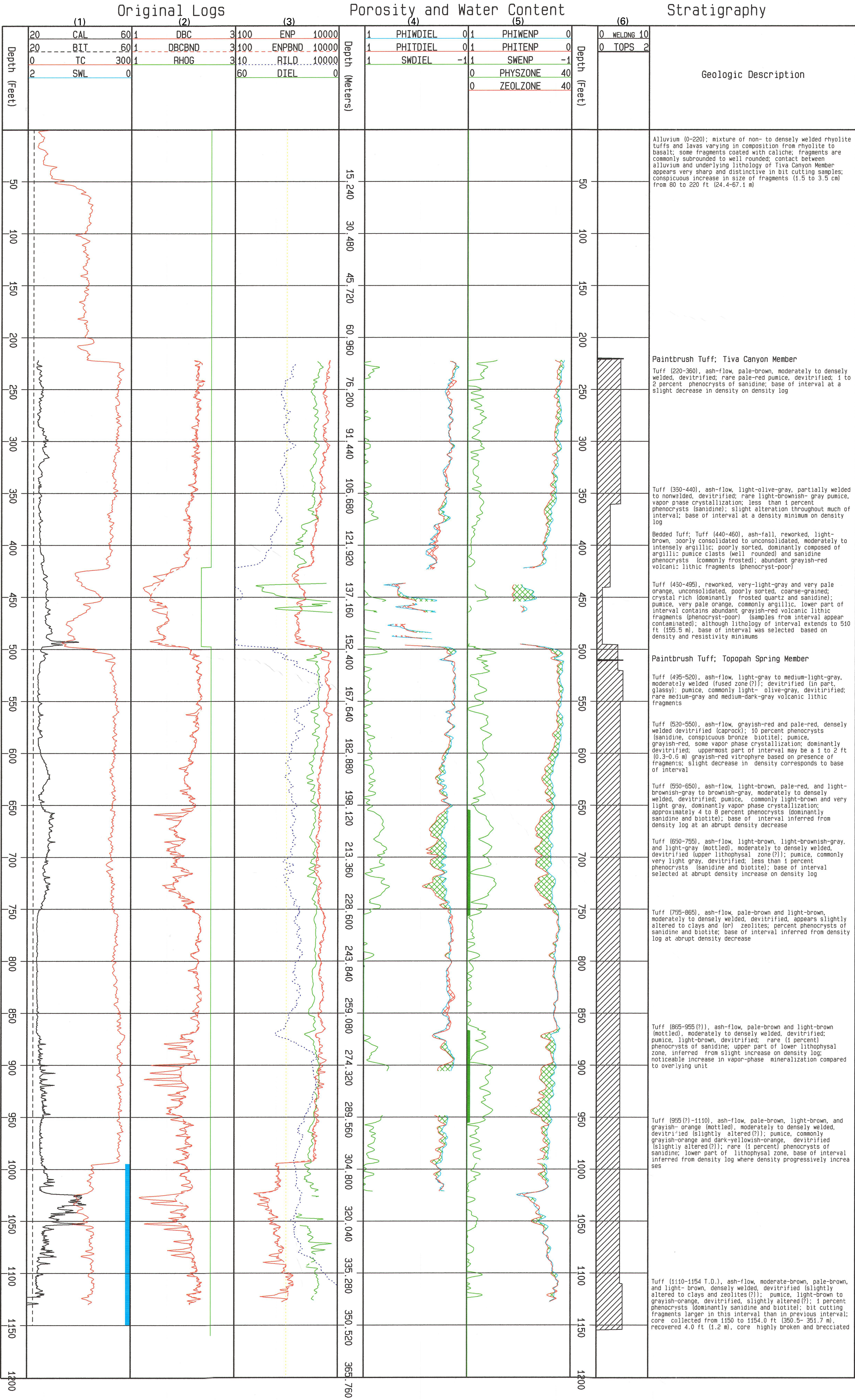


UE-25WT#13



BOREHOLE UE-25 WT#13, YUCCA MOUNTAIN, NEVADA

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Borehole UE-25 WT#13 was completed in July, 1983 to a total depth of 1120 feet. The hole was rotary drilled using air foam consisting of air, detergent, and water (Muller and Kibler, 1985). Depth on the plot is measured along hole, and has not been corrected for deviation. Hole deviation is as great as 2.3 degrees at 1120 feet. (Plate 26 in Nelson and others, 1991): at a measured depth of 1120 feet, the computed true vertical depth is 1119.9 feet, and the computed horizontal offset is 4.8 feet.

Original logs in columns 1–3, acquired on July 5–6, 1983, were described and presented by Nelson and others, 1991. UE-25 WT#13 was drilled for the purpose of monitoring water levels; the static water level is indicated by a cyan bar in column 1 (Robison, 1984).

Porosity and water content computed from the dielectric and density logs are shown in column 4 as phitdiel and phiwdiel, using a method described by Nelson, 1993. Porosity and water content computed from the epithermal neutron and density logs are shown in column 5 as phitenp and phienwp (Nelson, 1994). Green hatching between the porosity and water content curves denotes air-filled porosity.

Saturation (swdiel in column 4, swenp in column 5) is computed as the ratio of water content to porosity. The flag physzone (green bar in column 5) denotes the presence of abundant lithophysae. Their depth extent is taken from inspection of the green hatch areas in columns 4 and 5 and from consideration of other logs.

Stratigraphic tops and degree of welding, given in column 6, and the geologic description, in the text column, are from R. Spengler, U.S. Geological Survey, written communication, 1995. The degree of welding (weldng) increases to the right, in accordance with the geologic description.

EXPLANATION OF CURVES AND SYMBOLS

- Column 1
- CAL Caliper in cm, black curve.
 - BIT Bit size in cm, black dash line.
 - SWL Static water level, vertical cyan bar.
 - TC Gamma ray in API units, red curve.
- Column 2
- DBC Density in g/cc, red curve.
 - DBCND Density bound in g/cc, red dash curve.
 - RHOG Grain density in g/cc, green curve.
- Column 3
- ENP Epithermal neutron in counts/sec, red curve.
 - ENPBD Epithermal bound, red dash curve.
 - RILD Induction resistivity in ohm-m, blue dot curve.
 - DIEL Dielectric permittivity, ratio, green curve.
- Column 4
- [fractional volume of whole rock, increasing to left]
 - PHIWDIEL Water content, from DIEL and DBCND logs, cyan curve.
 - PHITDIEL Porosity, from DIEL and DBCND logs, red curve.
 - (green hatch where PHITDIEL > PHIWDIEL, red hatch where PHITDIEL < PHIWDIEL).
 - SWDIEL Water saturation, ratio of PHIWDIEL to PHITDIEL, green curve.
- Column 5
- [fractional volume of whole rock, increasing to left]
 - PHIWENP Water content, from ENPBD and DBCND logs, cyan curve.
 - PHITENP Porosity, from ENPBD and DBCND logs, red curve.
 - (green hatch where PHITENP > PHIWENP, red hatch where PHITENP < PHIWENP).
 - SWENP Water saturation, ratio of PHIWENP to PHITENP, green curve.
 - Lithophysal zone, picked from logs, green bar.
- Column 6
- TOPS Stratigraphic boundaries, black ticks.
 - WELDNG Degree of welding from core inspection, black slant.

NOTES

Date of last computation: April 1995
Plot Date: February 1996
Scientific Notebook: SN-0092

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