

# Preliminary Geologic Map of the Linnton 7.5' Quadrangle, Multnomah and Washington Counties, Oregon

2008

OPEN-FILE REPORT O-08-06

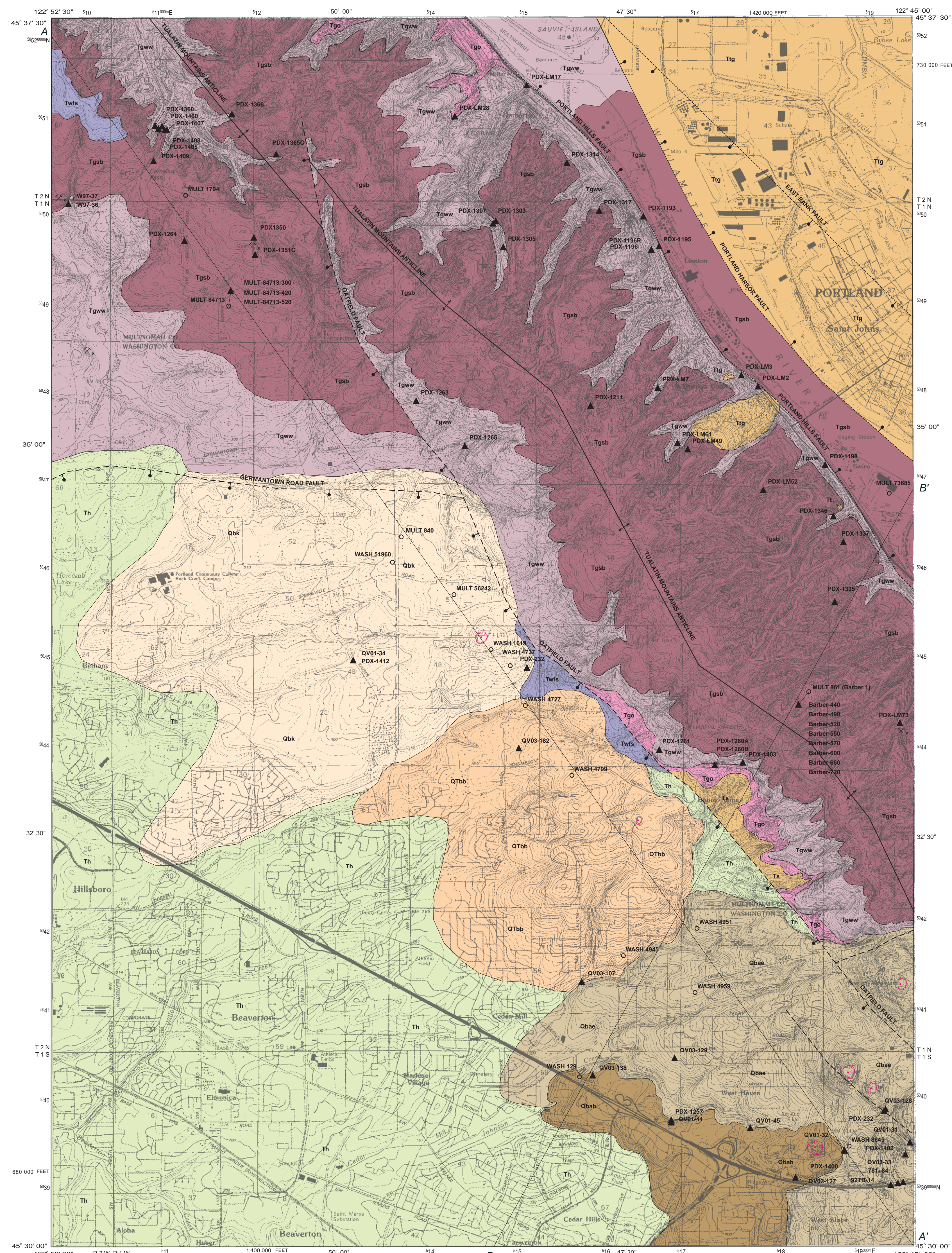
Preliminary Geologic Map of the Linnton 7.5' Quadrangle, Multnomah and Washington Counties, Oregon

