

Tonto National Forest
Southwestern Region
USDA Forest Service
Briefing Paper

Topic: National Fire Plan Urban Interface Fuel Treatments and the February Fire

Issue: Fuel treatment effectiveness to minimize impacts from wildfires to values at risk.

Background: The Payson Ranger District of the Tonto National Forest contains a high density of private land inholdings (urban interface areas) in and around the town of Payson in central Arizona. The District has undertaken several National Environmental Policy Act (NEPA) analyses, and then subsequent treatments to implement these analyses, to minimize the potential impact from wildfires to the urban interface locations on the Payson Ranger District. The specific property this paper will examine is the Bray Creek Ranch, located north of Payson below the Mogollon Rim.

The Bull Owl Timber Sale analysis identified the need to use mechanical treatments to create a fuel break around the Bray Creek Ranch (as well as other private inholdings identified in the analysis). The subsequent treatments were completed on 44 acres around the Bray Creek Ranch in 2003 at a cost of approximately \$500/acre.

The Verde Urban Interface Analysis, funded by the National Fire Plan, was completed in March of 2004. This analysis authorized the burning of the fuel break and additional treatment acres, totaling 160, around the Bray Creek Ranch. The fuel break was burned in November of 2005 at a cost of approximately \$200/acre.

On February 6, 2006, an abandoned campfire on the edge of the Mogollon Rim on the Coconino National Forest erupted into a wildfire. By the time fire crews arrived on the scene, the fire began to burn off of the Mogollon Rim onto the Tonto National Forest. On February 7, the fire progressed downhill toward the Bray Creek Ranch. At approximately 6:00 p.m., strong downslope winds increased fire activity and pushed the fire toward the Bray Creek Ranch. As the fire approached the fuel break, the fire was in heavy fuels, with active crown fire. Crews that were located at the Bray Creek Ranch for structure protection during the advance of the flaming front reported spotting distances of up to ½ mile as the flames approached the Bray Creek Ranch. The fire crews were able to safely defend the Bray Creek Ranch until fire activity moderated at approximately 2:00 a.m. on February 8. The flaming front dropped to the ground as it reached the fuel break on the northeast portion of the fuel break (see photos 1-5). To date, the fire has burned around the fuel break (see figure 1) and the Bray Creek Ranch has not suffered any loss of structures.

Conclusions: Fuel treatments in the urban interface are designed to minimize the threat of wildfire to values at risk (private property, including houses, outbuildings, improvements and land). A secondary benefit of urban interface fuel treatments is to provide adequate protection for fire fighters to be able to remain safely in and adjacent to structures during a wildfire event. The fuel treatments at the Bray Creek Ranch were successful at protecting values at risk and providing for fire fighter safety.

