North Dakota Geological Survey
Edward C. Murphy, Acting State Geologist

Areas of Landslides

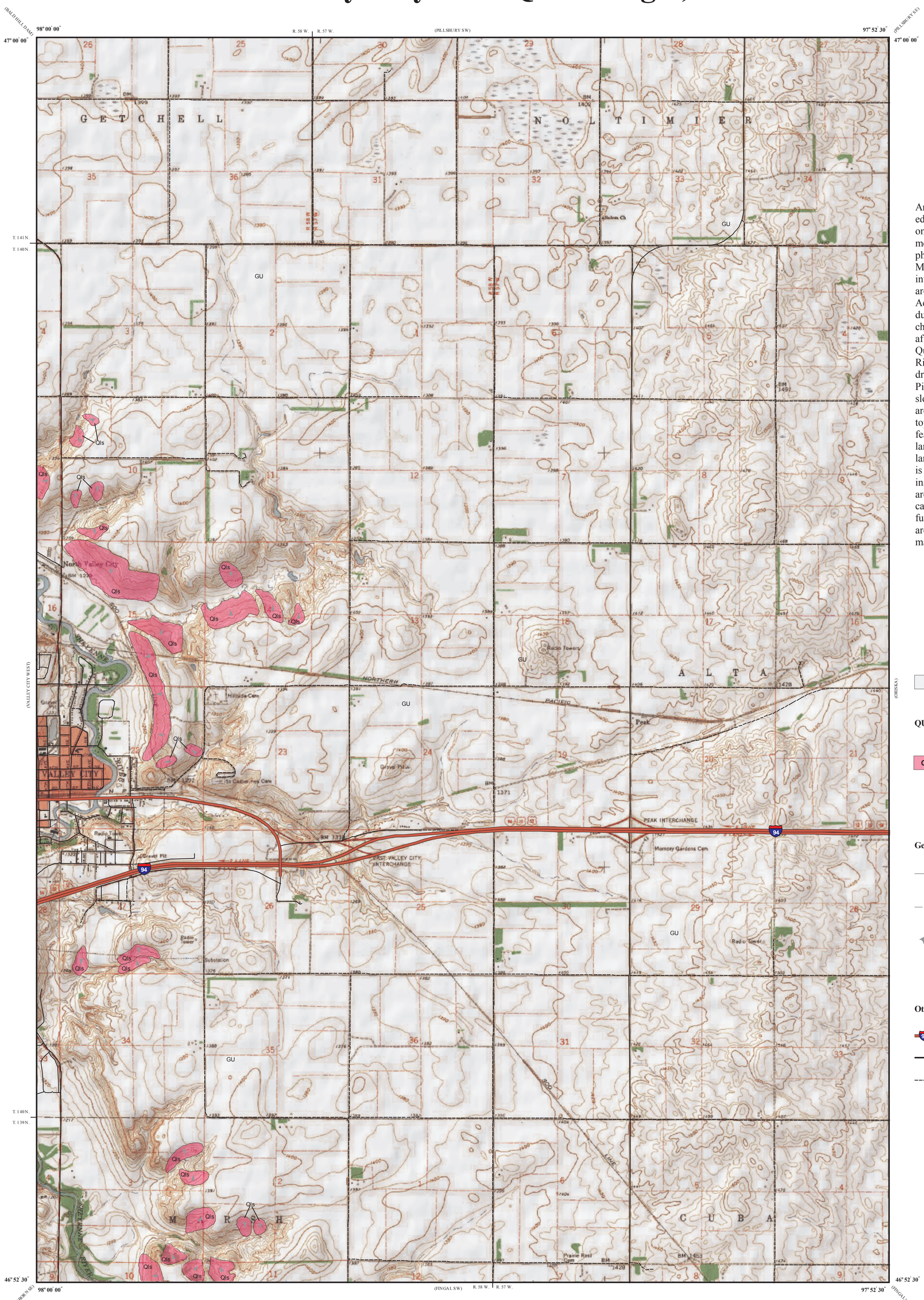
Valley City East Quadrangle, North Dakota

Fred J. Anderson

2004

Preliminary Inventory Map

Areas affected by landslides in the vicinity of the eastern edge of the City of Valley City, North Dakota are depicted on this map at a scale of 1:24,000. Areas of mass movement were mapped from 1997 1:40,000 scale aerial photography using an Abrams (Model CB-1) Stereoscope. Mass movement features were identified at a nominal interpretive scale of 1:20,000. The delineation of affected areas was photo-interpreted at a nominal scale of 1:10,000. Aerial stereo-photographic interpretation was conducted during the Spring, Summer, and Fall of 2004. Field checking was completed during the Fall of 2004. Areas affected by mass movement within the Valley City East Quadrangle are generally constrained to the Sheyenne River Valley slopes and within slopes of tributary drainages. Slope instability is typically initiated within the Pierre Formation shales and marls that form the broad slopes of the Sheyenne River Valley. A total of 27 slide areas (**Qls**) have been mapped that display identifiable topographic characteristics consistent with mass wasting features. Overall, just over one percent (445 acres) of the land area within the quadrangle has been affected by landslides. The average numerical size of an affected area is 16 acres. There is a strong likelihood that other areas of instability and movement exist within this quadrangle that are not mappable at a scale of 1:24,000. The user is cautioned that this map is best used as a planning aid and to further enhance the overall understanding of areas in and around Valley City that are prone to slope instability and mass movement.



EXPLANATION

Geology Undifferentiated

QUATERNARY

Qls **Landslides**

Areas of mass movement that display a net downslope movement of earth material in mass either in a slumping or rotational manner.

Geologic Symbols

Known contact between geologic units

Approximate contact between geologic units

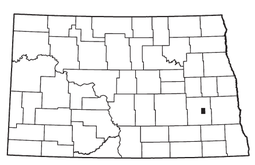
Net downslope movement direction of mass movement feature

Other Features

Federal Highway

Paved Road

Unpaved Road



Valley City East Quadrangle, North Dakota

Scale 1:24,000

0 0.5 1

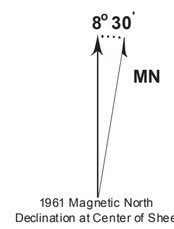
Miles

Lambert Conformal Conic Projection Standard Parallels 46° 52' 30" and 47° 00' 00"

1927 North American Datum NGVD 1929

USGS 7.5 Minute Topographic Map Contour Interval 10 Feet

Road Layer Rectified to 2003 NAIP Digital Orthophoto



Cartographic Compilation: Elroy L. Kadrmas