By Ian P. Madin, Lina Ma, and Clark A. Niewendorf

This geologic map was funded in part by the U.S. Geological Survey Earthquake Reduction Program, Award G018Q0013

PLATE 1

## BEDROCK GEOLOGY



Base map by United States Geological Survey  
Control by USGS and NOAA and State of Oregon  
Topographic compiled from imagery dated 1995  
Revised from imagery dated 1995. Map edition 1995  
10000 scale, Universal Transverse Mercator, zone 10  
10000 scale, Universal Transverse Mercator, zone 10  
Vertical datum: National geodetic vertical datum of 1929  
Horizontal datum: 1983 North American datum  
Map rotated 1° counter-clockwise for display

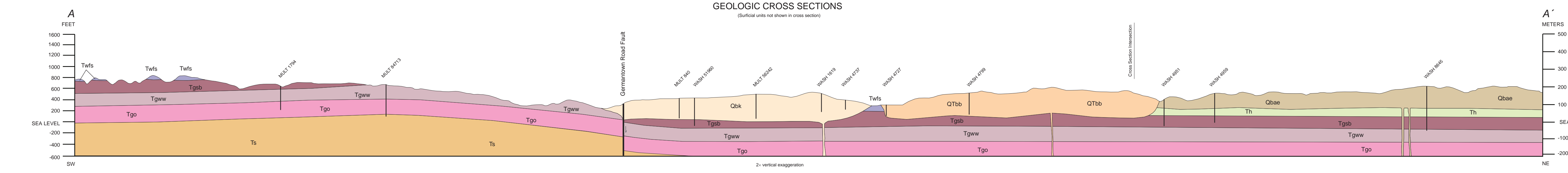
UTM GRID AND 1983 MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

