

EXHIBIT 65

Timothy B. Minor

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Education

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| M.A. | 1982 | Geography, University of California, Santa Barbara
Image processing and thermal IR remote sensing emphasis. |
| B.S. | 1980 | Geography, University of Nevada, Reno
Geology and physical geography emphasis. |
| A.A. | 1978 | General Education, Monterey Peninsula College |

Professional Experience

July 2012 to present

Deputy Director; Desert Research Institute, Division of Earth and Ecosystem Sciences, Reno, Nevada. Represent the Division at DRI cross-division meetings, workshops, and other Institute-wide events involving stakeholders and sponsors in the absence of the Division Director. At the request of the Division Director, works with faculty and staff on important issues and needs. Meet weekly with the Division Director to stay abreast of important issues. Work with DEES business manager on administrative issues in the absence of the Division Director.

July 2002 to present

Associate Research GIS/Remote Sensing Scientist; Desert Research Institute, Division of Earth and Ecosystem Sciences, Reno, Nevada. Responsible for design and analysis of geographic information systems (GIS) databases, the application of remote sensing to terrestrial monitoring and assessment, and the management of personnel and systems to conduct remote sensing and GIS research. Principal Investigator (PI) for several large research projects involving the application of remote sensing and GIS. PI on a project that uses the METRIC model for deriving evapotranspiration (ET) measurements for Northern Nevada/Eastern California from Landsat satellite data and meteorological data. PI and lead scientist on a GIS geodatabase development effort in support of hydrologic modeling and water rights acquisitions in the Walker River Basin. This effort involves spatial data development and analysis support for the Decision Support Tool (DST) currently being developed by modelers at the University of Nevada, Reno (UNR). PI on a database and web application development project for the Walker River Irrigation District (WRID). Supervise the upgrade of an existing Access-based database for improving the efficiency of water ordering and account management. PI on a web portal/web interface development effort for presenting the location, status and document links for Department of Energy (DOE) Environmental Restoration (EM) projects at the Nevada National Security Site (NNSS). PI on a web portal application development effort for publishing data and models for the Truckee River

Watershed. This effort integrates ArcServer, ArcGIS, ArcSDE, and a Flex 4 front end/graphical user interface to publish calibrated remote sensing data products and hydrologic models. Applied LiDAR and thermal infrared imagery to analyze hydrologic systems in the Walker River Basin. Remote Sensing team leader for a large DOD funded desert terrain analysis project. LiDAR, hyperspectral, and thermal infrared image data were used to map landforms and lithology. Conducted impervious cover analysis using high resolution IKONOS multispectral satellite imagery and GIS in the Lake Tahoe basin. Constructed an impervious cover data layer for the entire Lake Tahoe basin. Integrated the impervious cover data with temporal spatial data layers dating back to the 1940's for assessing land use change in the Upper Truckee River watershed south of Lake Tahoe. Built a water table elevation database for the Great Basin as a contribution to a geothermal energy assessment of the region. Constructed environmental databases for various locations in southern Nevada. Assisted in the development of a GIS-based model for predicting recharge/runoff in Steptoe Valley, Nevada. Used gridded precipitation data to map climatic patterns over the Yucca Mountain project study area. Assisted in analysis and mapping of dry lakebed topography in the Mojave Desert using GIS. Used NOAA SSMI satellite imagery to map ice concentrations in the oceans surrounding Antarctica. Provided GIS and remote sensing support (multispectral, radar, geophysics) for a privately funded project to explore and develop groundwater resources for communities in rural Ghana, West Africa. Applied hyperspectral Probe 1 data and ASTER multispectral data to parent material mapping in the Mojave Desert. Hired GIS technicians and supervised their efforts on a desert terrain characterization project in the Mojave Desert.

June 1991 to June 2002

Assistant Research GIS/Remote Sensing Scientist; Desert Research Institute, Division of Earth and Ecosystem Sciences (formerly Biological Sciences Center), Reno, Nevada. Responsible for design and analysis of GIS databases, and the application of remote sensing to terrestrial monitoring and assessment. Remote sensing research has included development of image processing algorithms for detecting and discriminating impervious cover in dense forest canopy. Other remote sensing research included detection of change in arid vegetation cover in the Mojave Desert using hyperspectral imaging systems. Used remote sensing and geophysics to site water wells in a fractured aquifer system in Africa. Developed parameters for a sediment loading model of the Upper Truckee River in the Lake Tahoe basin using raster based GIS analytical methods. Applied raster based GIS modeling techniques to groundwater recharge estimates on the Nevada Test Site, and developed a database of raster and vector spatial data sets for groundwater modeling in western Nevada. Named GIS coordinator for the Environmental Monitoring and Assessment Program (EMAP) Arid Resource Group. Conducted large area vegetation classifications using satellite based remotely sensed data (SPOT, Landsat ETM, Landsat TM, AVHRR). Developed indicator layers for a Desertification Susceptibility Index using Arc/Info GIS software. Conducted change detection analyses of the Amazon rain forest using Landsat TM data. Used field spectrometers to evaluate vegetation damage along the Sacramento River. Provided remote sensing support to several mining companies for domestic and international mineral exploration. Taught introductory and advanced GIS and image processing courses at the University and Community College level and the private sector, including courses taught at Chalmers Institute of Technology in Goteborg, Sweden and University of Campinas in

