

JULY 1991 MONTHLY REPORT

Scientific Observation Hole (SOH) Program

Geothermal Resource Permit: GRP 89-1

Lilewa, Kapoho, and Halekamahina, Hawaii

TMK: 1-2-10:01; 1-4-01:02; and 1-4-02:32

Hawaii Natural Energy Institute

University of Hawaii

August 1991

SUMMARY

The SOH-2 hole was completed to the total depth of 6,802 feet at 1 am on May 29, 1991. On June 9, 1991, the Tonto drill rig was released from SOH-2 and moved on the HGP-A well to assist the PICHTR research project. No drilling at any of the SOH sites occurred during this reporting period. Since June 13, 1991, the Tonto U-5000 rig has been on standby awaiting notification from the County of Hawaii that work can continue on the SOH project. The sump material at SOH-1 and SOH-2 has been analyzed to determine its suitable disposal. Based on Brewer Environmental Industries, Inc.'s July 16, 1991, results of their laboratory analysis, the drilling mud and cuttings sampled from the SOH-1 and SOH-2 sites were found to be nonhazardous. The sumps at both sites will be drained and the waste material will be used as backfill material to fill the sumps' excavation. A grading permit was issued for the SOH-3 site on June 10, 1991.

I. INTRODUCTION

This document presents the July, 1991, monthly report to the County of Hawaii Planning Department to support the Scientific Observation Hole (SOH) program in the Kilauea Middle and Lower East Rift Zones. The SOHs are for scientific observation purposes only. The information to be gained from the SOHs will provide an assessment of subsurface geological conditions, groundwater level and composition, temperature, drilling conditions, an inventory of possible mineral and geothermal resources, and an eruptive history of the island to the depth drilled.

This report addresses: occurrence and duration of any start-up, shut-down, and operation mode of any SOH/facility; performance testing, evaluation, calibration checks, and adjustment and maintenance of the continuous emission monitor(s) that have been installed; and emission measurements.

II. BACKGROUND

The County of Hawaii Planning Commission approved, on August 8, 1989, a geothermal resource permit application (GRP 89-1) to drill Scientific Observation Holes (SOHs) in the Kilauea Middle and Lower East Rift Zone. This document presents a monthly report, as required in Condition 6:

"The petitioner shall maintain a record in a permanent form suitable for inspection and five (5) copies shall be filed with the Planning Department on a monthly basis during drilling and for six (6) months after the completion of drilling to establish a hole specific baseline and such record shall be available to the community. The record shall include:

- a. Occurrence and duration of any start-up, shut-down, and operation mode of any SOH/facility.
- b. Performance testing, evaluation, calibration checks, and adjustment and maintenance of the continuous emission monitor(s) that have been installed.
- c. Emission measurements reported in units compatible with applicable standards/guidelines."

As designated, four holes are planned to be drilled along the Kilauea East Rift Zone on the Big Island of Hawaii. Three of the Big Island holes (SOHs 1, 2, and 4) are on agriculture land and have been permitted by the County of Hawaii Planning Commission. The fourth hole, designated SOH-3, is on

conservation land. SOH activities under Conservation District Use Permit (HA 12/20/85 - 1830) issued to the Estate of James Campbell have been approved.

III. SOH-1 SITE

Drilling Activity

Drilling is complete. The sump material has been analyzed to determine its suitable disposal. Based on Brewer Environmental Industries, Inc.'s July 16, 1991, results of their laboratory analysis, the drilling mud and cuttings sampled from the SOH-1 site were found to be nonhazardous. The sump will be drained and the waste material will be used as backfill material to fill the sump's excavation. The site will be reclaimed to its original state after testing and monitoring are completed.

Monitoring Program -

Air Quality, Meteorological, Noise and Emissions are not monitored, as drilling has been completed at this site.

IV. SOH-2 SITE

Drilling Activity

SOH-2 was completed to the total depth of 6,802 feet at 1 am on May 29, 1991. Following the completion of a number of down hole temperature and pressure surveys, the drilling equipment was rigged down and work was terminated at SOH-2 on June 9, 1991.

Monitoring Program -

On July 1, 1991, the H₂S Colortec canisters were removed from the SOH-2 site and stored in preparation for use at the next SOH site. Air Quality, Meteorological, Noise and Emissions are not monitored, as drilling has been completed at this site.

V. SOH-3 SITE

Drilling Activity

No drilling activity has been initiated. Access to the SOH-3 site has not been constructed, nor has the site been cleared or graded. SOH-3 is scheduled to be located at the True/Mid-Pacific alternate drill site 2 (approximately 3,000 feet north-north-west of the present drill site). On June 10, 1991, a grading permit was issued by the Planning Department for the proposed SOH-3 site. Work on the SOH-3 site and access will proceed upon approval from Governor John Waihee.

VI. SOH-4 SITE

Drilling Activity

Drilling is completed. No activity was performed during this period.

Monitoring Program -

Air Quality, Meteorological, Noise and Emissions are not monitored, as drilling has been completed at this site.