ years in extractive metallurgy or hydrometallurgical process development, including at least one program taken from bench testing into an operating plant.
- Practitioner of leaching, ion exchange, solvent extraction, and precipitation testwork with measured control of pH, Eh, temperature, residence time, and reagent dosing.
- Fluent in mineralogy and analytical data (XRD, QEMSCAN or MLA, ICP, titrimetry) and skilled at turning it into a mass balance that closes.
- Comfortable designing a test matrix that answers the question a stage gate is asking, and comfortable reporting that the answer is no.
- Excited about working hard to push projects farther, faster in an early-stage startup environment with extreme autonomy, opportunity, and high expectations.
- Communicator who can explain why a recovery curve bends to an investor, and why a sample was unrepresentative to a lab technician.

COMPENSATION

This role will pay $160,000 - $200,000 depending on experience, plus equity. Health, Dental, and Vision benefits included.

ADDITIONAL REQUIREMENTS

- Must be willing to relocate to Chattanooga, TN and available to travel to partner sites and metallurgical laboratories across the United States, Canada, Brazil, South Africa, and Australia for sampling, test programs, and plant start-up. Relocation support will be provided.

Chattanooga is more beautiful than expected, and Tennessee has no income tax.

- Extended hours and weekends frequently required to support critical project milestones.

WORK AUTHORIZATION

- Kunin will do whatever it can to secure work authorization for the right candidate.

"The Whole World Is Ion-Exchange And The Rest Are Merely Details!"

Dr. Robert Kunin of Rohm and Haas, The Pioneer of the Ion-Exchange Industry, 1951