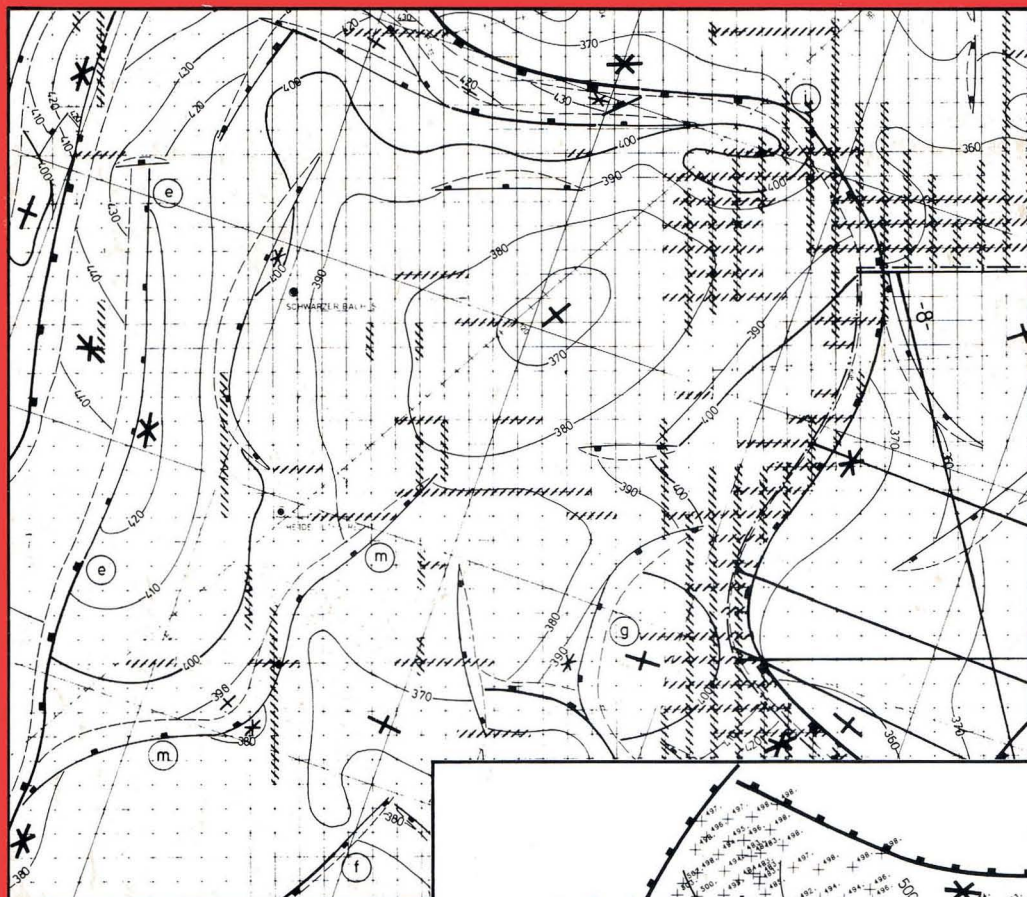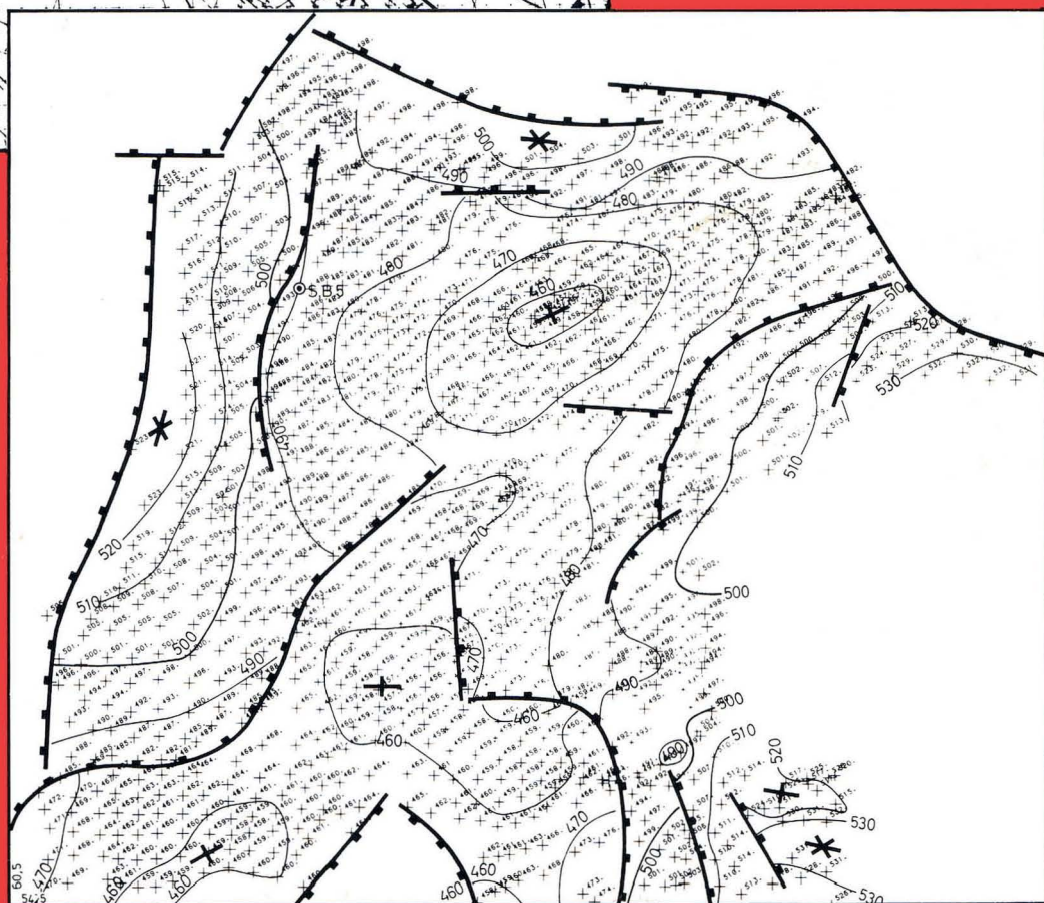# PRAKLA-SEISMOS INFORMATION No.1
Migration
of Reflection-time Maps