Brazil. Developed proposals for future funding both as a member of DRI proposal teams and as an individual principal investigator.

October 1992 to November 1996

Director of the Laboratory for Spatial Analysis; Desert Research Institute, Biological Sciences Center, Reno, Nevada. Responsibilities included system administration, recharge rate development, personnel management, system maintenance, hardware and software upgrades, and evaluation of new GIS and image processing systems.

April 1989 to May 1991

Remote Sensing Geologist; FMC Gold Company. Responsible for providing remote sensing and Geographic Information System (GIS) support to geologists. Tasks included interactive interpretation of reconnaissance targets and properties with field geologists, as well as hard copy generation of image products using printers, plotters and a film writer. Developed image archiving database on Nucor GIS system. Conducted geobotanical analysis of vegetated ore zones using the CASI instrument. Implemented vegetation removal techniques for mapping clay alteration using Landsat and GERIS data. Developed hyperspectral mineral demixing capabilities with the GERIS multi-channel scanner. Geocoded image, terrain, and vector map data using the GRASS GIS system and Terra-Mar. Performed surface modeling of potential reconnaissance targets by combining SPOT and Landsat TM imagery. Conducted thermal infrared survey of pediments for detection of buried structures. System Administrator for Sun 386i and Compaq 486 workstations. Performed digital capture of analog data for integration into GIS systems.

October 1985 to April 1989

Cartographer; Naval Civil Engineering Laboratory. Systems administrator and principal analyst for the ERDAS image processing system at NCEL. Performed image processing and GIS tasks on a 386 microcomputer. Acquired, processed, and analyzed Landsat TM, TMS, NS001, TMS, and other image data for application to environmental resource management, vegetation analysis, and nonmetallic exploration. Utilized ARC/INFO GIS software on a SUN workstation, as well as GRASS GIS software. Conducted field spectral analysis of vegetation, soil, and exposed rock utilizing a multispectral radiometer. Performed geobotanical analysis of TMS data using IDIMS software. Utilized CAD packages for computer mapping of Naval base facilities. Also performed project management, contract management, and purchasing duties for four remote sensing projects. Conducted benchmarks of commercial hardware and software, including GIS systems, for validation of Navy requirements.

July 1984 to October 1985

Systems Analyst; Management Systems Concepts. Provided support for the Naval Civil Engineering Laboratory (NCEL). Responsible for technology assessment of GIS for a land use management system. Assisted in the design of a prototype GIS based on commercially available equipment (ARC/INFO). Designed a Test and Evaluation procedure for a video mapping system.

October 1983 to June 1984

Programmer/Analyst; Science Applications Research. Provided support to NASA Goddard Space Flight Center's Geophysics Branch. Duties involved image processing software development on the IDIMS system, including conversion, design, implementation, and documentation. Applied thermal infrared remotely sensed data to exploration of Saudi Arabia. Also provided technical support for the NASA/DOD cooperative remote sensing program. Duties included program planning and application of Landsat data to terrain and vegetation cover analysis.

September 1982 to September 1983

Member of Technical Staff; Computer Sciences Corporation. Provided support for the NASA-established Eastern Regional Remote Sensing Applications Center (ERRSAC). Responsible for assisting in the design of image processing techniques used in the analysis of Landsat, HCMM, AVHRR, and other remote sensing systems for land use classification. Assisted in the practical application of Geographic Information Systems to earth resources monitoring, vegetation mapping, and wildlife habitat analysis.

December 1981 to April 1982

Project Manager; UCSB Geography Remote Sensing Unit. Supervised NASA-funded research involving microwave applications for soil moisture detection.

