
STEP 3. IDENTIFYING ISSUES

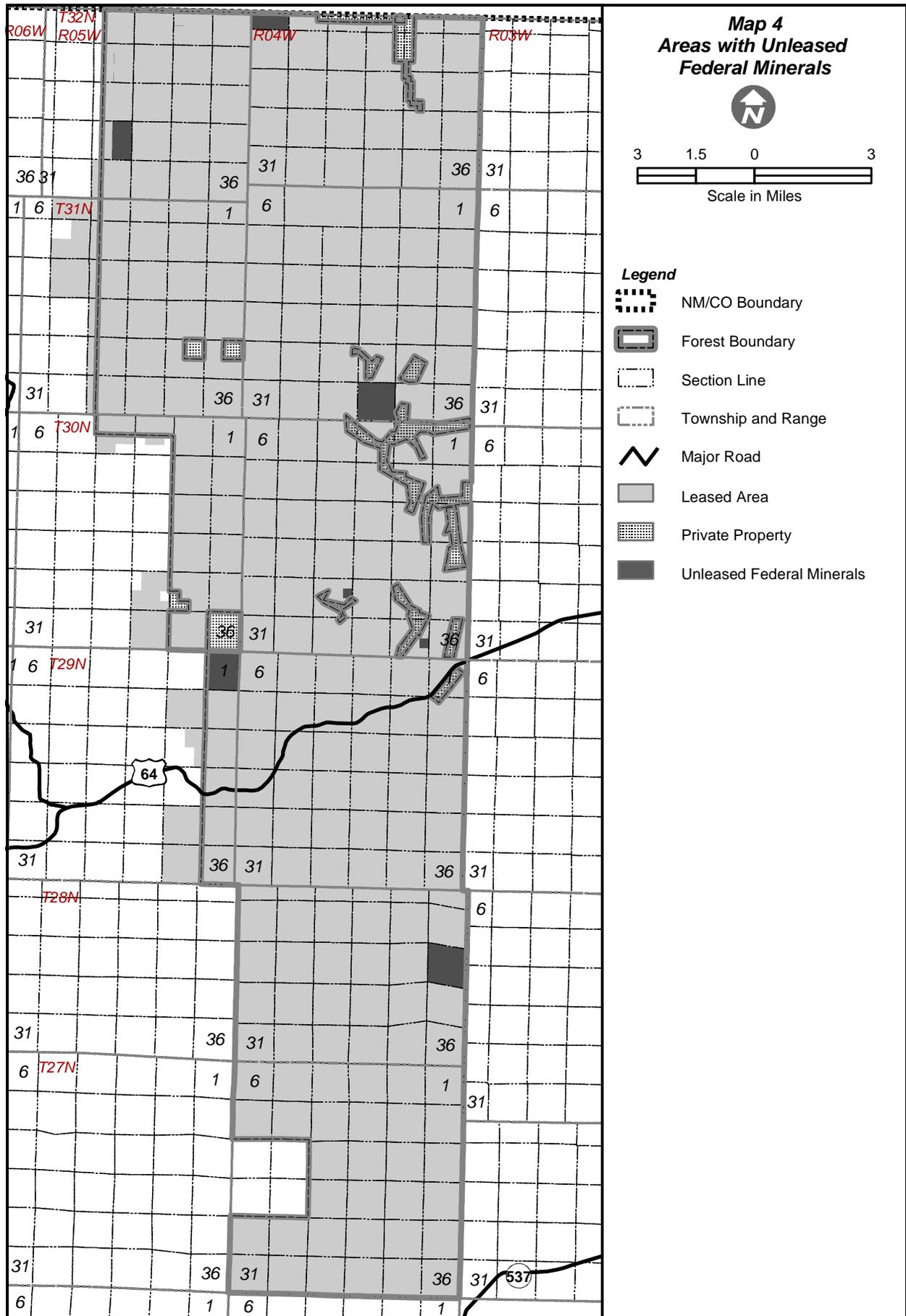
The most important road-related issues in the District were identified in a meeting with Forest Service and SAIC staff before beginning the roads analysis. The information needed to address these concerns was provided by personnel from the Forest Supervisor's office and the District. This list of issues drives the analysis and the information needed to resolve them.

Issue Summary

The District-scale issues include the following.

- In the past, the oil and gas industry developed well locations at a rapid rate, without full consideration of surface resource concerns, such as impacts to wildlife, recreation, cultural resources, and water quality. Over the next 20 years, anticipated future development is forecast to be approximately 700 wells, with associated pads, roads, and pipelines adding to existing surface disturbance and wildlife habitat fragmentation.
- Approximately 4,385 acres of unleased federal minerals could be made available for hydrocarbon leasing. Some of these unleased federal minerals are located on private land. A total of 2,502 acres of Forest Service land is currently unleased and an estimated eight wells could be located in these unleased parcels. There would be an increase in the number of roads used to access the new well locations if they are developed in the currently unleased areas shown on **Map 4**.
- Infill drilling to extract gas from the Mesaverde and Dakota geologic formations on 80-acre spacing and drilling to Tertiary Sands on 40-acre spacing would require an increase in infrastructure requirements such as roads over those that currently exist.
- Total road maintenance costs may increase for the District and the Road Maintenance Committee as new roads are constructed and traffic increases.
- In general, the likely sources of impairment to surface and groundwater quality include atmospheric deposition, resource extraction, petroleum activities, urban runoff, hydromodification, riparian vegetation removal, stream destabilization, agricultural activities, and rangeland activities (EPA 2001). In the District, erosion from unstabilized roads near streams may have the greatest impact on surface water quality.
- Accidental contamination of surface soils could result from spills of fuels, lubricants, drilling fluids (a mixture of water, bentonite, caustic soda, barite, and polymers), and produced water. Contaminated soils could be transported by ephemeral flows through usually dry channels. Spills could occur both on well pads, as a result of leaking pipelines, or releases from transport trucks.
- Roads are likely to cause wildlife habitat fragmentation and disturbance of deer and elk herds. However, data documenting the response of deer and elk to increased road construction and resulting habitat fragmentation in the Four Corners region are not available, so their actual response cannot be predicted and can only be estimated until studies are done.

Roads Analysis Plan for the Jicarilla Ranger District of the Carson National Forest



Status of Current Data

Much of the data for the roads analysis was derived from GIS coverages provided by the Carson National Forest and the District offices. GIS coverages included:

- Roads and existing wells digitized from recent (2001) aerial photography
- Terrestrial Ecosystem Survey
- Updated vegetative cover
- Spring, seeps, wetlands, riparian areas, and stock tanks
- Big game wintering areas
- Locations of protected areas for sensitive species
- Recorded archaeological sites from the New Mexico State Historic Preservation Office (SHPO), Archaeological Records Management Section.

Other data on the status of the District resources that were provided include:

- Bylaws of the Road Maintenance Committee
- List of special use permits
- Information on Management Indicator Species
- Report on invasive weeds
- Map showing bald eagle nocturnal winter roost site locations
- Information on wild turkey populations
- Information on hunter permits
- Information on stocking rates of range allotments

Critical information was provided verbally by the District staff during the initial meeting with Forest Service and SAIC specialists in June 2002 and subsequent meetings in August and September. Some information was obtained during a two-day field trip to get an overview of the road conditions.