Japan Geoscience Union Meeting 2013

(May 19-24 2013 at Makuhari, Chiba, Japan)

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SVC52-01



Time:May 21 16:15-16:30

Tracer test at Minami-Izu hot spring area, Shizuoka

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Tracer test is carried out in high temperature hot spring fluid layer at Minami-Izu geothermal field, Shizuoka, Japan. In Minami-Izu field, the temperature of several hot spring wells is about 100 degree C at a depth around 150 m. About 500g uranine tracer was injected at 16 September. We monitored tracer appearance at 5 wells using optical fiber system and lab spectrometer.

1)At Daigaku-yu (K-13) well, the first tracer appeared 9 hours after tracer injection and tracer concentration rapidly increased and showed peak at three days after injection. The return ration at K-13 is estimated about 30%.

2)In other wells, at Tamagawa-yu (K-11) about 150 meter from injection well, the first tracer appear at 10 days after injection and earlier than Kyodou-yu (K-3).

3)The main flow injected tracer is along with the large fault between injection well and K-13 and the main flow in hot spring reservoir seem to the right angle of fault and ENE direction.

Keywords: Tracer test, Uranine, Hot spring, Optical fiber system, Fault, Horizontal flow