Awards and Honors

1977	Who's Who in American Junior Colleges
1980	Who's Who in American Colleges and Universities
1980	Big Sky Scholar-Athlete of the Year
1983	NASA Group Achievement Award
1988	"Best in Session" Poster at 6th ERIM Thematic Conference on Geologic Remote Sensing
1994	"Best in Session" Poster at 10th ERIM Thematic Conference on Geologic Remote Sensing: Overall Conference Honorable Mention for both Plenary Session talk and poster
1999	3 rd Place GIS Poster at the 1999 Nevada State GIS Conference

Recent Projects (2000 to present)

\$35,600	DOE Arc Server Web Portal Development, Principal Investigator
\$50,643	WRID Database and Web Application Development, Principal Investigator
\$70,000	U.S. Bureau of Reclamation LiDAR Acquisition of Walker River Basin, Principal Investigator
\$180,000	DOE Data, Modeling and Visualization – Phase II, Principal Investigator

\$187,200	DOE Data, Modeling and Visualization – Phase I, Principal Investigator
\$30,600	NFWF Walker River Basin Aquatic Monitoring, Investigator
\$408,973	NFWF Walker River Basin Hydrologic Modeling – Phase II, PI
\$80,700	USAID/ARD Niger Water Exploration using Remote Sensing, Investigator
\$300,000	U.S. Bureau of Reclamation GIS Database Development, Principal Investigator
\$695,500	U.S. Bureau of Reclamation METRIC Evapotranspiration Modeling, Principal Investigator
\$764,800	U.S. Bureau of Reclamation Walker River Basin GIS – Phase I, Principal Investigator
\$100,500	U.S. Air Force GIS support, Contributor
\$28,000	EPA Squaw Creek Restoration GIS, Contributor
\$25,000	U.S. Air Force Edwards Air Force Base Cadastral Mapping, Contributor
\$75,000	U.S. Air Force Nevada Test and Training Range Management Plan, Contributor.
\$134,000	Dept. of Energy/Nevada Test Site Monitoring of Critical Infrastructure using hyperspectral remote sensing, Principal Investigator
\$225,000	U.S. Army Desert Terrain Characterization, Contributor
\$25,000	U.S. Air Force Edwards AFB Hydrologic Modeling, Contributor
\$262,000	Hilton Foundation Ghana Rural Water Development, Contributor
\$174,200	DOE Yucca Mountain Climate Technical Support Project Task ORD-FY03, Investigator
\$95,000	TRPA Analysis of Impervious Cover in the Lake Tahoe Basin using Remote Sensing and GIS, Principal Investigator
\$24,000	Agricast Rangeland Evaluation in Fresno County based on Livestock Carrying Capacity, Principal Investigator
\$40,000	TRPA Analysis of Impervious Cover in the Lake Tahoe Basin using Remote Sensing and Geographic Information Systems: A Pilot Study, Principal Investigator

Selected Publications

- McGwire, K.C., Minor, T.B., and Schultz, B.W., 2011. Progressive Discrimination: An Automatic Method for Mapping Individual Targets in Hyperspectral Imagery, *IEEE Transactions on Geoscience and Remote Sensing* 49 (7): 2674-2685.
- Carroll, R.W.H., Pohll, G., McGraw, D., Garner, C., Knust, A., Boyle, D., Minor, T., Bassett, S., and Pohlmann, K., 2010. Mason Valley Groundwater Model: Linking Surface Water and Groundwater in the Walker River Basin, Nevada, *Journal of the American Water Resources Association (JAWRA)* 46(3): 554-573.
- Minor, T.B., Russell, C.E., and Mizell, S.A., 2006. Development of a GIS-based Model for Extrapolating Mesoscale Groundwater Recharge Estimates Using Integrated Geospatial Data Sets, *Hydrogeology Journal*, 15: 183-195.
- Minor, T.B., and Cablk, M.E., 2004. Estimation of Impervious Cover in the Lake Tahoe Basin Using Remote Sensing and Geographic Information Systems Data Integration. *Journal of the Nevada Water Resources Association*.
- Cablk, M. and Minor, T.B., 2003. Detecting and discriminating impervious cover with high-resolution IKONOS data using principal component analysis and morphological operators. *International Journal of Remote Sensing* 24(23):4627-4645.
- Coolbaugh, M.F., Sawatzky, D.L., Oppliger, G.L., Minor, T.B., Raines, G.L., Shevenell, L.A., Blewitt, G., and Louie, J.N., 2003, Geothermal GIS coverage of the Great Basin, USA: Defining regional controls and favorable exploration terrains: Proceedings, Annual Meeting, Morelia, Mexico, Oct. 12-15, 2003, *Geothermal Resources Council Transactions*, v. 27, p. 9-13.
- Coolbaugh, M.F., Taranik, J.V., Raines, G.L., Shevenell, L.A., Sawatzky, D.L., Minor, T.B., and Bedell, R., 2002, A geothermal GIS for Nevada: defining regional controls and favorable exploration terrains for extensional geothermal systems; Proceedings, Annual Meeting, Reno, NV., Sept. 22-25, 2002, *Geothermal Resources Council Transactions*, v. 26, p. 485-490.
- Adams, K. and Minor, T.B., 2002. Historic Shoreline Change at Lake Tahoe from 1938 to 1998: Implications for Water Clarity. *Journal of Coastal Research*, 18(4):637-651.
- Forney, W., Richards, L., Adams, K.D., Minor, T.B., Rowe, T.G., Smith, J.L., and Raumann, C.G., 2001. Land Use Change and Effects on Water Quality and Ecosystem Health in the Lake Tahoe Basin, Nevada and California. *U.S.G.S. Open File Report 01-418*.
- McGwire, K., Minor, T.B., and Fenstermaker, L., 2000. Hyperspectral Mixture Modeling for Quantifying Sparse Vegetation Cover in Arid Environments. *Remote Sensing of Environment*. 72: 360-374.
- Minor, T.B., Lancaster, J., Wade, T.G., Wickham, J., Whitford, W., and Jones, K.B. 1999. Evaluating Change in Rangeland Condition Using Multitemporal AVHRR Data and Geographic Information System Analysis. *Environmental Monitoring and Assessment* 59:211-223.
- Taylor, K.C., Minor, T.B., Chesley, M.M., and Matanawi, K. 1999. Cost Effectiveness of Remote Sensing and Geophysics to Locate Favorable Well Sites in a Fractured Aquifer.