SCALE 1:24,000  
CONTOUR INTERVAL 10 FEET

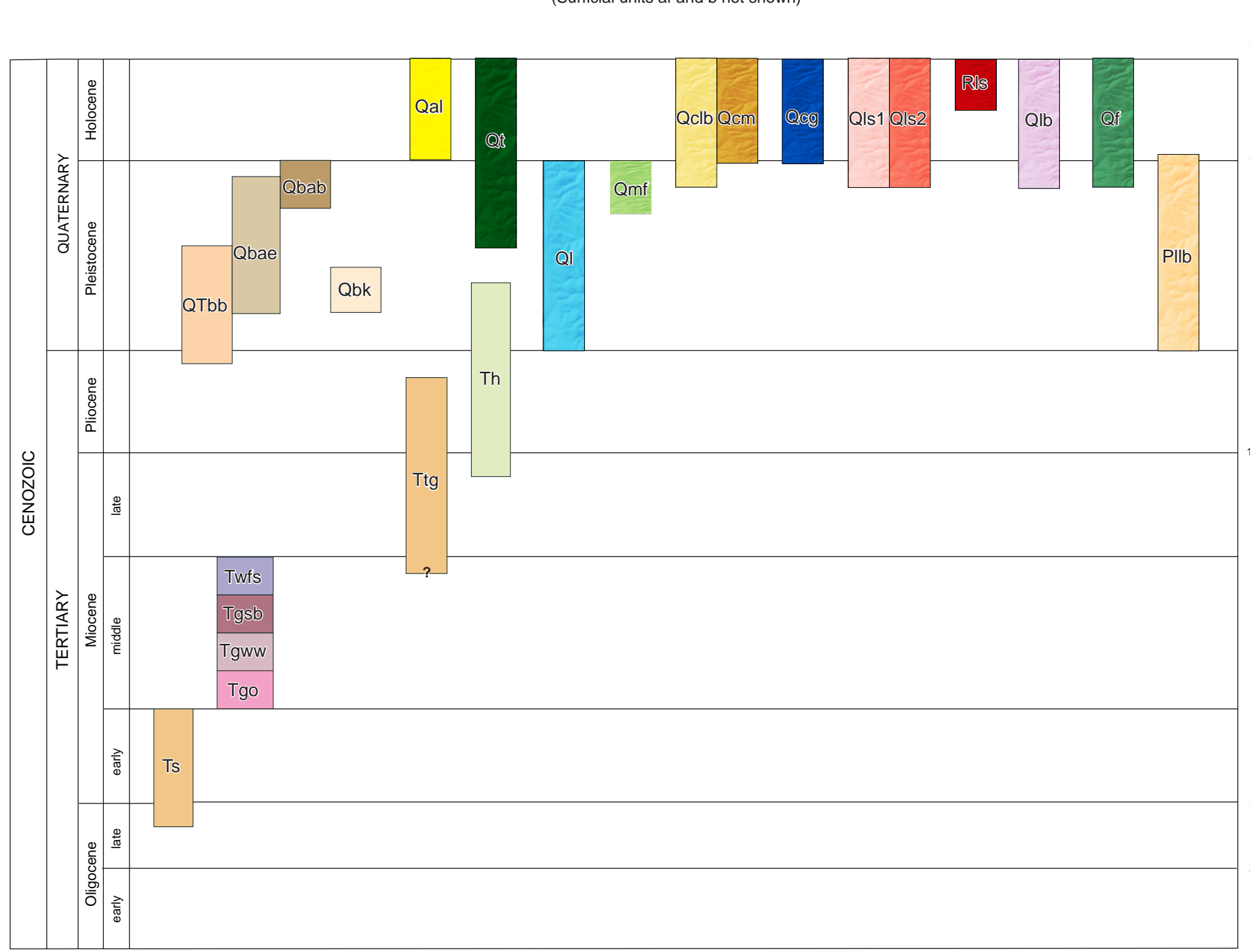
ORIGIN  
ACROSSING 7.5 QUADRANGLE NAMES

CROSS SECTION NOTES  
Ground profile was generated from Linnton 7.5' quadrangle 10-m DEM. Contacts between units are irregular in shape and may be provisional. Boring data are from Oregon Water Resources Department database. Accuracy of boring locations and boring logs has not been verified. Geologic relations are based on limited data and are accordingly tentative.

