



Alta Resource Technologies, Inc.

Process Engineer II-III

Location: Boulder, CO

Reports To: Director of Process Engineering

About Us

Alta is reinventing how the world sources critical minerals — using protein-based chemistry to extract rare earth elements and other essential materials from challenging feedstocks with unmatched selectivity. By dramatically reducing the cost and environmental impact of mineral separation, Alta is making it possible to unlock new sources of supply for 21st-century technologies. As global demand accelerates, securing these materials has become one of the most urgent challenges facing U.S. competitiveness and national security. Backed by top investors and government partners, Alta is growing fast and hiring mission-driven scientists and engineers to help us scale our platform and transform the future of mining.

Role Summary

The Process Engineer II-III role is a hands-on, lab-based role focused on designing and executing experiments that generate the data required to scale Alta's mineral separation processes.

This person will lead the design, operation and optimization of experimental systems and apply analytical and computational tools to model and interpret process performance. The ideal candidate combines practical experimental aptitude with subject matter depth, and a quantitative approach to solving experimental unknowns.

Key Responsibilities

Process Development

- Design, perform, and document column chromatography experiments
- Operate and optimize systems such as ÄKTA Pure/Avanti and / or custom flow equipment to evaluate adsorbent performance, breakthrough behavior, and regeneration cycles.
- Measure and model key metrics used to define successful separations under varying process relevant conditions
- Coordinate with analytical chemistry teams to quantify performance using ICP-OES/MS, and/or LC-MS data.
- Maintain organized lab notebooks, instrument calibrations, and SOPs; ensure reproducibility and data traceability.

Process Modeling & Data Analysis

- Automate data analysis, regression, and curve fitting of breakthrough and elution data.
- Understanding of techno-economic models linking experimental results to throughput, cost, and yield projections.
- Collaborate with the data science team to build structured datasets, code notebooks, and dashboards for internal review.
- Apply statistical tools to identify key process parameters and quantify reproducibility.

Cross-Functional Integration

- Work with the Biology and Chemistry teams to correlate protein performance data with process-scale performance.
- Support scale-up of engineering operations in translating lab findings to pilot and demonstration scale operations.
- Present results at weekly technical reviews and contribute to the design of new experiments based on model predictions.

Qualifications

Required

- B.S. or M.S. in Chemical Engineering
 - 3–7 years of experience in chromatography and column separation processes
 - Demonstrated experience operating column separation systems (e.g., ÄKTA).
 - Proficiency in Python for modeling, data analysis, and visualization (e.g., pandas, matplotlib, ggplot2, tidyverse).
- Strong analytical and quantitative problem-solving skills; able to extract and model kinetic or transport parameters from data.

- Experience developing and validating experimental methods, including statistical treatment of data.

Preferred

- Familiarity with protein–resin immobilization chemistries
 - Knowledge of process modeling frameworks (COMSOL, Aspen, ChemCad, SuperPro, or custom scripts) for packed-bed flow or adsorption kinetics.
 - Experience scaling separations from bench to pilot scale and working within cross-functional technical teams.
 - Knowledge of mechanistic and empirical models to describe process performance and scale-up.
 - Experience translating batch to continuous process operation
 - Working knowledge of analytical chemistry tools (ICP-OES/MS, LC-MS) and data integration pipelines.
-

Key Traits for Success

- **Experimental rigor:** Enjoys designing, building, and troubleshooting hands-on experiments.
 - **Quantitative mindset:** Uses data and models to guide decision-making.
 - **Collaborative communicator:** Integrates work across Chemistry, Biology, and Process Engineering.
 - **Structured thinker:** Documents clearly, builds reproducible workflows, and aligns results with company objectives.
-

Compensation & Benefits

The starting pay range for this position is \$85K-140K, commensurate with educational background and work experience.

Benefits include:

- 401(K)
- Medical, Dental, Vision plans (or equivalent)
- Flexible Time Off
- Paid Parental Leave
- Paid Sick Leave
- Company Holidays

EOE

At Alta, we are committed to diversity and inclusion. As an equal opportunity employer, all qualified candidates will be considered for employment without regard to race, color, creed, religion, age, sex or gender (including pregnancy, childbirth, lactation and related medical conditions), gender identity or gender expression, sexual orientation, marital status, national origin, ancestry, citizenship status, military service or veteran status, physical or mental disability, or any other legally protected characteristic. Alta participates in e-Verify for all positions.

If you have a disability or special need that requires accommodation at any point in the hiring process, please let your recruiter know.

How to Apply

To apply, please email your resume and a cover letter (see below) to talent@altatech.io. Include your name and the job title in the subject line (i.e., [Your Name] – [Job Title]).

All applications **must include** a one-page cover letter. The cover letter should clearly state your interest in the position and our company, outline 2–3 specific skills or accomplishments relevant to the role, and demonstrate how your experience aligns with our mission and technology platform. We expect concrete examples that illustrate measurable impact and collaborative problem-solving in technology development. Applications submitted without a cover letter will not be considered.