Groundwater 37 (2):271-274.

- Sander, P., Minor, T.B., and Chesley, M.M. 1997. Ground-Water Exploration Based on Lineament Analysis and Reproducibility Tests. *Groundwater* Vol. 35 (5):888-894.
- Sander, P., Chesley, M.M., and T.B. Minor. 1996. Groundwater Assessment Using Remote Sensing and GIS in a Rural Groundwater Project in Ghana: Lessons Learned. *Hydrogeology Journal* Vol. 4 (3):40-49.
- Lancaster, J., Wade, T.G., Minor, T.B., Whitford, W.G., and K.B. Jones. 1996. Condition of New Mexico Rangelands Derived from Multi-year AVHRR Imagery and Associated Spatial Variables. *Proceedings of the Eleventh Thematic Conference on Geologic Remote Sensing*, Las Vegas, NV, February 27-29, 1996.
- Chesley, M.M., Sander, P, and T.B. Minor. 1995. Using Remote Sensing and GIS to Increase the Success Rate of a Rural Groundwater Project in Ghana, West Africa: Lessons Learned. *Proceedings of Solutions '95 Conference*, June 1995.
- Minor, T.B., J.A. Carter, M.M. Chesley, R.B. Knowles, and P. Gustafsson. 1994. The Use of GIS and Remote Sensing in Groundwater Exploration for Developing Countries. *Proceedings of the Tenth Thematic Conference on Geologic Remote Sensing*, Vol. 1, May 1994.
- Minor, T.B., J.A. Carter, M.M. Chesley, and R.B. Knowles. 1994. An Integrated Approach to Groundwater Exploration in Developing Countries. *1994 ASPRS/ACSM Annual Convention Technical Papers*, Vol. 1, April 1994.
- Mouat, D.A., J.M. Lancaster, T.B. Minor, and T.G. Wade. 1993. The Use of GIS in the Development of a Desertification Susceptibility Index: A Hypothetical Assessment. *Proceedings of the Thirteenth ESRI User Conference*, Vol. 1, May 1993.
- Mouat, D.A., Lancaster, J.M., Minor, T.B., Wade, T.G., and W.G. Kepner. 1993. A Desertification Susceptibility Index: Use of GIS to Assess Potential Desertification. *Proceedings of Symposium on Vegetation Management of Hot Desert Rangeland Ecosystems*, pp. 44-52, Phoenix, AZ, July 28-30, 1993.
- Minor, T.B., D.A. Mouat, and J. Myers. 1988. Geobotanical Determination of Aggregate Source Material Using Airborne Thematic Mapper Imagery. *Proceedings of the Sixth Thematic Conference on Remote Sensing for Exploration Geology*, Vol. 1, May 1988.
- Minor, T.B. and D.A. Mouat. 1988. Geobotanical Remote Sensing. *Proceedings of the First Navy Independent Research-Independent Exploratory Development Symposium*, June 1988.
- Blodget, H., C. Andre and T.B. Minor. 1986. Thermal Infrared Research Bibliography, unpublished internal report, GSFC in Commercial Applications and Scientific Research Requirements for Thermal-Infrared Observations of Terrestrial Surfaces, August 1986. *A Report of the Joint EOSAT/NASA Thermal Infrared Working Group*, pp. 62-102.

Organizations

American Society of Photogrammetry and Remote Sensing

Nevada State GIS Committee

Geological Society of America

American Geophysical Union

American Association of Geographers