U.S. DEPARTMENT OF THE INERIOR
U.S. GEOLOGICAL SURVEY

GENERALIZED MAP OF THE CASCADE RANGE, NORTH-CENTRAL OREGON, SHOWING DEUTERIUM DATA

OPEN-FILE REPORT 91-69
PLATE 1

122° 121° 45° 44°

Willamette River
Clackamas River
Mt. Hood
Deschutes River
N. Santiam River
Warm Springs R.
Mt. Jefferson
Metolius R.
S. Santiam R.
Santiam Pass
McKenzie River
Three Sisters
Bend
Newberry Volcano

Qv

-67 -89 -92 -91 -97 -93 -102 -116 -119 -73 -66 -94 -104 -107 -117

2500 5000

EXPLANATION

GEOLOGIC UNIT--Shown only between latitudes 44°00' and 45°15' north

Qv — Quaternary volcanic rocks

Quaternary dacitic or rhyolitic rocks

50 — TOPOGRAPHIC CONTOUR--Shows altitude of land surface. Contour interval 2500 feet. National Geodetic Vertical Datum of 1929

DELTA DEUTERIUM (δD), IN PER MIL

Spring	Well	Stream, Lake	
▲	●	None	Greater than -80
▲	●	None	-80 to -89
▲	●	■	-90 to -99
△	○	□	-100 to -109
△	○	None	Less than -109

-94● THERMAL SPRING--Number is deuterium, in per mil

-73○ NONTHERMAL MINERAL SPRING--Number is deuterium, in per mil

○ THERMAL WELL--Number is deuterium, in per mil

□ SPRING IN HIGH-ORDER BASIN OR SPRING THAT HAS UNDERGONE SIGNIFICANT EVAPORATION OR SPRING AND (OR) WELL WITH CHLORIDE CONCENTRATION GREATER THAN TO 10 MILLIGRAMS PER LITER

Base from U.S. Geologic Survey
State base map, 1982

Scale 1:500,000
1 inch equals approximately 8 miles

10 5 0 10 20 30 40 MILES

10 5 0 10 20 30 40 50 KILOMETERS

CONTOUR INTERVAL 500 FEET
DATUM IS MEAN SEA LEVEL