

## INTER-OFFICE MEMORANDUM

SUBJECT: Interpretation Seismic Reflection Profile - Line 1 - Animas, New Mexico (4594A). DATE: January 26, 1984

TO: H. J. Olson cc: J. E. Deymonaz  
Wim Lodder  
W. M. Dolan

FROM: H. D. Pilkington

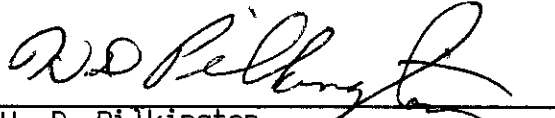
AMAX Exploration, Inc., purchased data for two seismic reflection lines (Fig. 1) in the Animas area, New Mexico. The survey was done by G.S.I. for Cockrell Oil Corporation. The east-west line, Line 2, was processed by Microgeophysics (1981) and interpreted by Art Lange in May of 1981. Figure 2 shows the interpretation of MGS seismic time section by Art Lange. On Figure 3 the beds are shown in their respective colors to a true depth scale with the lithologic section from Cockrell Well shown as well.

In order to provide some stratigraphic data for the proposed TFD well at Animas I decided to attempt an interpretation of Line 1. After study of the interpretation by Art Lange (Fig. 2 & 3) I used the same color coding to identify reflection sets along Line 1 (Fig. 4). Based upon Figure 4 and Figure 3 we can make reasonable estimates of the time depths to key stratigraphic tops in the vicinity of the "Hot Wells" and thus near the 55-7 location:

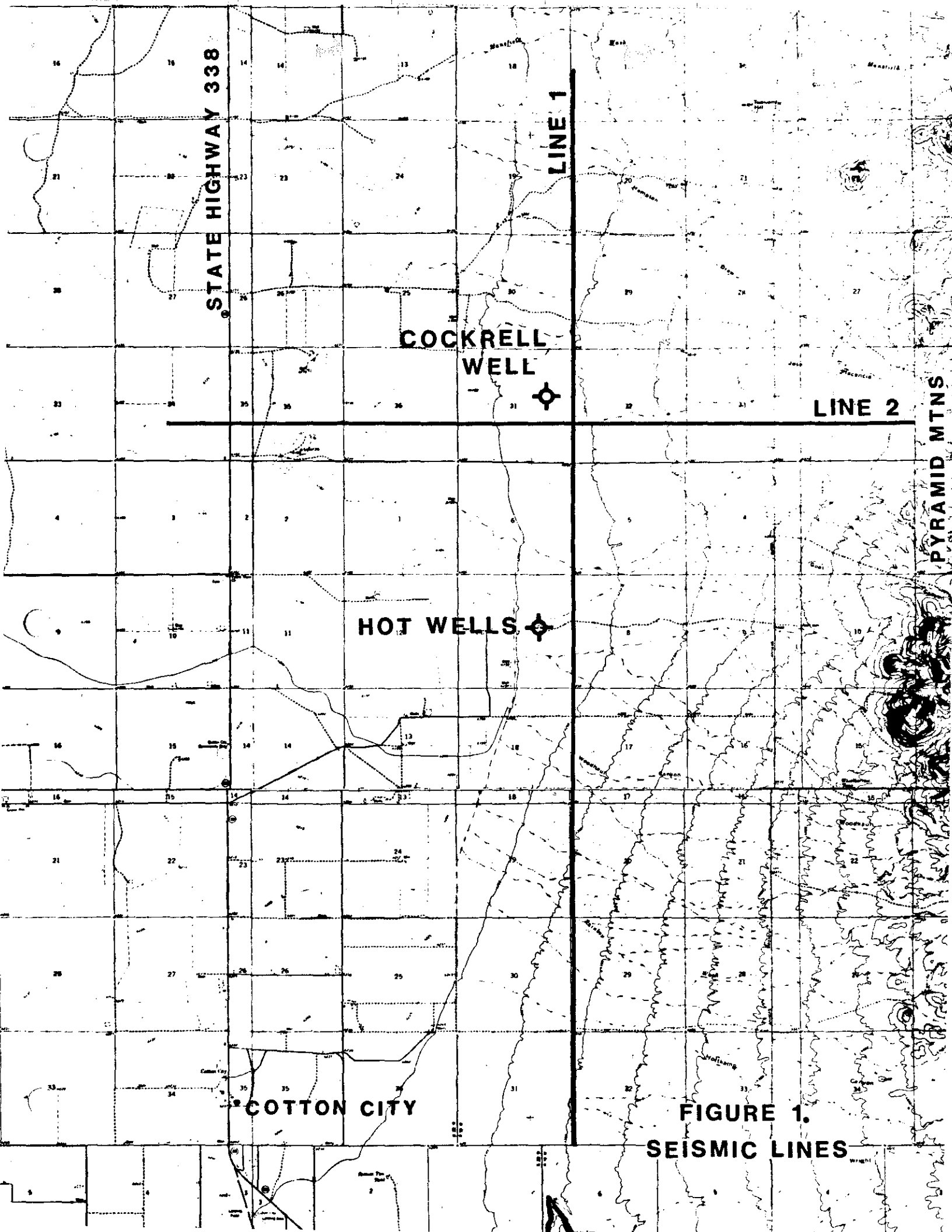
<u>Stratigraphic Top</u>	<u>Depth (ft)</u>
Post Muir Caldera Volcanics	220
Pre Muir Caldera Volcanics	3175
Paleozoic Section	5750
Precambrian Basement	6930