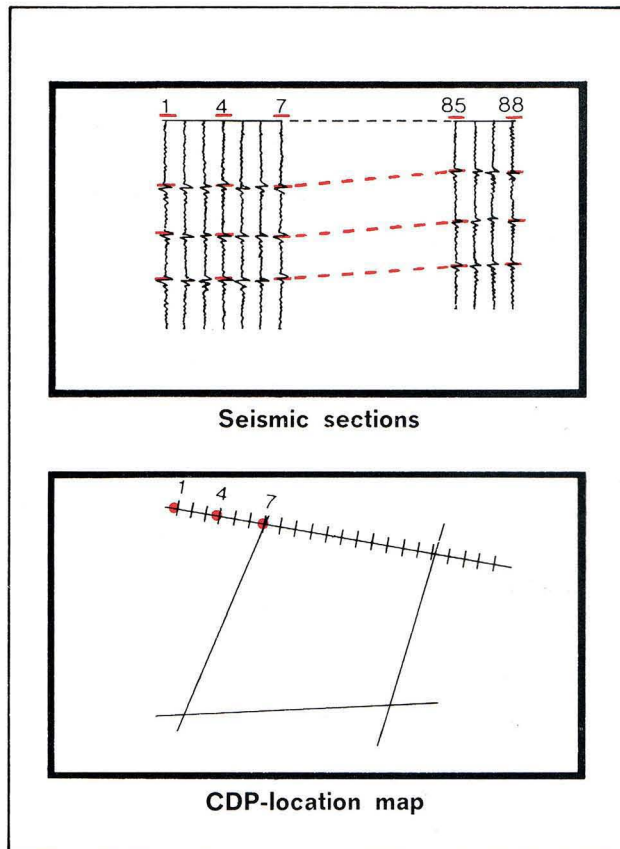Time Contour Map (unmigrated)

Depth Contour Map (migrated)

The program flow chart

shows the various possibilities
for input of reflection times
and velocities, data processing
and output of results.
The program is based
on the ray tracing method.