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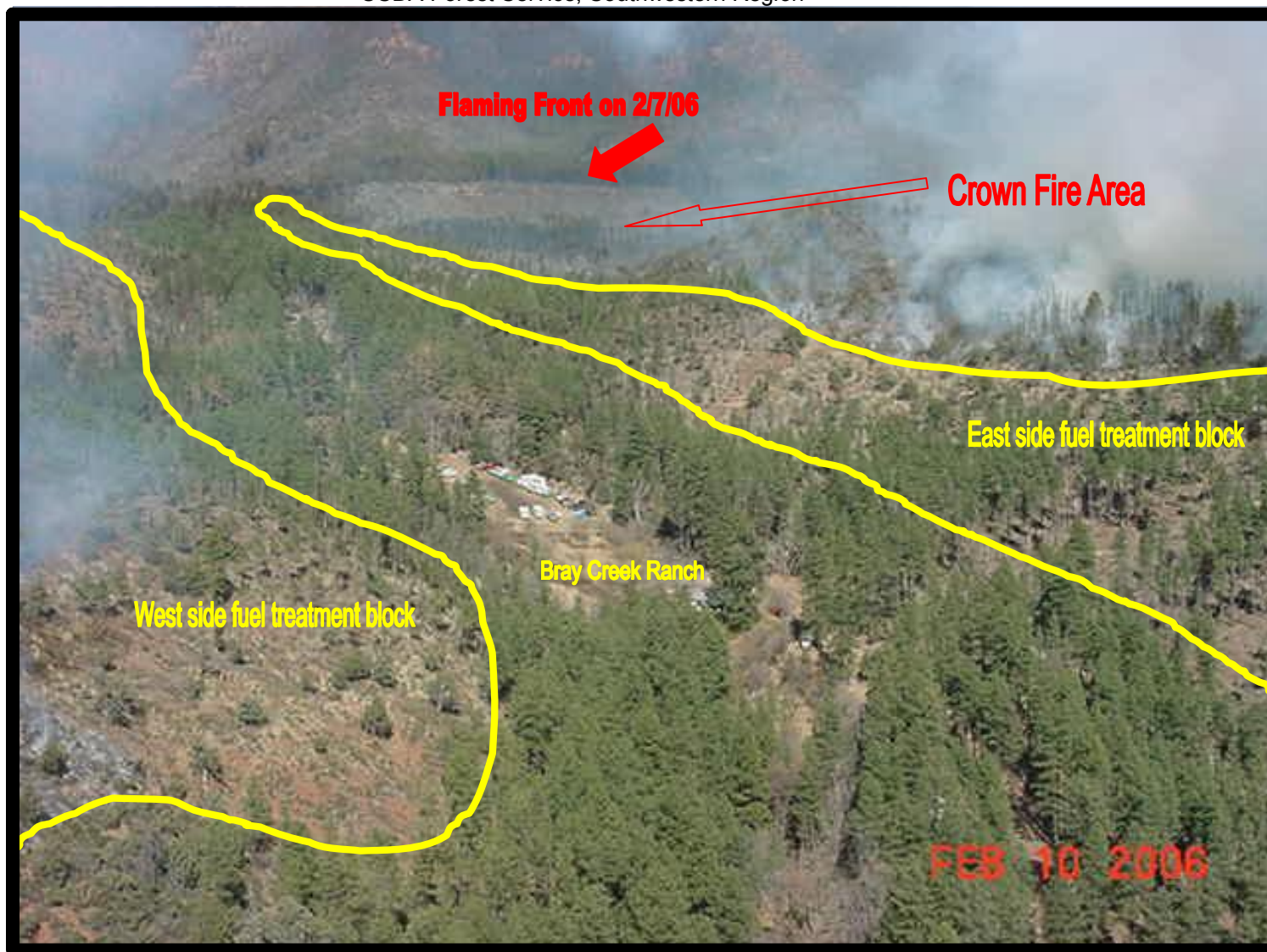


Photo 1: Aerial view of Bray Creek Ranch, Feb. 10, 2006. Photos 2 and 3 display the northeast corner of the fuel break (photo Don Nunley, USFS).