## GEOLOGIC CROSS SECTIONS



## TIME ROCK CHART



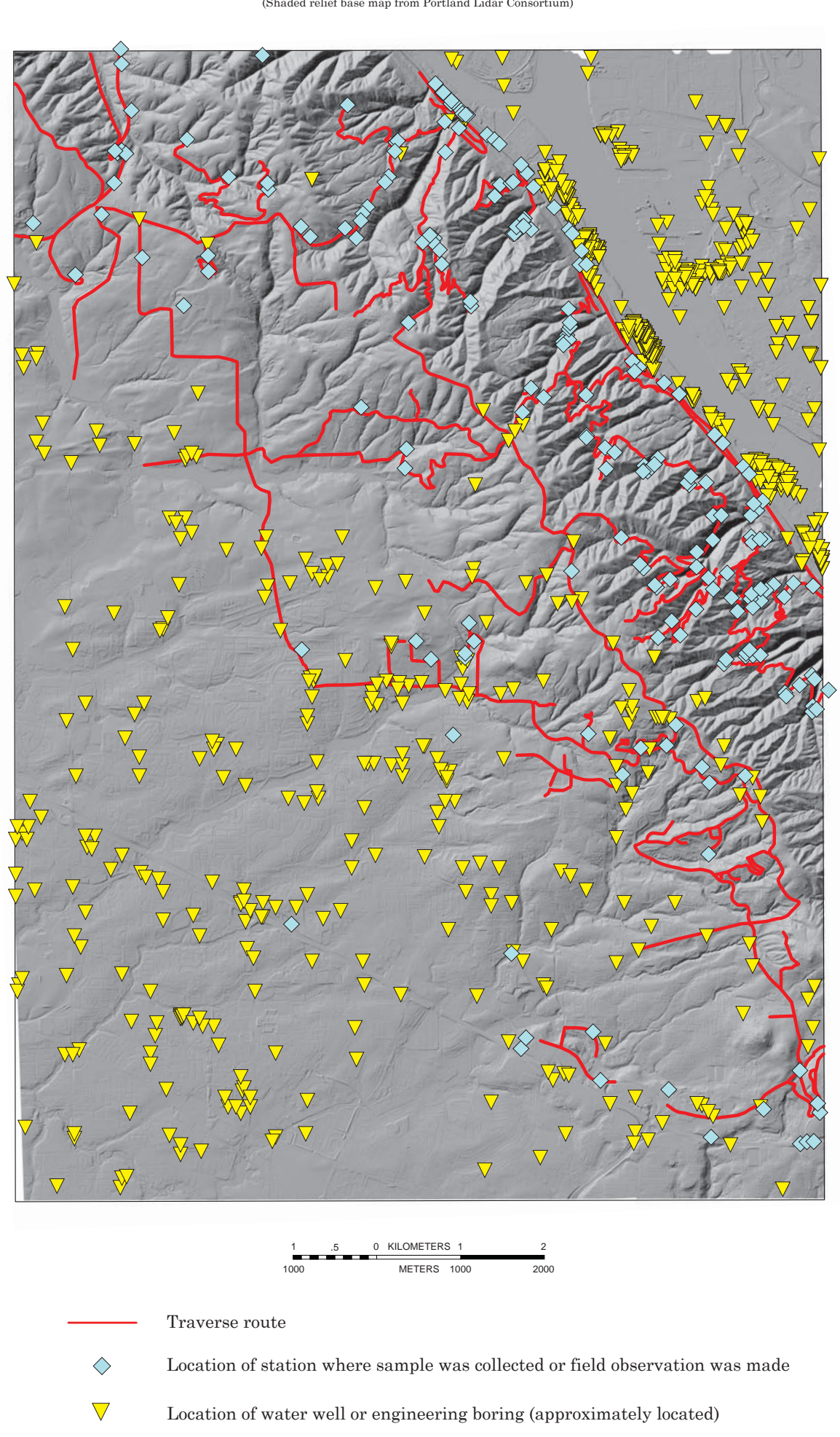
Time scale after Gradstein et al., 2004, and Smith et al., 2004. A geologic time scale 2004. Cambridge University Press, 989 p.

## EXPLANATION OF BEDROCK MAP UNITS

(Explanation of units and structure in accompanying text report)

- Boring Volcanic Field Rocks (Pliocene and Pleistocene)**
  - Qbab Basaltic andesite of Barnes Road (Pleistocene)
  - Qbae Basaltic andesite of Elk Point (Pleistocene)
  - Qbk Basalt of Kaiser Road (Pleistocene)
  - Qbtb Basaltic andesite of Bonny Slope (Pliocene to Pleistocene)
  - Th Hillsboro Formation (Miocene to Pleistocene)
  - Tg Troutdale Formation (Miocene and Pliocene)
- Columbia River Basalt Group (middle and lower Miocene)**
  - Wanapum Basalt (middle Miocene)
  - Frenchman Springs Member (middle Miocene)
  - Basalt of Sand Hollow (middle Miocene)
  - Grande Ronde Basalt (middle and lower Miocene)
  - Member of Sentinel Bluffs (middle Miocene)
  - Member of Winter Water (middle Miocene)
  - Basalt of Winter Water (middle Miocene)
  - Member of Orley (middle Miocene)
  - Basalt of Orley (middle Miocene)
- Scappoose Formation (lower Miocene and upper Oligocene)**
  - Ts Marine sandstone unit (Miocene?)

