

# **SUPPORT FOR CONTRACTOR REQUEST**

**CONTRACTOR:** Mr. Mitchel Bell

**RATE (dollars/hour):**

r (detail attached)

**PERIOD OF PERFORMANCE:**

July 16, 2001 through September 30, 2001

**STATEMENT OF WORK:**

This statement of work specifies the contribution of Mr. Mitchel Bell toward studies of topography, biosphere, surficial geology, shallow infiltration, recharge, and erosion using satellite imagery surrounding the proposed high-level waste repository at Yucca Mountain, Nevada. This work will support the Unsaturated and Saturated Flow under Isothermal Conditions (USFIC) Key Technical Issue (KTI). High resolution satellite data has only been available to the public for about a year, hence methods for utilizing the IKONOS imagery are only now being developed. In collaboration with CNWRA staff, Mr Bell will evaluate methods for classifying/interpreting high spatial resolution satellite data. The most fruitful approach for classifying the data will likely take into account spatial context. In addition, Mr. Bell will use his expertise in extracting digital elevation models from the high resolution (1 m pixel) imagery of the YM area, which will be used in place of the U.S. Geological Survey 30 m pixel digital elevation models of the area to evaluate biosphere, surficial geology, shallow infiltration, recharge, and erosion. This work will contribute to on-going process-based sensitivity studies and evaluations of alternative models. The time allocated to this task is 100 hours (charge number 20-1402-861). This includes time for subtasks on model refinement, data review, site-specific application, and reporting. Mr. Bell will provide a report on the work by September 2001.

**ESTIMATED UTILIZATION (hours):**

100 hours

**PRIOR CONTRACTOR WORK EXPERIENCE WITH SWRI:**

Although he provided IKONOS satellite imagery to the CNWRA in 2000, Mr. Bell has not previously worked as a consultant to the CNWRA.

**PROGRAMMATIC NEED FOR CONTRACTOR WORK:**

This work will be used to support input from the USFIC KTI to the TPA abstraction process, and review of DOE calculations and reports as part of the Site Recommendation review.