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Geothermal Resource Potential of the Agua Blanca Fault System and Its Seaward Extension ROBERT B. McEUEN

A geothermal survey carried out near the port city of Ensenada, Mexico along the seismically active Agua Blanca fault indicates that geothermal waters at moderate depth approach a temperature of 200°C. Some of these waters issue from the sea floor at 102°C and deposit substantial amounts of secondary pyrite on the ocean floor. This type of deposition suggests that superheated steam is present in the geothermal system.

Onshore electrical resistivity and airborne magnetic data suggest that the fault responsible for the onshore thermal manifestations is further removed from the mountain front than previously suspected. These data also suggest that the thickness of the potential reservoir rock will probably not exceed 1800 m. Self-potential measurements taken offshore confirm the seaward extension of the fault-controlled thermal zone. Onshore selfpotential measurements are less definitive due to the increased number of variables which affect the onshore measurement. Shallow temperature measurements suggest that convective overturn may be occurring along the onshore portion of the fault zone. Relative heat-flow measurements. taken without the aid of drill holes, indicate that lateral change in heat flow amounting to 150 HFU occurs in the area of maximum near-surface temperature.

This geothermal resource is located within two miles of the head of a submarine canyon. The proximity of this heat sink suggests many interesting exploitation schemes.