

## 4.3 Fremont County

Fremont County is home to one coal mine fire, the Double Dick Vicinity Mine Fire. This fire is located south of the town of Florence in the Cañon City coal field.

### 4.3.1 Double Dick Vicinity Mine

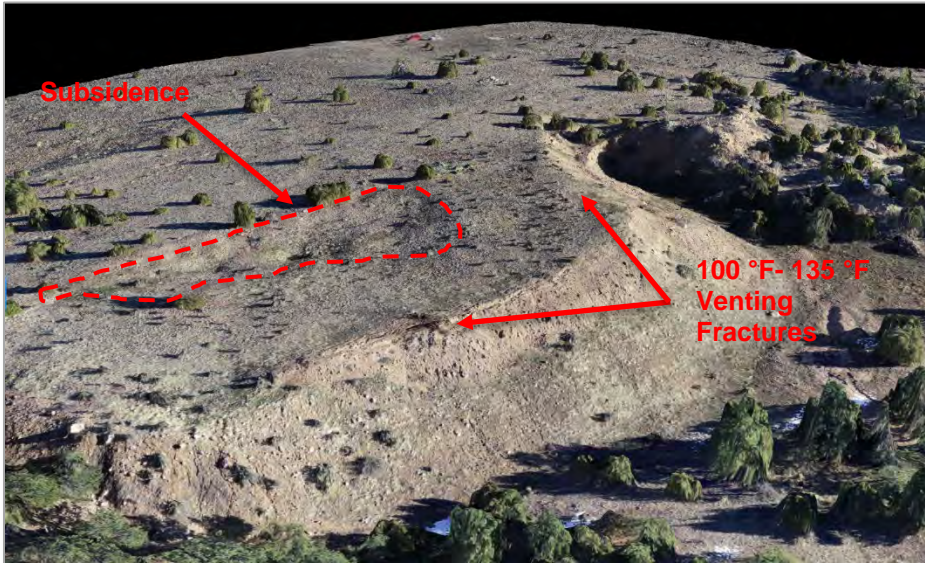


Figure 4-16 – 3D Model of Double Dick Vicinity Mine Fire Looking Northeast

#### FIRE DESCRIPTION

The Double Dick Vicinity Mine fire site is located 7 miles south-southwest of Florence, CO and lies in the Cañon City coal field. The site was visited in November of 2018 to complete an aerial thermal survey along with ground inspections of known and any new features at the site. The landowner was onsite during the survey and provided additional information about the site, including that the mine was operated until the 1970s, with the first mine fire starting in 1982.



Figure 4-17 – Venting Fractures

There are two unrelated fire features at the site: one is a trench originally used to cut off the burning coal seam; the other is a coal waste pile that has been in some form of combustion since the 1980s as well.

#### FIRE OBSERVATIONS

The Double Dick Mine Fire was visited on November 27, 2018. Ambient air and ground temperatures in the early morning were low enough (50-60°F) to fly an aerial thermal survey to map the locations of any active vents in the area. Inspection of the coal refuse pile (also referred to as the Mesa

#### FIRE ACTIVITY

Low

#### FIRE HAZARD RANKING

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#### LOCATION

Latitude: 38°17'42.88"

Longitude: 105°9'58.83"

Nearest Town: Florence, Colorado.

Landowner: Corley Ranch (Private)

#### MINE INFORMATION

Coal Field: Cañon City

Formation/Seam: Vermijo/Brookside

Strike and Dip: N5E & 6

Mining Method: Drift

Years of Operation: 1929-1968

Production: 540,686 tons

#### DATA COLLECTION

2005 – Inventory

2018 – Inventory

- Thermal mapping
- 3D mapping
- Aerial imagery
- Surface Features Map

Side in the 2005 Inventory Report) revealed numerous small cracks along the southern edge of the pile. These cracks were stained dark black and were emitting steam and some H<sub>2</sub>S at low levels. The temperatures recorded in approximately 15-20 individual cracks ranged from 100-135°F. Additionally, vegetation within the immediate proximity to the vents was absent (Figure 4-17).

