

Technology Transfer Opportunities: Patent License

Electrochemical Technique for Introducing and Redisistributing Ionic Species Into the Earth

About the Technology

Scientists at the U.S. Geological Survey have expanded applications of the Chim electrode, technology used to perform partial geochemical extractions from soils. Recent applications of the improved electrode technology show that geochemical extraction efficiencies can be improved by 2 orders of magnitude or better to about 30%.

Patent Status

The U.S. Department of the Interior has filed for a patent (application #08/476,926) on uses of the improved Chim electrode. The patent application covers an electrochemical technique for introducing and redistributing ionic species into the earth. The process lends itself well to environmental monitoring, and may be used to alter soil properties and to immobilize elemental contaminants or to provide nutrients to biologically active organisms for waste remediation.

The USGS is interested in licensing the technology to interested parties once a patent has been granted.

Field Test Results

Effectiveness of the electrochemical technique in surveying mineral resources was field tested at three locations in northern Nevada. The tests were designed to confirm the effectiveness of the technique in surveying buried disseminated gold deposits. The tests have been

encouraging, exceeding USGS researcher expectations. Additional field tests are currently underway and results will soon be available.

Partnership Opportunity

The USGS is interested in partnering with companies to further test the electrochemical technique and its application to the monitoring and/or remediation of environmental problem sites.

For More Information

For additional information about the electrochemical technique for introducing and redistributing ionic species into the earth, recent test results, and the partnership opportunity available to businesses, please contact the principal researcher:

Reinhard Leinz
U.S. Geological Survey
Branch of Geochemistry
Geologic Division
Denver Federal Center, MS 973
Denver, CO 80225
Tel: (303) 236-2449
Fax: (303) 236-3200
Email: rleinz@usgs.gov