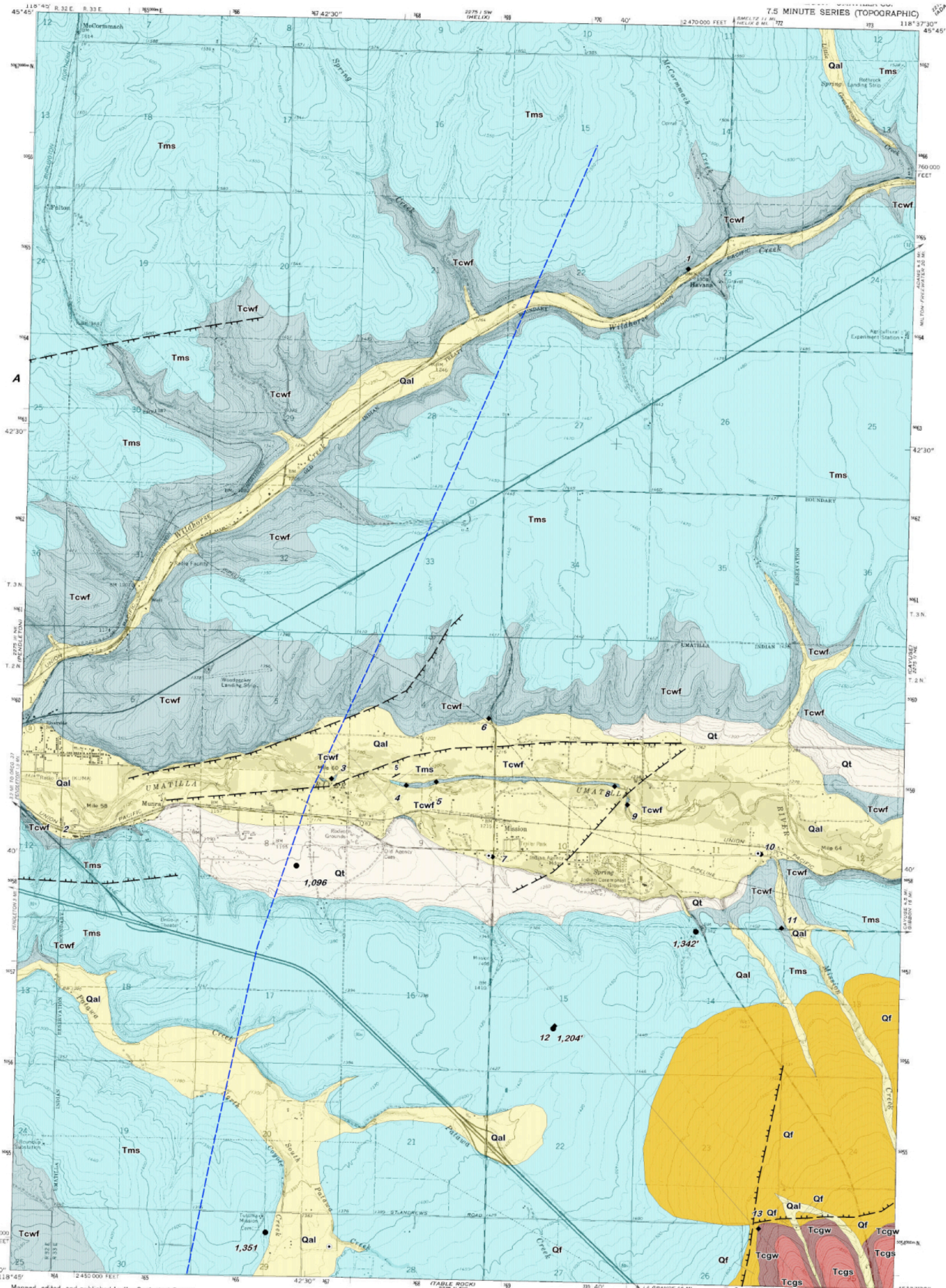


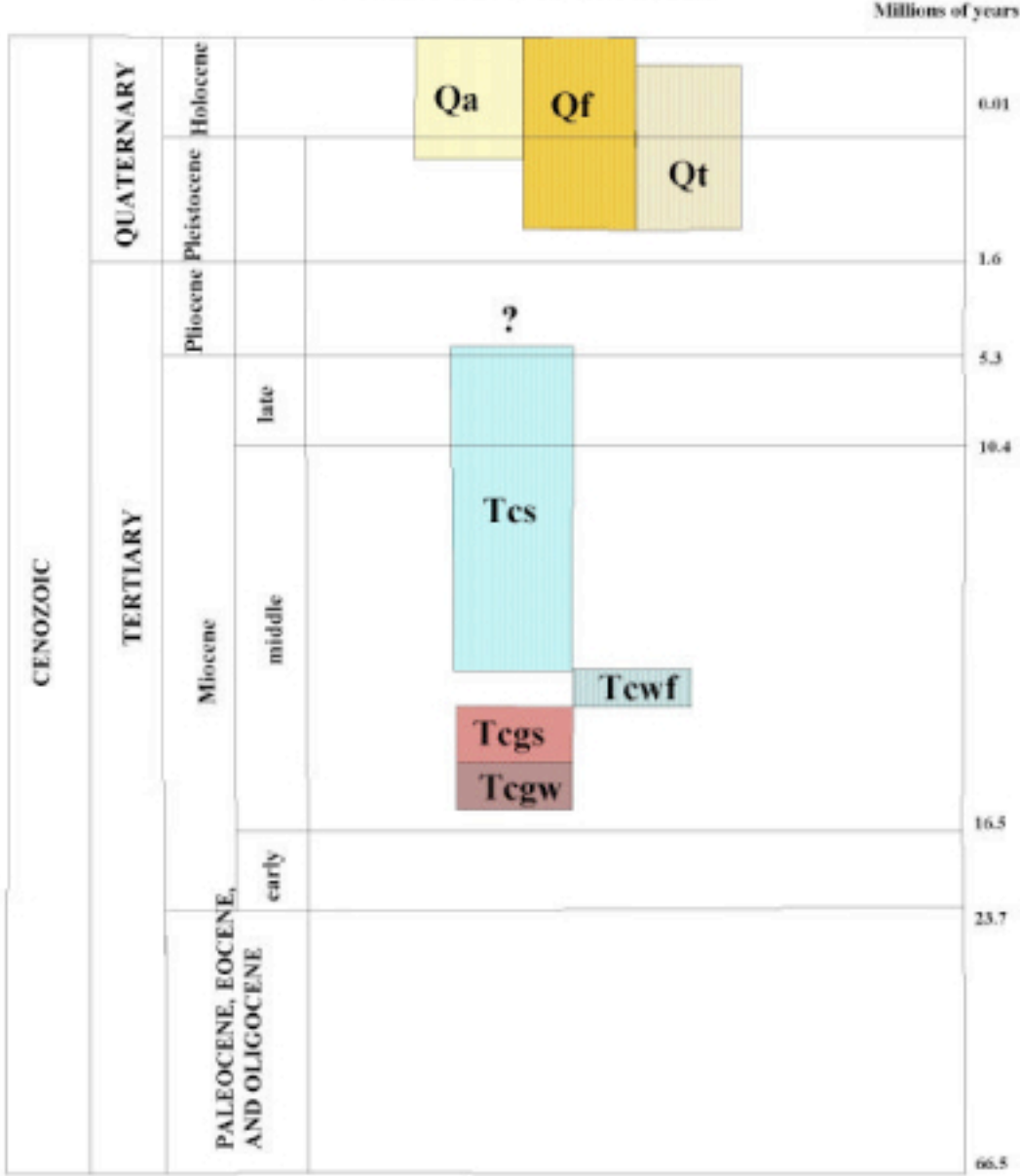
# GEOLOGIC MAP OF THE MISSION QUADRANGLE, UMATILLA COUNTY, OREGON

BY M.L. FERNS AND K. ELY

2004



## TIME ROCK CHART



After Berggren and others, 1985 and Kent and Gradstein, 1985

## EXPLANATION

### Surficial Units

- Qal Alluvium (Holocene and upper Pleistocene)
- Qf Alluvial fan gravels (Holocene and Pleistocene?)
- Qt Terrace gravels (Holocene ? and Pleistocene)

### Sedimentary Rocks

- Tms Siltstone, sandstone, and conglomerate (lower Pliocene? to middle Miocene)

### Columbia River Basalt Group

#### Wanapum Basalt

- Tcwf Frenchman Springs member (middle Miocene)

#### Grande Ronde Basalt

N2 Magnetostratigraphic unit (middle Miocene)  
Includes separately mapped units.

- Tcgs Sentinel Bluffs member

- Tcgw Winter Water member

Fault, dashed where concealed  
Hachures on downthrown side

Syncline

- 7 Location from where analyzed rock chip sample was collected

- Water Well, flowing on October 9, 2000

- Water Well, with water level elevation as measured on October 9, 2000

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