

COMPANY OVERVIEW

Cenozoic Resources, LLC is a Woman-Owned Small Business in Pasco, Washington, owned and operated by Kayla Patterson. We develop methods, protocols, and detection systems for hydrogeologic, environmental, and geophysical problems that standard tools cannot solve, and we operate slim-hole borehole logging tools in contract service at DOE tank farms. Our technical staff hold graduate degrees in geology and physics and have supported DOE borehole logging programs since 1994.

CORE CAPABILITIES

Applied Systems Research and Development

- High-dynamic-range radiation detector design for extreme-activity zones, with spectral and high-activity integration modes
- Detector selection and integration: CeBr₃, BGO, NaI, and Geiger-Müller detectors with multichannel analyzers
- Method development: temperature stabilization criteria, drilling-effects analysis, and gain matching
- In-house acquisition and processing software for spectral gamma, neutron moisture, and temperature logs
- Gamma Drone for unmanned, non-contact radiation surveys (in development)

Borehole Geophysics

- CR-HE/HR slim-hole tools for 2 5/8-inch OD direct push tubing: spectral gamma (CeBr₃ and BGO), neutron moisture, high-rate gamma, beta, passive neutron, and infrared temperature
- Conventional suite: resistivity and induced polarization, induction, magnetic susceptibility, full-waveform sonic, acoustic and optical televiewer, caliper, deviation, flowmeters, fluid logs, borehole magnetic resonance, and borehole video
- Annual calibration at the Hanford borehole calibration models, tied to DOE's Grand Junction primary standards; data validated under HASQARD Vol. 3
- Processed logs, radionuclide-specific concentration profiles, and petrophysical interpretation of lithology and moisture

Technical Services

- Test planning, Sampling and Analysis Plans, and borehole logging procedure development
- Geotechnical laboratory data review (ASTM D5084, D7263, D2434) and QA/QC oversight
- Filtration media evaluation and Safety Data Sheet GHS compliance review
- Radiation safety program led by a Corporate Radiation Safety Officer

FIRM EXPERIENCE

- Vadose zone geophysical logging for a DOE prime contractor's direct push program at DOE tank farms
- Borehole temperature logging evaluation: 69 logging events and 2,272 measurements
- Logging procedure revision support and annual calibration planning
- Sonic drilling effects studies on neutron moisture and analytical measurements
- High-flux detector system design for a legacy waste facility
- Geotechnical stabilization QA/QC, installation oversight, and laboratory oversight

COMPANY DATA

UEI JWAYS2RN7MK8

CAGE 13CQ3

Woman-Owned Small Business

SBA WOSB certification in progress

Member, Clean Energy Supplier Alliance (CESA)

NAICS CODES

541360 Geophysical Surveying and Mapping Services (primary)

541380 Testing Laboratories and Services

541620 Environmental Consulting Services

541715 R&D in the Physical, Engineering, and Life Sciences

562910 Remediation Services

KEY PERSONNEL

Kayla A. Patterson

Owner, CEO and CFO

James D. Patterson, L.G.

President and Principal Geologist; WA Licensed Geologist No. 3274; Corporate RSO; M.S. Geology

Dr. Russel R. Randall

Chief Scientist; Ph.D. Physics; 13 patents in logging instrumentation

DIFFERENTIATORS

- One technical team carries each project from test design through field operations and data analysis.
- We own our slim-hole logging tools and designs, acquired from Three Rivers Scientific in 2025, and maintain and calibrate them in-house.
- Our Chief Scientist brings five decades in borehole geophysics, 30 years of vadose zone characterization, and 13 patents.

CONTACT

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