Since the seismic line is about 0.7 km east of the TFD location, the depths to the stratigraphic tops given above will be somewhat different. One would expect the depths to be somewhat greater as we approach the boundary fault.

The breaks in continuity of a given set of reflections along Line 1 suggests several cross cutting faults.

  
H. D. Pilkington

HDP/c



STATE HIGHWAY 338

LINE 1

COCKRELL WELL

LINE 2

PYRAMID MTNS

HOT WELLS

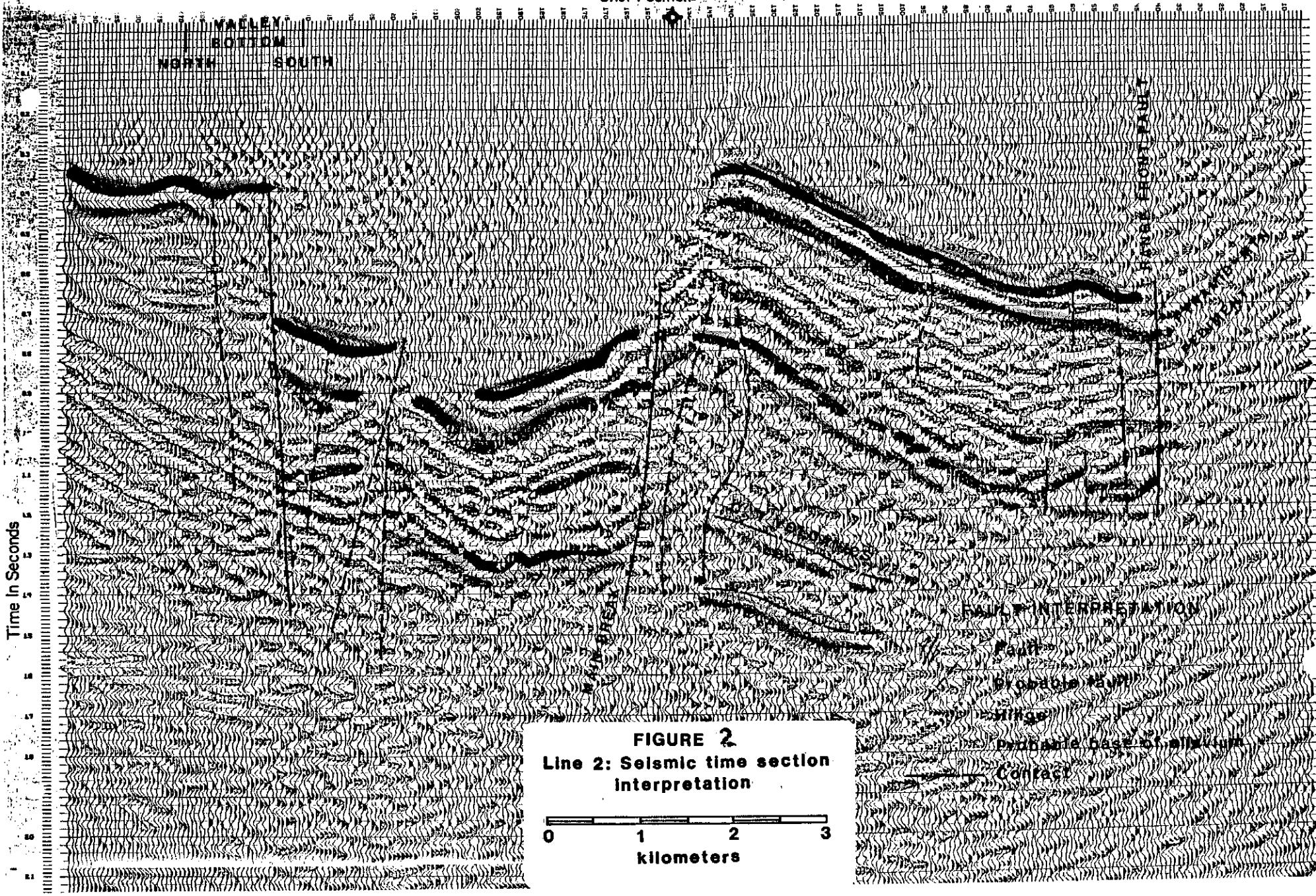
COTTON CITY

FIGURE 1.  
SEISMIC LINES

Shot Positions

VALLEY  
BOTTOM  
NORTH SOUTH

Time In Seconds



