

Using a map, compass and GPS to locate the source of a column of smoke

A column of smoke has been reported in the Hells Kitchen area. It's late evening and there are no aircraft available to check the smoke. You and your fellow firefighters respond to the area with your wildland engine.

You can first see the smoke from the Stanislaus River Campground when you contact the reporting party. Using your compass you take a bearing to the smoke and get a reading of 210° M.

The next place you can see the smoke from the road has no obvious landmark. You use your GPS to determine your coordinates.

10 S 0755882
UTM 4256803

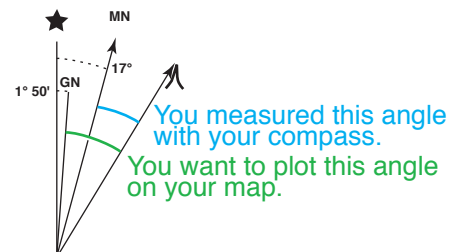
Using your compass you take a bearing to the smoke and get a reading of 142° M

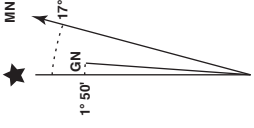
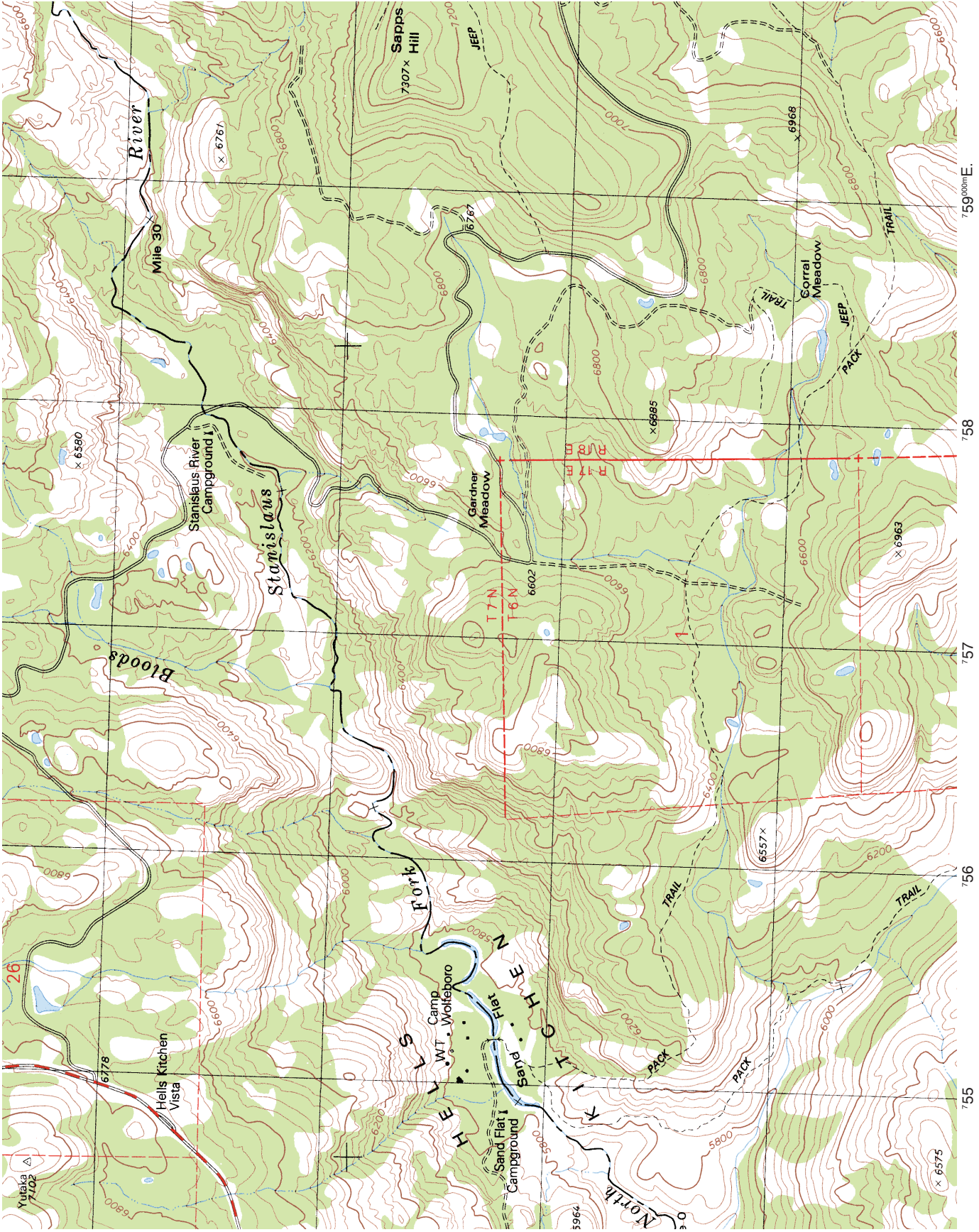
From the Hells Kitchen Vista Point you get a bearing of 115° M.

What are the UTM coordinates for the fire?

How would you reach the fire traveling from your location at the Hells Kitchen Vista Point? How long will it take to reach the fire?

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1. Locate the positions at which you took compass bearings on the map.
 2. Convert the bearing you took to a north reference available on your map. In this case Grid North would be a good choice.
 3. Plot each of the bearings on the map. The lines should intersect at the location of the fire.
 4. Determine the UTM coordinates for the fire.
 5. Using information on your map about the area's roads, trails, and terrain, decide how you will reach the fire, traveling from the Hells Kitchen Vista Point.

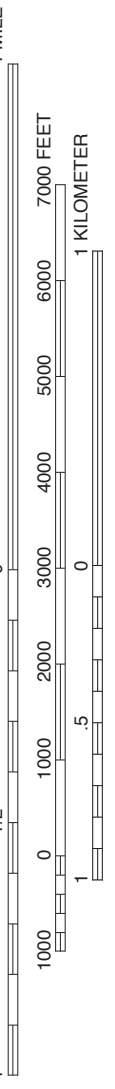




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U.S. National Grid
100,000-m Square ID
GH
Grid Zone Designation
10S

42°54'00"N



1:24,000

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1000-meter Universal Transverse Mercator grid, zone 10.
1927 North American Datum