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## Summary of Professional Qualifications

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Mr. Corkran is a pioneer in hydrogeologic investigations, modeling, and environmental data collection. He applies the latest techniques in data collection, analysis, and numerical modeling to deliver innovative solutions for hydrogeologic research and environmental consulting which have been used for hydrogeologic research and in applied hydrogeology across a business line of 4,500 scientists and engineers. Mr. Corkran has 12+ years of experience as a practicing hydrogeologist and has obtained a Professional Geologist license in the Commonwealth of Pennsylvania. He is currently a PhD student at the University of Massachusetts Amherst.

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## Professional Experience

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### University of Massachusetts Amherst

August 2020 – Present

#### *Graduate Research Assistant*

- Design and conduct hydrogeologic research spanning hyper-arid to humid climates with a focus on climate change and anthropogenic impacts on groundwater discharge and availability
- Develop numerical, variable-density groundwater flow models at the regional to watershed scales
- Investigate the impacts of lithium mining on water resources in continental brine systems of the South American Altiplano and publish research in peer-reviewed scientific journals
- Model the impacts of climate-driven precipitation increases on groundwater flooding across the Commonwealth of Massachusetts and forecast future groundwater rise impact risk zones

### AECOM (formerly URS Corporation)

February 2011 – August 2020

#### *Digital Data Collection Pillar Lead*

April 2018 – August 2020

#### *Environmental Business Line Digital Initiative*

- Directed pilot project for rapid deployment of digital data collection (DDC) technology at 60 retail gas station investigations
- Developed Digital Initiative strategy to increase adoption and implementation of DDC technologies across U.S. segment of 4,500 employee Environment Business Line
- Researched and recommended DDC software platforms, apps, and hardware for deployment across the Environment Business Line

### *Groundwater Practice Area Leader*

September 2016 – October 2017

#### *DC Metro+ Region, Environment Business Unit*

- Connected Client Account Managers and Project Managers to 50+ groundwater technical leaders across 7 offices in Maryland, Virginia, and West Virginia
- Researched and analyzed groundwater investigation and remediation market trends to identify critical hires and meet future client needs
- Developed a DDC mobile app, enabling near real-time field data delivery to office staff and eliminating backend quality control errors, reducing field reporting costs by 50%
- Identified and provided technical training for practitioners with critical skill sets to increase productivity, improve quality, and promote uniform services in the groundwater practice

Geologist

February 2011 – August 2020

Geo-Environmental and Remediation Services Group

- Developed finite-difference groundwater flow, particle tracking, and fate and transport models for system optimization, mass flux determination, and natural attenuation evaluation
- Performed and analyze aquifer tests including pump tests, step drawdown tests, and slug tests
- Planned and executed site investigations and remedial investigations
- Deputy Project Manager for two former petroleum refinery sites in PA remediated under PA Act 2
- Deputy Project Manager for USACE investigation with over 50 areas of interest at an EPA NPL site
- Conducted chlorinated solvent and metals contamination groundwater investigation at former arms manufacturer in CT
- Taught training classes on DDC and generating boring logs and cross sections
- Designed a flexible and scalable environmental long-term monitoring database for automated reporting of very large transducer datasets
- Performed environmental statistical analyses and background studies utilizing ProUCL
- Supervised and led field activities for site and remedial investigations at multiple EPA NPL sites

Horizon Well Logging, LLC

August 2010 – February 2011

Field Geologist

- Completed boring logs, monitored drilling fluid properties, and prepared daily field reports
- Analyzed and interpreted real-time geophysical data from bottom-hole assemblies, including gamma and resistivity, and identified geologic formations for geo-steering

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## Certifications & Education

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**Professional Geologist**

Pennsylvania, License Number PG005267

**Miami University**

B.A. – Geology 2010; B.A. – Latin 2010

- Graduated *Magna Cum Laude*
- Held an undergraduate research assistantship with Ph.D. student studying riverbed scour during flood events on the Great Miami River

**Continuing Education**

Introduction to Computer Science & Programming Using Python (MITx)

- Charter Oak State College – 3 semester hours

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## Software Proficiency

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- MODFLOW 6, SEAWAT, MT3DMS, MODFLOW, MODFLOW-LGR, MODFLOW-USG, MODPATH, MODPATH-LGR, MT3D, PEST, ParFlow
- GMS, flopy, AQTESOLV, Surfer, ArcGIS, gINT, ProUCL, Microsoft Access, MySQL, SQLite
- Python, MATLAB, R, SQL, VBA, JavaScript (jQuery, AngularJS, AJAX), Node.js, HTML, CSS (Bootstrap)
- DDC Apps (Collector, Survey123, ODK, KoBoToolbox, EDGE, Locus)

*References available upon request.*