**FIGURE 2**  
**Line 2: Seismic time section interpretation**

0 1 2 3  
kilometers

Fault Interpretation  
Fault  
Syncline  
Dip-slip base of alluvium  
Contact

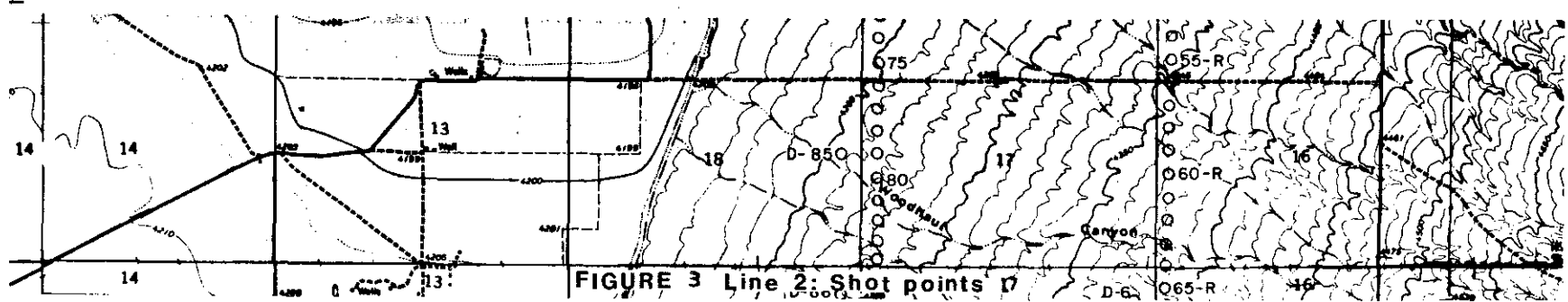
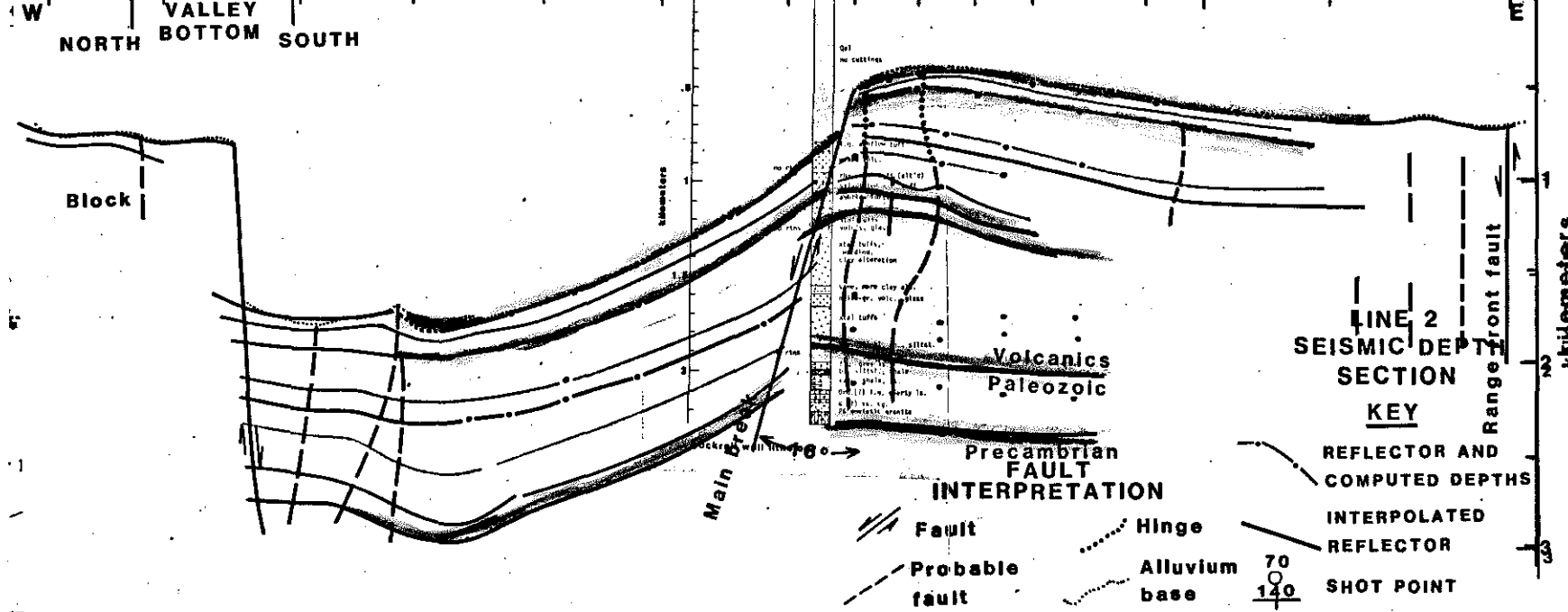
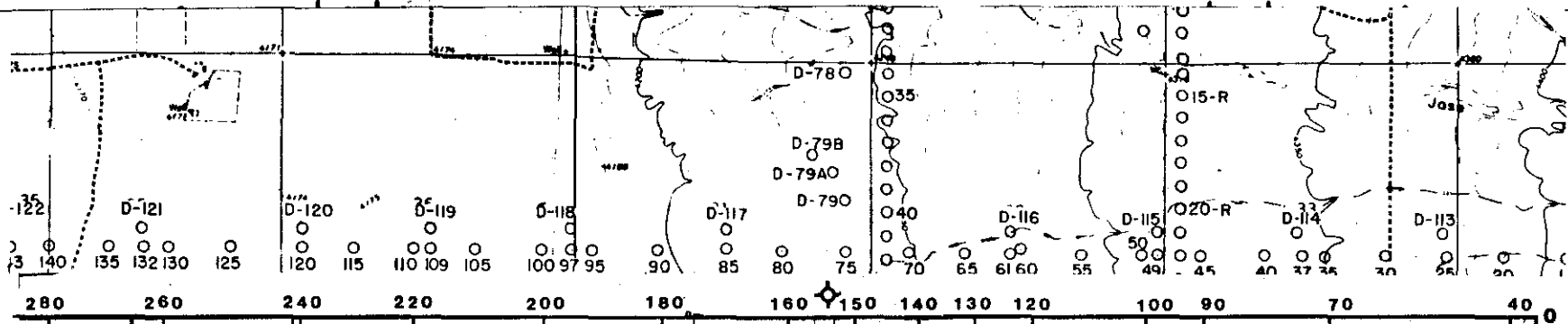