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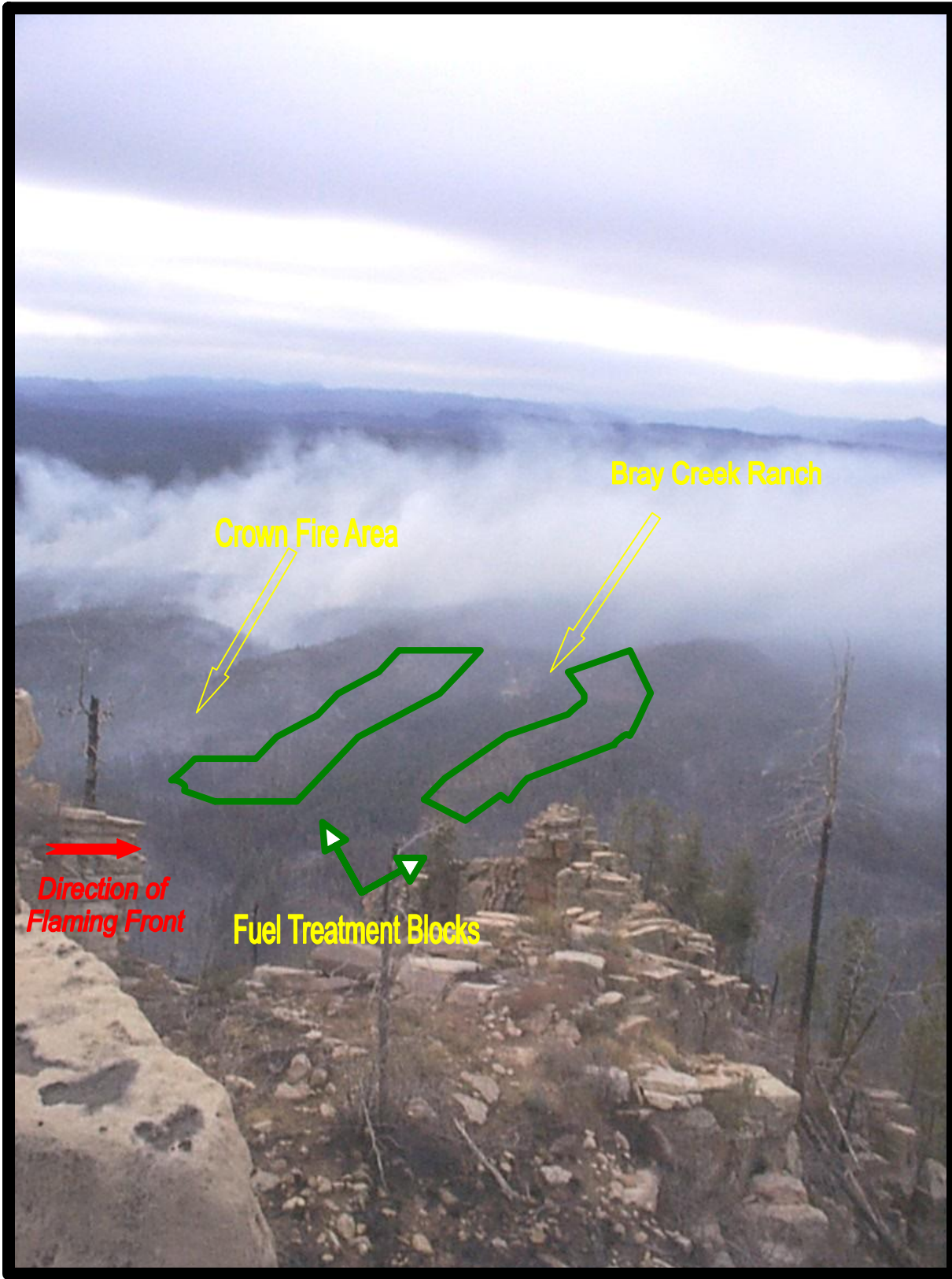


Photo 2: Bray Creek Ranch and the February Fire from the Mogollon Rim, February 9, 2006, 9:30 am.

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Photo 3: Photo taken in the northeast corner of the fuel break around the Bray Creek Ranch. The picture is taken on the edge between the treated (left) and untreated (right) timber facing north, with the Mogollon Rim in the background. The untreated side of the photo displays the aftermath of a crown fire through very dense young growth ponderosa pine. The treated portion of the photo displays the fuel break, with scorch on the canopies from the intense fire that approached from the untreated timber (photo Dick Fleishman, USFS).

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Photo 4: Photo taken adjacent to the northeast corner of the fuel break around the Bray Creek Ranch. The picture is taken from the crown fire area adjacent to the northeast corner of the fuel break that is noted in photos 1 and 2 as the crown fire area. Note that the ground and tree canopy in the foreground are devoid of any live vegetation. The live canopy in the background is the fuel break (photo Dick Fleishman, USFS).

