Introduction.

This map was made in 1976 as part of the Definitive Survey program to evaluate the oil and gas potential of tracts that were offered for lease to those who filed on the low Cook Inlet shelf. The map represents an interpretation of data from 23 wells on the Cook Inlet shelf that were selected as areas of interest where development would be feasible into the subsurface petroleum resources.

Depth intervals are characterized by low spontaneous potential and low resistivity or induction survey logs from the wells were scored to be compared to anomalies. By plotting vectors on a map, the depth from mud logs for the subsurface interval, the velocity profiles were superimposed for the anomaly in each of the wells.

Oasis calculation of velocities were primarily related to the degree of compensation of the anomalies. The subsurface compensation is related to depth of burial, differences seen in the velocity profile between the various wells could be related to differences in the amount of postcompensation uplifts to the sites of the wells. Differences in the amount of uplift that has occurred at the various well locations were enhanced by comparing the profiles of the various wells and correlated to depth offset on the geological section. The depth below the oil-water contact was correlated to the various well locations, and the amount of depth offset and direction of depth offset. One of the wells with the lowest velocity profile, Mount Prospect Hill No. 1 (same area section of uplift), was used to establish an arbitrary depth to which anomalies of uplifts at other well locations were related.