FIGURE 3 Line 2: Shot points

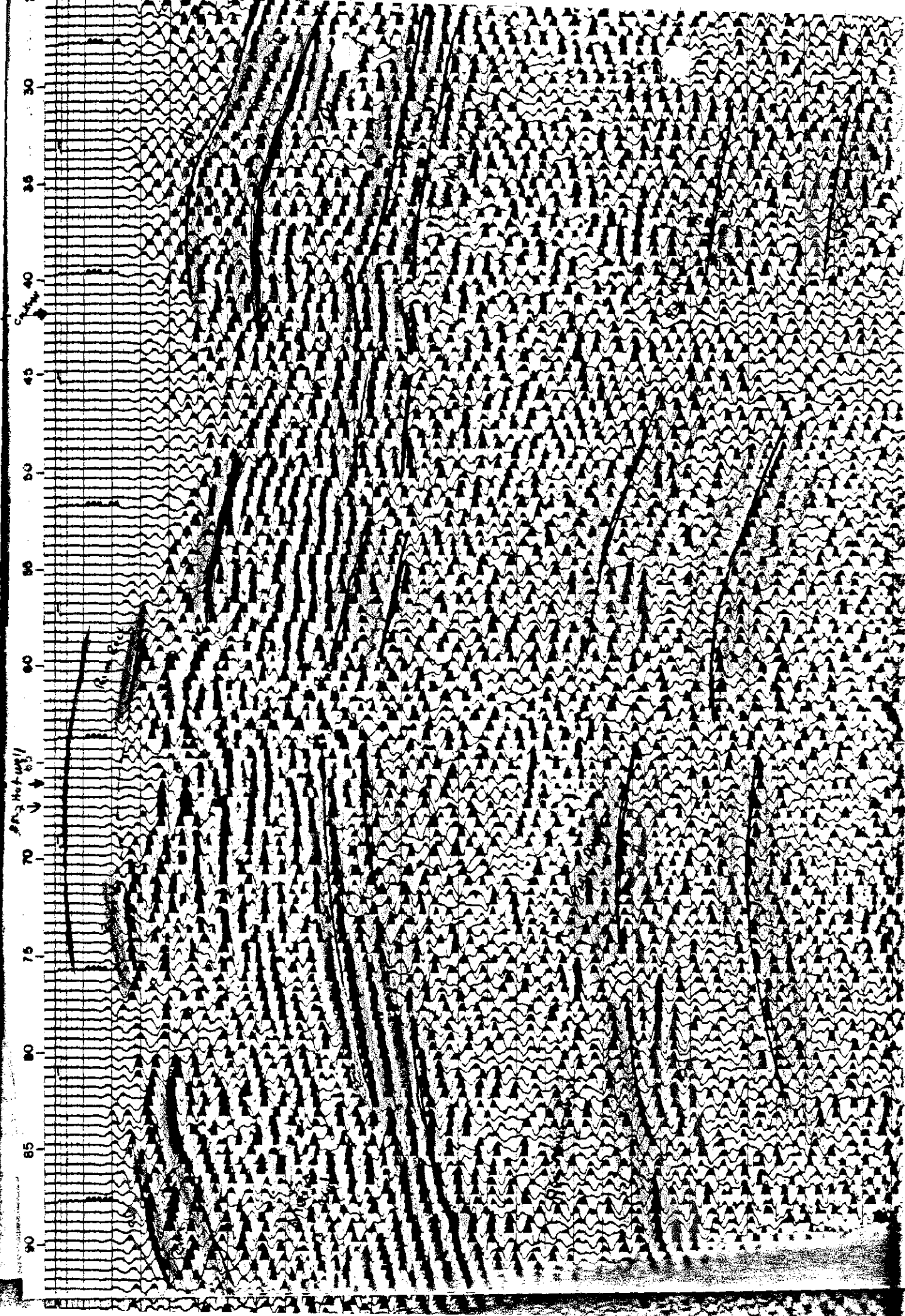


Figure 4. Interpretation seismic profile - line 1 - Animas valley

## REFERENCES

Microgeophysics Corporation, 1981, Animas, New Mexico, Seismic interpretation; report to AMAX Exploration, Inc.

Lange, A. L., 1981, Seismic reflection profile line 2, Animas Valley, New Mexico; AMAX Exploration, Inc. Report.