

**INTEGRATED ASSESSMENT OF ISR MINING IMPACTS ON GROUNDWATER QUALITY  
AND BIOREMEDIATION EFFECTIVENESS**

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The proposed project encompasses integration of the following specific aims:

- 1) Protect public health and establish baseline groundwater quality in a South Texas region targeted for future uranium mining activity by surveying concentrations of uranium and other ISR restoration table constituents. Also conduct long-term groundwater quality monitoring at a closed uranium ISR site after restoration is completed.
- 2) Promote more effective groundwater bioremediation at uranium ISR operations by developing and testing improved reductant delivery technologies.
- 3) Improve the fundamental understanding of factors affecting the mobility of uranium constituents of concern at South Texas ISR sites through reactive geochemical transport modeling. Also apply radioisotope forensic approaches to differentiate between anthropogenic and natural sources of uranium and other dissolved species in groundwater.
- 4) Enhance public understanding of uranium in the environment and at ISR mining operations and professional understanding of bioremediation technologies for restoring groundwater by organizing workshops, conference sessions, and an associated website.
- 5) Enhance training of Hispanic engineering students at Texas A&M University-Kingsville (TAMUK), an institution that has historically provided a significant fraction of the uranium ISR mining workforce in the South Texas.