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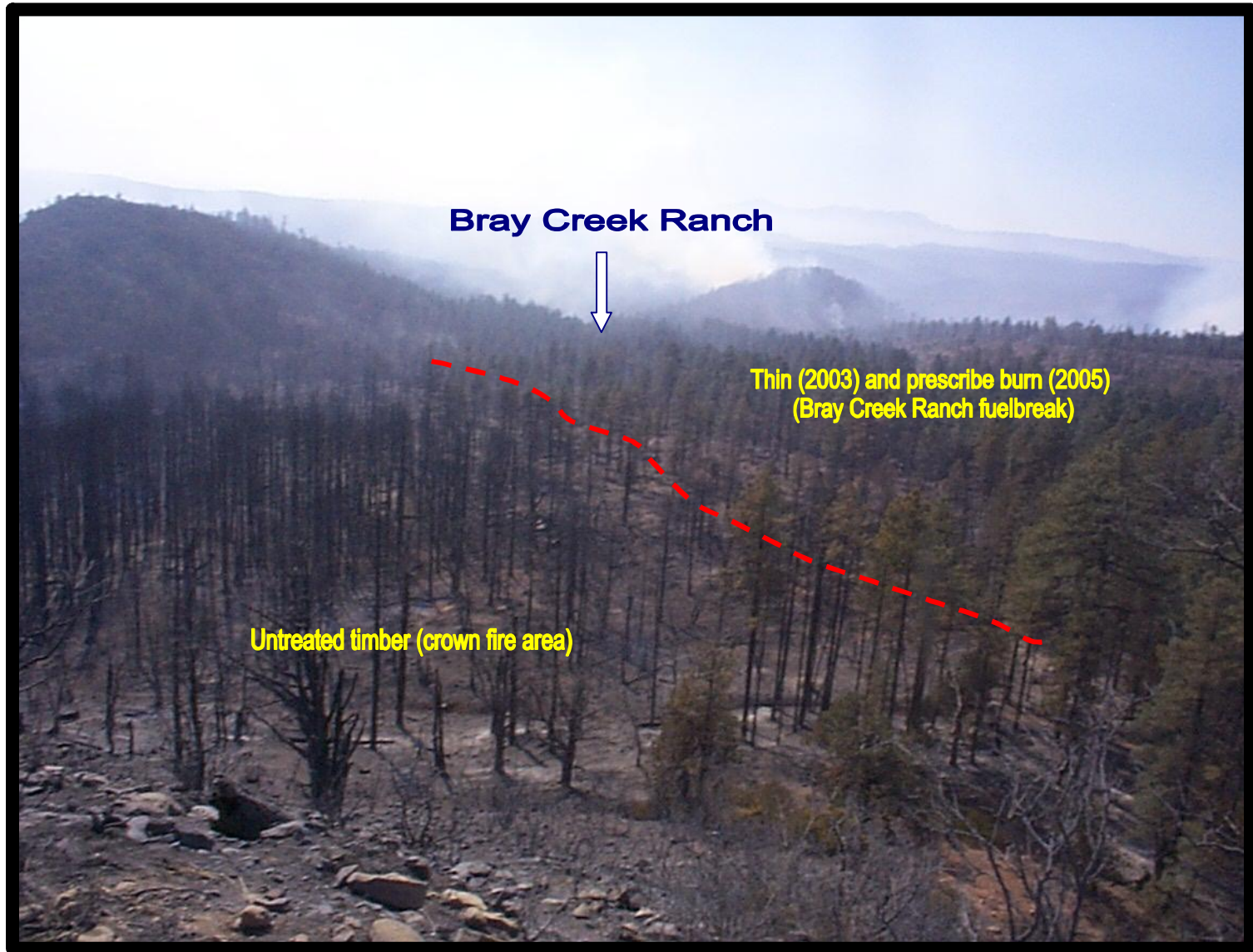


Photo 5: Photo taken from hill north above the northeast corner of the Bray Creek Ranch fuel break. The red dashed line delineates the approximate boundary between the treated (right) and untreated (left) forest. The untreated area on the left is characterized by a total crown fire, with the treated area (right) exhibiting crown scorch adjacent to the crown fire and evidence of ground fire (photo Dick Fleishman, USFS).

