

SUMMARY

I have ten years of experience in engineering consulting. Through the course of my career I have become excellent at efficiently solving complex earth, water, and cost-related problems. I have created and issued drawings, specifications, large reports, models, and cost estimates. I have brought many struggling projects to completion through review, problem identification, and increasing communication between stakeholders. It is very important in the engineering field to use the correct terminology, maintain confidentiality, and maintain proper chains of communication. I am experienced in incorporating ideas, comments, and applying the right people and tools to solve complex problems efficiently. I have worked on various pond designs, storm water pollution prevention plans, and documents related to mining reclamation (tailings ponds, shafts and adits, waste rock/leach stockpiles, and process ponds). I have worked closely with various agencies in the past including New Mexico Environment Department, New Mexico Mining and Minerals Division, US Bureau of Land Management, Army Corps of Engineers, US Forest Service, and the US Environmental Protection Agency. I obtained my bachelor's degree in Environmental Engineering at Colorado State University in May of 2006 and maintain my professional engineering license in Colorado and New Mexico.

PROFESSIONAL EXPERIENCE

April Tischer LLC - *Owner and Engineer*, November 2016 - Present

- Reviewed proposals and cost estimates for construction companies.
- Assisted in resolving scope disputes.
- Designed temporary construction storm water controls with specifications, drawings, calculations, and flood analysis.

Telesto Solutions Inc. - *Engineer*, December 2006 - February 2016

Project Management

- Managed projects that produced high quality products on time and within budget.
- Wrote scopes of work, proposals, reviewed invoices, and discussed schedules, and status with clients.
- Assisted in budget management for a \$2-million-dollar project.
- Prepared and gave agency presentations and responded to agency comments.

Storm Water Drainage Design and Erosion Control

- Designed storm water systems for mine sites, reclamation design, and some agricultural irrigation systems.
- Utilized soil conservation service soil maps, aerial photos, and topography to determine site specific hydrology.

April Tischer P.E.

- Designed channels, pipelines, ponds, culverts, manholes, erosion controls, stand pipes, and sized riprap. Determined flood routes, flood limits, sediment loads, selected pumps, estimated wetland consumptive use, and checked buried pipe.
- Evaluated water quality data, piezometer data, identified trends & potential contaminant sources.

Cost Estimates

- Completed agency mandated reclamation closure cost estimate for several mine sites in New Mexico, Idaho, and Arizona.
- Developed conceptual level reclamation/construction and water treatment designs, then developed quantities and capital cost estimates as well as long term operations and maintenance costs. Cost estimates varied from around \$100 thousand to \$400 million dollars.
- Developed designs consistent with regulatory criteria and client needs.
- Selected equipment fleet, calculated the task time per operation using bucket size, blade width, travel time etc.
- Operations and maintenance costs involved items like erosion control, road maintenance, water quality predictions, reagent use, electricity, replacement costs, sludge management, etc.
- Calculated net present value and determined escalation and discount rates.
- Estimated costs for several smaller now constructed projects associated with reclaiming roads, ponds, pipes, stockpiles, and historic mine sites.

Planning, Reporting, and Design

- Designed, wrote specifications, and created through as-built drawings for under drain systems, process and storm water management ponds, access roads, facility layouts, and various reclamation projects.
- Reclamation plans: developed grading plans, cover systems, sized equipment, wrote specifications, identified hazards and water quality concerns, developed plan for demolition debris and protection of historic structures, and closure plans for shafts and adits. Worked with subcontractors to identify archeological and ecological concerns.
- Cost benefit analysis for future mine plans such as haul paths and stockpile locations and size, access roads, and bench locations.
- Wrote calculation documentation, 404 permit requests, requests for bid, construction quality assurance, construction best management practices, and as-built reports.
- Worked with large groups and multiple subcontractors to complete Mine Plans of Operations for three large mines.
- Completed visual baseline studies for two separate clients. Took photos, completed visual baseline inventory sheets, mapped viewsheds, and wrote reports.
- Completed a noise and vibration study. Planned data collection, performed regulatory review, analyzed data, and wrote report.

Modeling

- Built two tailings pond, and two mine site wide water balance models. Models predict upset conditions, conservation, and planning. Involved pit lake dewatering, mill circuits, leach circuits, saturated and unsaturated flow, and tailing build up over time.
- Models were detailed and innovative allowing the user to modify multiple variables, including new survey data over time.
- Met with operators, gathered data, and constructed flow diagrams.
- Performed bathymetric surveys to develop stage volume curves for use in the models, included writing health and safety plans.
- Developed curve fits for changes in chemical composition based on another chemical concentration or water volume, equations to describe evaporation, evapoconcentration, and precipitation and runoff over time.
- Collected and formatted time series data, calibrated the models, and ran simulations.
- Wrote model documentation, instruction manuals, simulation reports, and trained clients in using and updating the models.
- Built a river systems model to assist in designing a diversion structure and a water management plan that would meet river flow, ground water recharge, irrigation and wildlife habitat requirements for various rainfall conditions.
- Developed a wind model that evaluated the distance and dispersion of windblown tailings, allowing permitting to proceed.
- Developed evapoconcentration spreadsheet to track water evaporation from a wetland that was accepted by Colorado State Engineers Office.

Colorado State University Engineering Research Center

Research Assistant, August 2005 - November 2006

- Identified important working microbial populations present in the bio reactors, quantified the microbes, evaluated environmental factors important to the function of the reactors, and linked differences between reactors to performance. Research was published.

Colorado State University Crop and Soil Sciences

Crop Genomics Lab Assistant, August 2003 - April 2005

- Cared for and documented growing conditions for the plants in the Greenhouse. Collected and extracted DNA, ordered supplies, and cleaned lab equipment.

Larimer County Engineering - GPS Inventory Crew, May 2004- August 2004

- Added detail to road maps and assessed damage to pavement using GPS, used traffic count equipment, and organized data.

EDUCATION & CERTIFICATIONS

- Registered Professional Civil Engineer in the State of Colorado, Wyoming, and New Mexico
- Current NCEES Records account
- B.S., 2006, Civil and Environmental Engineering, Colorado State University.
- PGI Display Fireworks Operator's Certification
- Member of Pyrotechnics Guild International and Rocky Mountain Pyrotechnics Guild

COMPUTER SKILLS

- Modeling Software: HEC-RAS, HEC-HMS, WEPP, GoldSim, Stella
- Mapping: AutoCAD Civil 3D, Global Mapper
- Specifications: Spec Intact
- Business: Excel, and proficient in formatting large word documents

PUBLICATIONS

Hiibel, S. et al. 2008. Microbial Community Analysis of Two Field-Scale Sulfate-reducing Bioreactors Treating Mine Drainage. *Environmental Microbiology*, March 9, 2008.