## TRAVERSE MAP WITH STATION LOCATIONS AND WATER WELLS



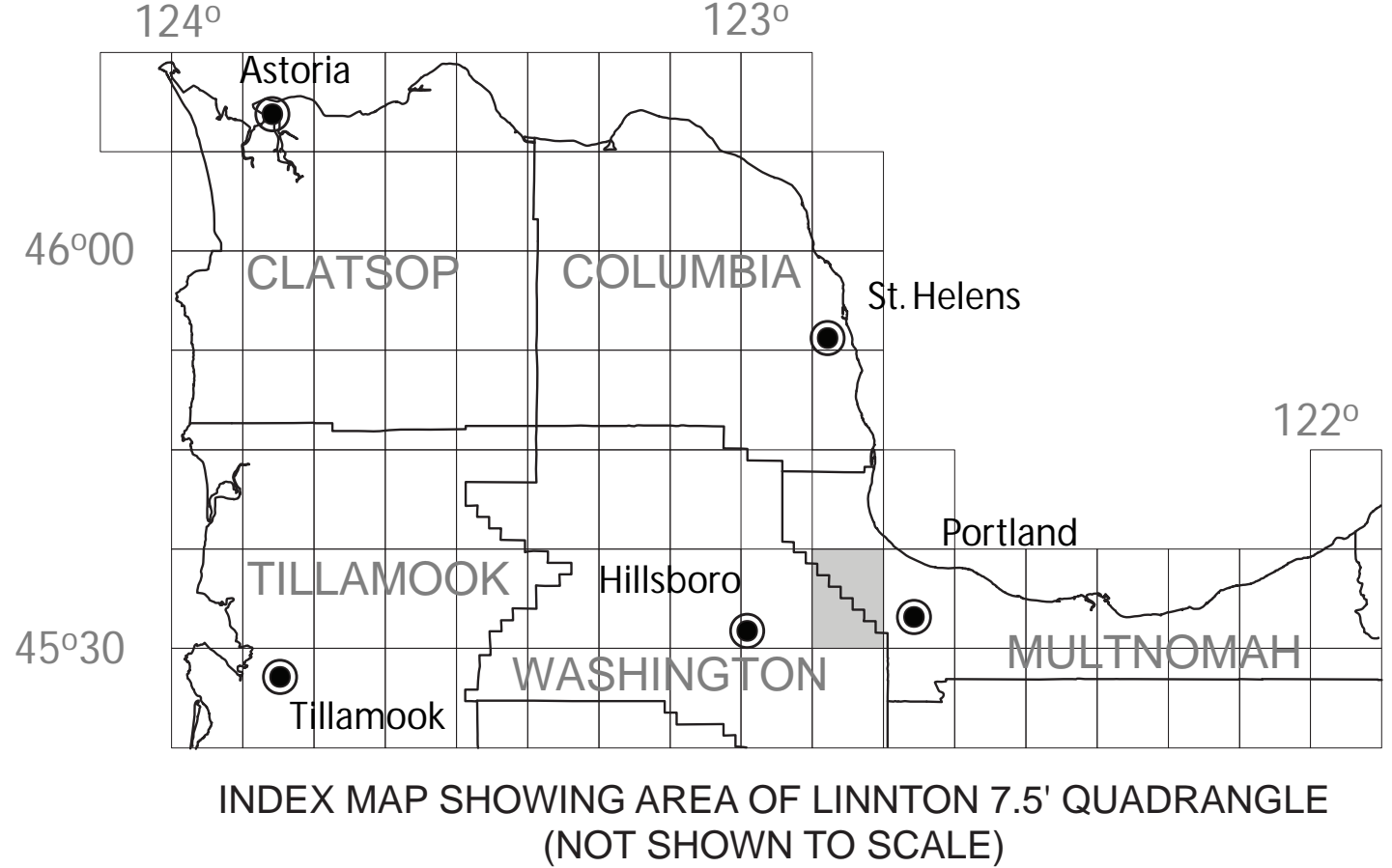
Traverse route  
Location of station where sample was collected or field observation was made  
Location of water well or engineering boring (approximately located)

## MAP SYMBOLS

- Contact – approximately located
- Fault – dashed where approximately located; dotted where concealed; bar and ball on downthrown side
- Anticline fold axis – approximately located
- Location of whole-rock XRF geochemical analysis sample – labeled with map code, also see Table 1 of accompanying text report
- Water well – location of water well used to construct cross-sections; domestic supply use (wells designated with Oregon Water Resources Department drill-log identification number: MULT, Multnomah; WASH, Washington)
- Open pit, quarry: type = s = stone
- Abandoned open pit, quarry: type = a = stone
- Boring volcanic field vent – dot shows low point of crater

## NOTICE

This map cannot serve as a substitute for site-specific investigations by qualified practitioners. Site-specific data may give results that differ from those shown on the maps. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. government. This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American Stratigraphic Code.

