

# EXHIBIT 66

## **Timothy B. Minor**

### **Outline of Expert Witness Testimony**

#### **Walker River Basin Decision Support Tool**

##### **Water Rights Information**

Mr. Minor was the lead scientist for Walker River Basin water rights information development effort at the Desert Research Institute (DRI) for the first phase of the Walker River Basin Project, a joint UNR/DRI research program funded by the Bureau of Reclamation (BOR). His responsibilities included, and therefore his testimony at the evidentiary hearing could include: contract management, water rights database development, data quality assurance/quality control, water rights mapping, and development of a water rights database for input into the Decision Support Tool (DST) for surface and groundwater modeling of the Walker River Basin. Mr. Minor managed the sub-contract awarded to History Mapping Services (HMS) to assist in the creation of a Decree/Storage water rights database for Mason and Smith Valleys, as well as a C-125 Decree spatial representation for Walker River Basin. He and his staff collaborated with the Nevada Division of Water Resources (NDWR) to develop a Place of Use/Point of Diversion (POU/POD) groundwater rights geodatabase for Mason and Smith valleys.

Mr. Minor is the lead scientist for Walker River Basin water rights information development effort at DRI for the second phase of Walker River Basin project, the Walker River Basin Restoration Program funded by the National Fish and Wildlife Foundation (NFWF). In that respect, his responsibilities included, and therefore his testimony could include: contract management, water rights database development, data quality assurance/quality control, water rights mapping, and refinement of the water rights database for input into the DST. Mr. Minor continued his work from phase one of the project, primarily updating the Decree/Storage water rights database and the NDWR POU/POD groundwater rights database for Mason and Smith Valleys. Water rights support work for the DST modeling effort focused on the NFWF change application for the West Hyland ditch water rights acquisitions.

##### **GIS Database Development and Spatial Analysis**

Mr. Minor was the lead DRI scientist for all spatial data acquisitions, GIS database development, and geospatial analysis for phase 1 of the Walker River Basin Project. His testimony at the evidentiary hearing could include those topics and any of the following related thereto: image data (aerial photography and satellite imagery), infrastructure and administrative boundaries, DEMs, hydrologic data, and agricultural and soils data. Decree diversion data for ditches and canals were acquired from the Federal Water Master and converted into electronic format for use in the DST modeling effort. Derivative data sets, such as irrigated fields serviced by common delivery systems (Hydrologic Response Units, or “HRUs”) were specifically developed for use in

the DST modeling effort. Specific crop types were identified for fields in Mason and Smith Valleys using image data from 2007. Geospatial analysis efforts focused on estimation of irrigated acres by delivery system, and a water inventory by type (surface or groundwater), both for Mason and Smith valleys.

Mr. Minor is the lead scientist for all spatial data acquisition, GIS database development, and geospatial analysis for Phase II of the Walker Basin Restoration Program, and his testimony at the hearing could include that and any of the following: activities focused on data and database development related to the area covered by NFWF Application No. 80700 in the Wabuska area of Mason Valley, NV. Existing data such as ditches and drain, HRUs, and field boundaries were updated. Mr. Minor created digital data sets of updated diversion data for decree, storage and flood water obtained from the Walker River Irrigation District (WRID) for the DST modeling period 1996 to 2010. Groundwater pumpage data for Mason and Smith Valleys were acquired from NDWR and used to update the Mason and Smith Valley well database. He prepared water transaction maps for selected properties in Mason and Smith Valleys. He prepared exhibit maps for NFWF-acquired properties and water rights. Mr. Minor worked with other NFWF contractors to reconcile ditch/diversion relationships to agricultural fields, parcels, and Decree C-125 claims. He coordinated the acquisition of winter and summer thermal imagery over the Walker River for aquatic researchers from UNR, and provided ancillary information related to stream geometry.

### **METRIC Modeling for Evapotranspiration Modeling**

Mr. Minor is a co-Principal Investigator on the METRIC evapotranspiration (ET) modeling project sponsored by BOR. He is responsible for supervising all aspects of the modeling process, including Landsat satellite data acquisition, preparation and pre-processing of Landsat scenes for the METRIC model, calibration and cloud masking. He supervises the construction of continuous raster data sets representing daily, monthly, and seasonal ET values for agricultural areas in Northern Nevada. Mr. Minor has developed the hybrid land cover raster data sets for the Northern Nevada study area using existing land cover maps updated with digitized data.