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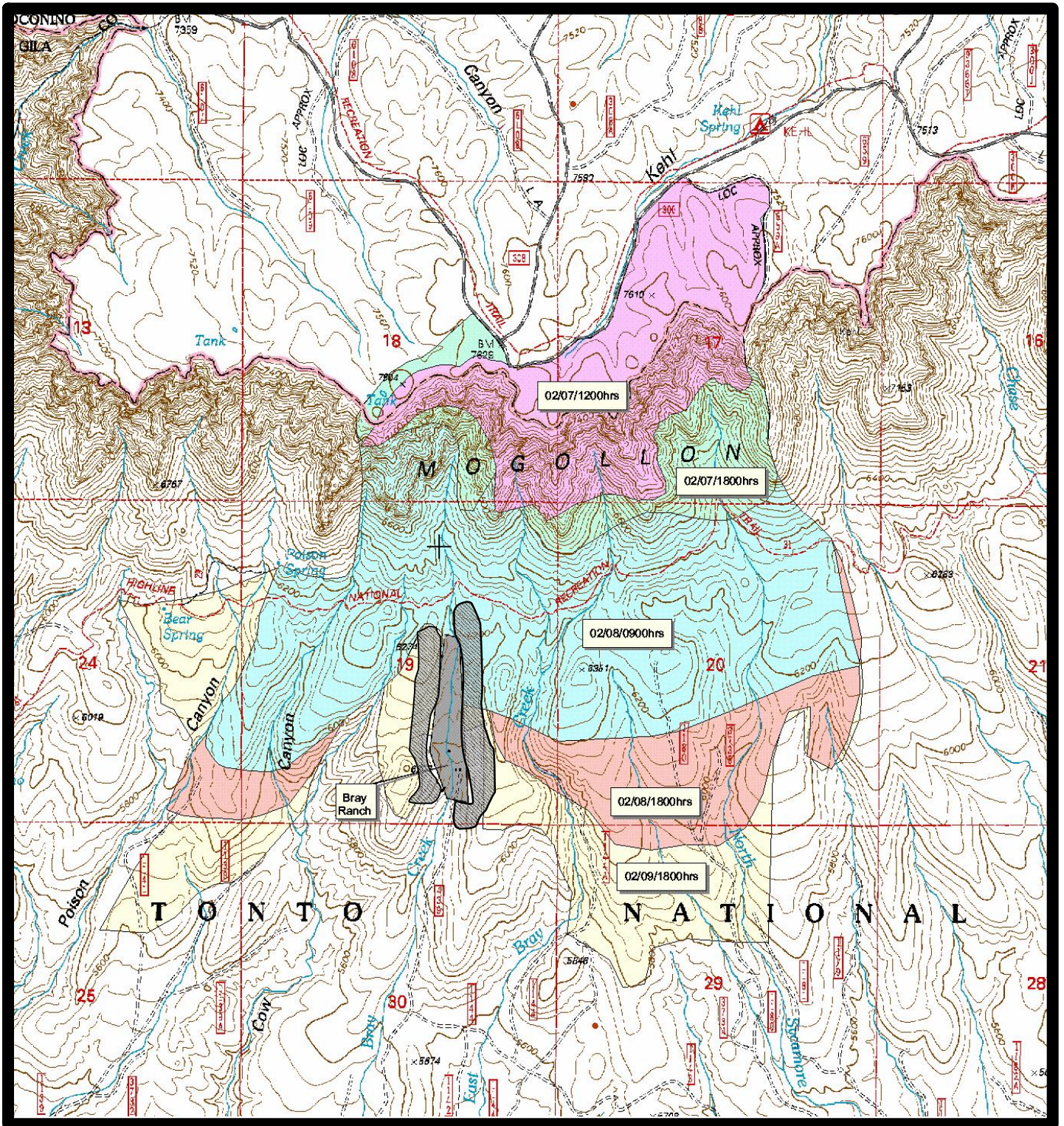


Figure 1: Fire progression map, Feb. 6-9. Note that the fire was well above the Highline Trail at 6:00 p.m. on February 7 and moved rapidly toward the Bray Creek Ranch. Fuel treatment areas (fuel break) are displayed in black diagonal cross hatch adjacent to the Bray Creek Ranch (map: Central West Arizona Type II Team).