



Map courtesy of Shields Survey Ltd. Company.

Vermejo Park Ranch

Battling Nature for Control

Just getting started proved challenging. Deed descriptions provided the only source of preliminary boundary information and known positions were sketchy at best. The deed descriptions were entered into C&G's Map Check. The software calculated the coordinates of each angle point and plotted the resulting information onto USGS 7.5 minute quad sheets. A majority of this work was done by the staff in the Clayton office, then transmitted by modem to the temporary Raton offices.

In the meantime, survey crews worked in the field to establish a control grid from a few known positions on the site—such as mountain peaks, fence corners, creek intersections or other high visibility locations—to position the data accurately on the map. We gathered about 80 percent of the property lines, control and preliminary survey map data—close to 200 miles—on foot, hiking from early morning to early afternoon.

At the end of the day, field crews returned to Raton, reduced the data using Leica SKI post-processing software, then forwarded that information via modem, radio or telephone to the Shields Survey headquarters in Clayton. Staff in both the Raton and Clayton offices gathered and processed field data, created more current USGS quad sheets and returned these maps to field crews for the next day's work. Shields Survey also relied on family members Connie, Maegan and Mariah Shields to shuttle equipment and documents

to Clayton, Raton and Albuquerque.

Surveyors used three traverse loops to establish a comprehensive control grid for the entire ranch property. Loop one ran from Castle Rock northeast to Raton, then southwest to Van Bremmer Canyon, where it turned northwesterly and back to Castle Rock. This was a 140-mile loop with a closure of 0.20' north and 0.20' east. Loop two was from the mouth of Van Bremmer Canyon, then southwest over to Ponil Canyon, then northwesterly to Greenwood, and from there across to the Moreno Valley and back to Castle Rock—a 175-mile loop closing within 0.20' north and 0.20' east. Loop three went southeast from the community of Cimarron to the toe of Springer, then northeast along the Santa Fe Railroad, then northwesterly to Van Bremmer Canyon, and back to Cimarron—a 120-mile loop closing within 0.10' east and 0.10' north. All loops were adjusted by using the least squares method.

The few property corners still visible included pine posts set into the ground somewhere between 1890 and 1900; for some, only a ring of stones filled with rotten wood chips

Interesting Vermejo Facts:

- Largest contiguous deeded ranch in New Mexico.
- Elevation: 6,400 to 12,960'.
- Six biogeographic lifezones.
- 600,000 acres—about three-quarters the size of Rhode Island.
- 21 lakes and 26 miles of streams.
- 700 miles of maintained ranch roads.
- Eight ghost towns.
- Herd census: 6,000 to 8,000 elk; 4,000 to 5,000 deer; 6,000 cattle in summer.
- 90 herd of roaming buffalo.
- 183 birds identified.



remained. We replaced these points and other control positions with ½" rebar and 1½ or 2" aluminum caps. For those positions located in solid rock, we used cotton-picker teeth or a cotton spindle to break through the rock and establish a permanent marker.

While these property corners required some patience and a lot of hiking, it was the weather that proved our biggest hurdle in this portion of the survey and, in fact, throughout