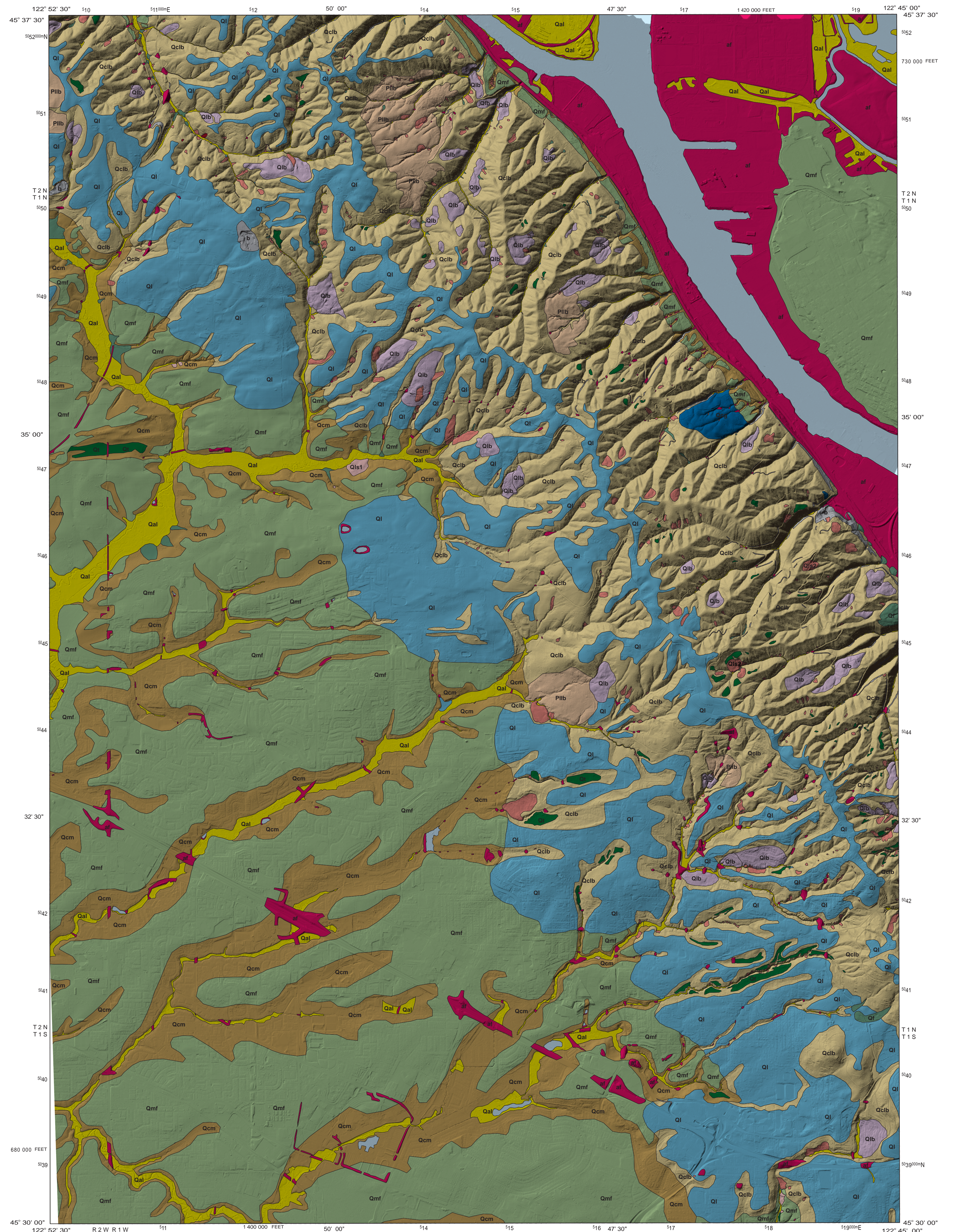


## EXPLANATION OF QUATERNARY SURFICIAL MAP UNITS

(Explanation of units in accompanying text report)