Input

Data digitization

Velocity distribution

Seismic sections

CDP-location map

Isochron map

Gridded time map

reflection
times

CDP-
coordinates

isochron
coordinates

gridded
time data

gridding:
time values
on regular grid
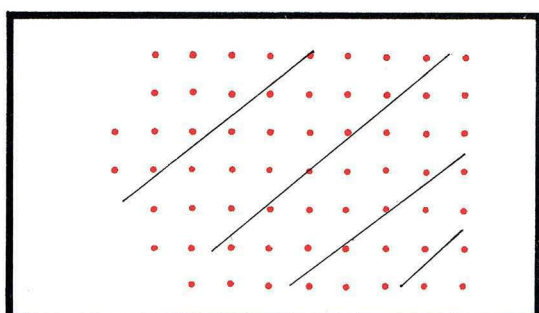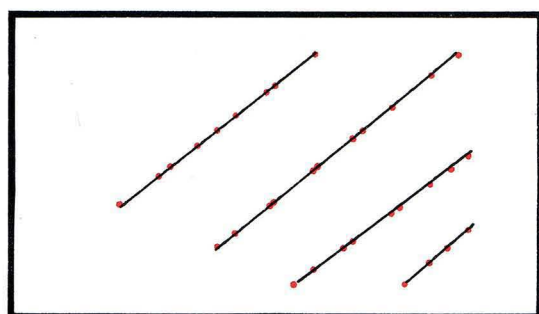
Mathematical functions

$$v = v_i + az_i + \ldots$$

Regional
velocity
information

velocity
maps

gridding:
velocity data
on regular grid

Data Processing

Output

determination of time
gradients incl. data check
on geological faults

calculation of initial
directions of all ray paths

1st horizon

2nd horizon

3rd horizon

nth horizon

gridding +
contouring

coordinates +
depth plot

depth contour
plot

+ 311

+325 +330

+333 +342

+357 +366

Depth map

+ 311 — 320 — 330

— 340

— 350

— 360

+ 366

Depth contour map
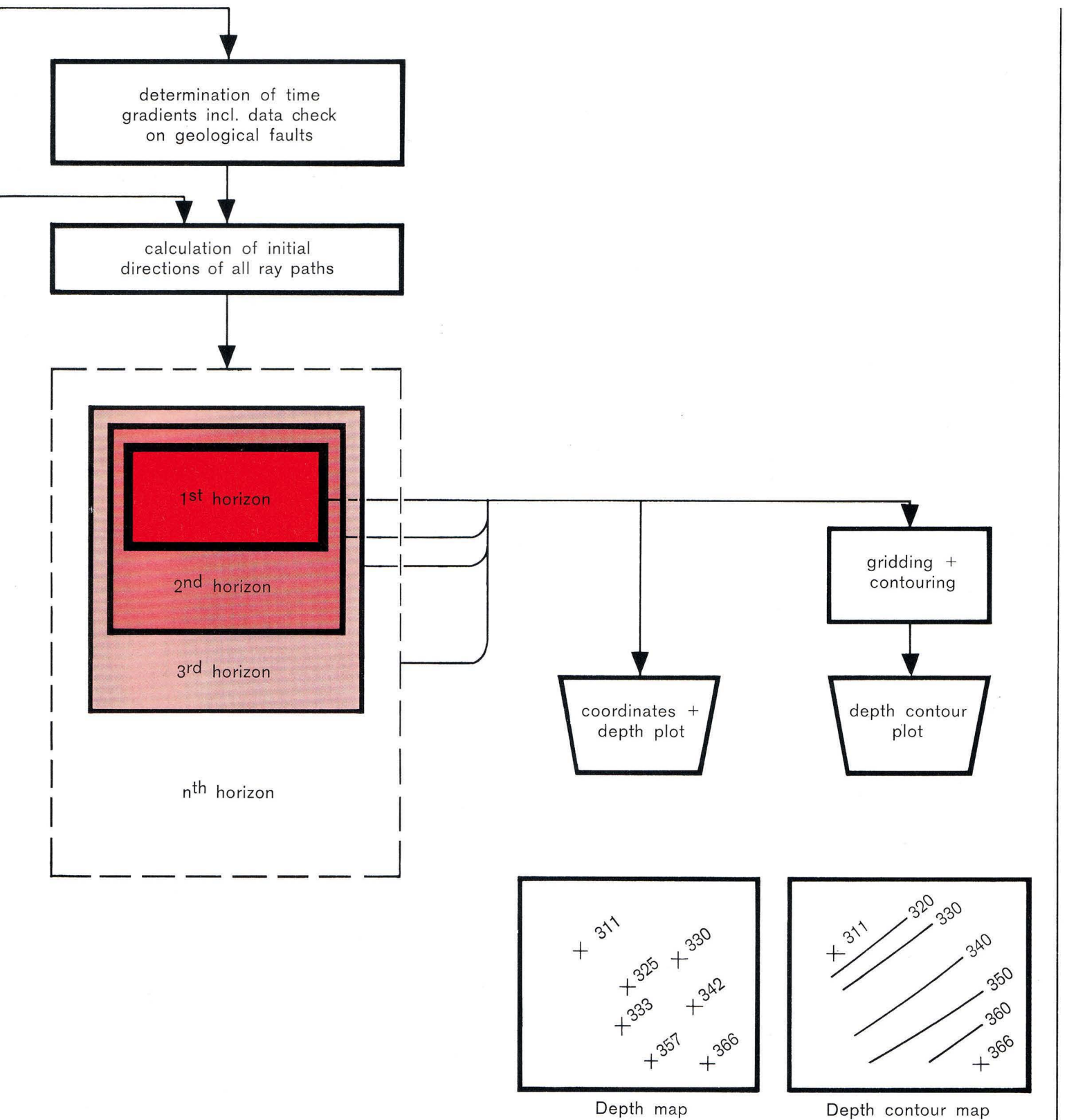
Migration
of Reflection-time Maps