South of the waste pile, along the tree line, approximately 15 large subsidence features were noted. These subsidence features ranged in diameter from 15-30 feet and were as deep as 12-15 feet. Most of the subsidence features were discrete circular features; however, several long trough subsidence features were also noted. Lack of vegetation noted inside the depressions could be the result of recent subsidence and/or lack of moisture due to draining through the fractured ground into the mine below.

Inspection of the trench area at the Double Dick site revealed numerous linear erosion pathways that seem to be focused directly over the alignment of the trench. These features are likely being caused by settlement of material over the backfilled trench.

The landowner noted that the adjacent Black Diamond mine is likely connected to the Double Dick, and an underground fire could have spread between the two mines. Nevertheless, there was no evidence observed during the 2018 site inspection to confirm this claim.

## FIRE RISK AND RECOMMENDATIONS

The Double Dick Vicinity Mine Fire activity is relatively low, but heating and venting during oxidation of the coal waste pile is present. The risk of wildfire is relatively low because of the lack of vegetation surrounding the oxidation areas. The risk to population is low because the fire is located on private property and is emitting only a small amount of gases far from any occupied structures.

Snowmelt imagery was not able to be collected during this site visit. Snowmelt imagery could help with mapping the extents of the fire activity should it exist elsewhere on site. It is recommended that snowmelt imagery be collected for inclusion with the next mine fire inventory report.

Mitigation of the waste pile would be recommended should the elevated temperatures persist through additional monitoring.

## DIRECTIONS TO MINE

The Double Dick Mine Fire is located south-southwest of Florence, CO at 38°17'42.88"N, 105°9'58.83"W west of county road 15. Take highway 67 south from the town of Florence for 4.3 miles. Turn right onto County Rd. 15 continue for 2.7 miles. Turn right onto County Rd. 94 (also County Rd. 15) and continue for an additional mile before reaching a sign for Corley Ranch; this is the private property boundary and access through the locked gate is granted from the property owner.

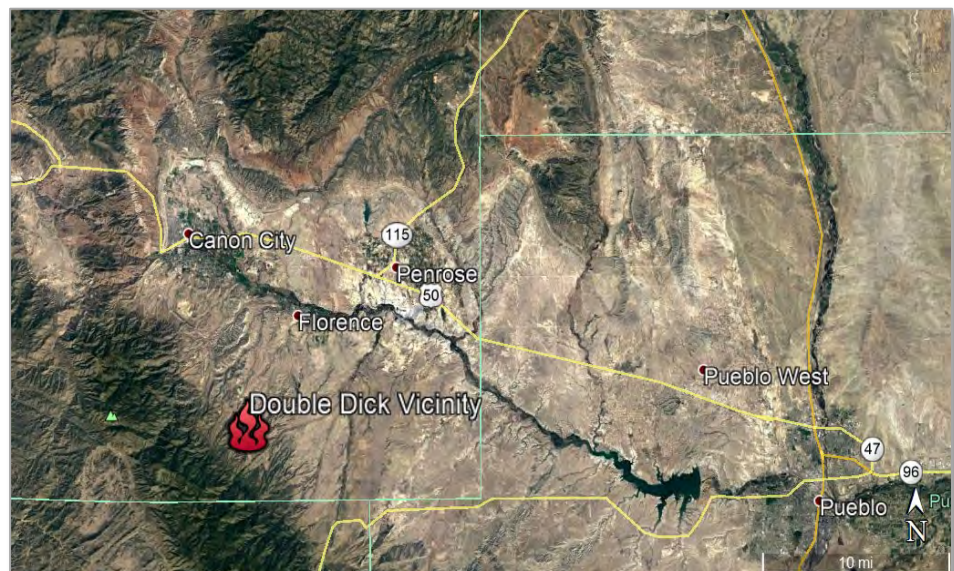


Figure 4-18 – Double Dick Mine Fire Location Map