

AN ON-CAMPUS HYDROGEOLOGICAL FIELD LABORATORY FOR UNDERGRADUATE EDUCATION

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ABSTRACT: Furman University occupies a 750-acre campus north of Greenville, South Carolina that encloses the major portions of two small watersheds. One of the watersheds drains into a 29-acre, man-made lake and on through the campus physical maintenance facility where, eight years ago, leaking underground fuel tanks were removed and seven shallow monitoring wells installed. As a result of a low level of contaminants and small volume of release, the state regulatory agency did not require remediation and granted permission for the use of these wells for educational purposes. With the assistance of an alumnus, the monitoring field was enlarged for use as a hydrogeology field laboratory. Six area drilling, consulting, and supply firms contributed time, expertise, and materials to construct two deep bedrock wells and six additional shallow wells. The completed field laboratory consists of a 200-acre watershed with two streams draining into a 29-acre lake, two deep bedrock wells, three piezometers placed across the lake dam, and 10 shallow saprolite monitoring wells. Undergraduate research studies planned or in progress include watershed water budget, recharge/discharge relationships in the lake, bedrock/saprolite aquifer interactions, surface water/ground water interactions, and the development of laboratory exercises for undergraduate education.

KEY TERMS: Hydrogeological laboratory, undergraduate education.

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