- DEPOSITS FORMED BY MOVING WATER AND WIND**
  - Qal Alluvium (Holocene)
  - Qb Terrace deposits (late Pleistocene-Holocene)
  - Qc Missoula (Bretz) flood deposits (late Pleistocene)
  - Qi Primary loess (Pleistocene)
- DEPOSITS FORMED BY MASS TRANSPORT**
  - Qchb Loess-basalt fragment colluvium (Quaternary)
  - Qclb Missoula flood silt colluvium (Quaternary)
  - Qslb Loess and conglomerate colluvium (Quaternary)
- Landslide Deposits**
  - Qslb Flow and fan deposits (latest Pleistocene-Holocene)
  - Qslb Surficial landslides (Pleistocene-Holocene)
  - Qslb Surficial landslides (Pleistocene-Holocene)
  - Qslb Surficial landslides (Holocene)
  - Qslb Bedrock landslides (Pleistocene-Holocene)
  - Qslb Bedrock landslides (Pleistocene-Holocene)
- OTHER MATERIALS**
  - Qslb Artificial fill (Anthropocene)
  - Qslb Bedrock exposures

## SURFICIAL GEOLOGY



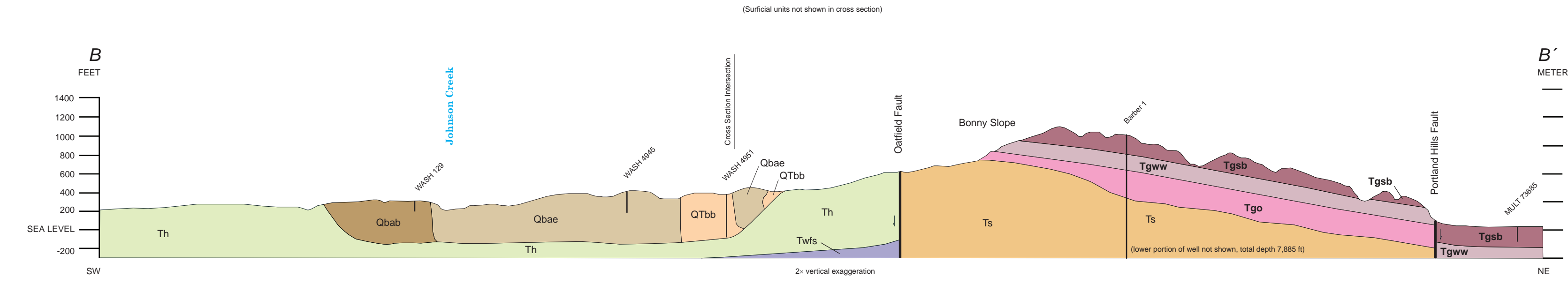
Shaded relief base from Portland Water Commission  
Data: Topographic Survey Maps 2005, 2007  
Horizontal accuracy: ±30 centimeters  
Vertical accuracy: ±30 centimeters  
Projection: Lambert Conformal Conic  
Datum: International East  
Central Meridian: 123° 00' 00" W  
Standard Parallel 1: 45° 00' 00" N  
Standard Parallel 2: 45° 00' 00" N  
Latitude of Origin: 45° 00' 00" N  
Datum: North American 1983  
Map rotated 1.8 degrees counter-clockwise for display

UTM GRID AND 1983 MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

SCALE 1:24,000  
CONTOUR INTERVAL NOT AVAILABLE

ORIGIN  
ACROSSING 7.5 QUADRANGLE NAMES

## GEOLOGIC CROSS SECTIONS



Geology by Ian P. Madin, Lina Ma, and Clark A. Niewendorf  
Oregon Department of Geology and Mineral Industries  
Cartography by Clark A. Niewendorf  
Field work conducted in 2006 and 2007  
Software used: ArcGIS 9.0, MapInfo Professional 9.0  
Adobe Illustrator CS2 and Adobe Acrobat 5.0  
Digital files are not available on the World Wide Web