The program was developed to fulfill the needs of seismic interpreters for a rapid conversion of unmigrated isochron maps, derived by one or another method from seismic sections, into migrated depth contour maps. Ray tracing is carried out taking into account time gradient, velocity, and the refraction of ray paths at overlying velocity discontinuities.
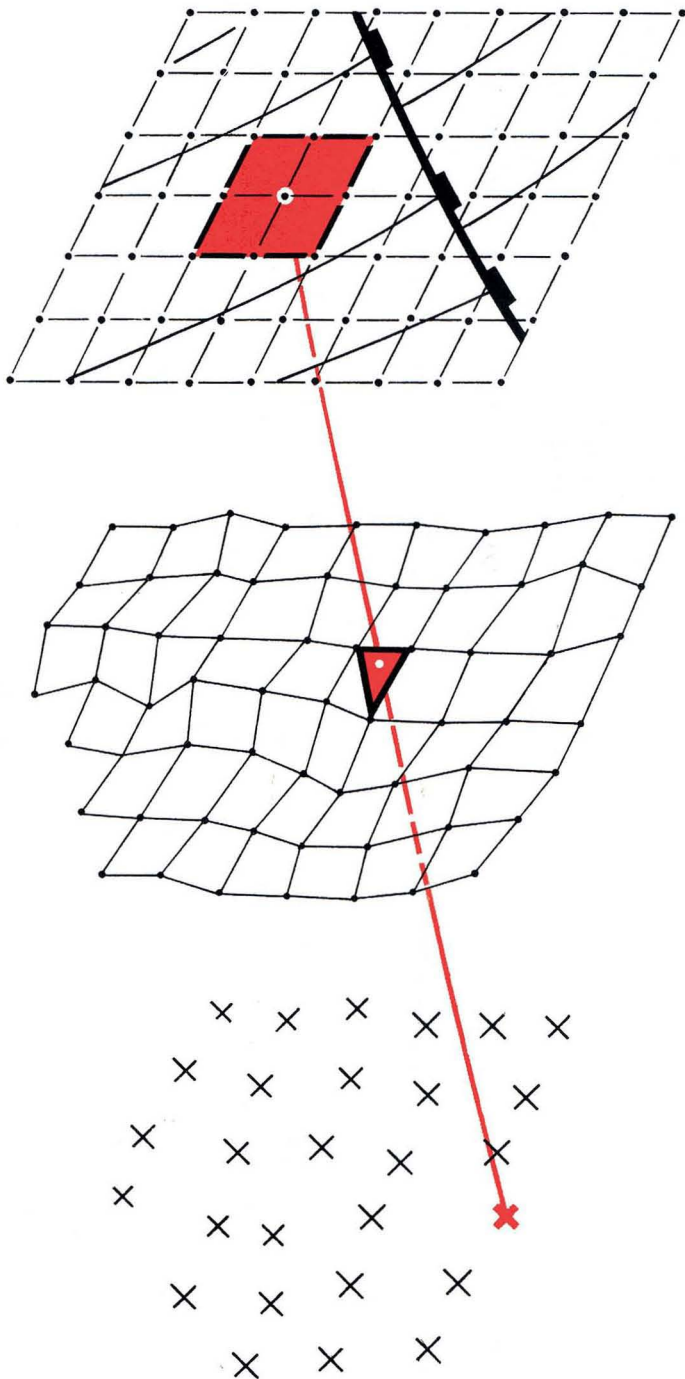
Reflection Times at datum plane

Refracting velocity discontinuity

Depth Map

PRAKLA-SEISMOS GMBH · HAARSTRASSE 5 · P.O.B. 4767 · D-3000 HANNOVER 1
PHONE: 8 07 21 · TELEX: 9 22 847 · CABLE: PRAKLA · GERMANY

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