

Regarding the Hokkaido Eastern Iburi Earthquake of September 6th, 2018
(English translation of notice on Japanese website of September 12th, 2018)

Japan CCS Co., Ltd.

Japan CCS (hereinafter JCCS) expresses its deepest condolences and sympathies to those affected by the recent earthquake in Iburi Region, Hokkaido, and sincerely hopes for the early restoration of the stricken area.

According to the Japan Meteorological Agency, the epicenter of the earthquake occurring at 3:07 a.m. on September 6th, 2018, was at a depth of 37km in the mid-eastern part of Iburi Region, and tremors equivalent to lower 5 in seismic intensity were recorded at our Tomakomai CCS Demonstration Center.

Due to the stoppage of supply from the CO₂ source, injection operations had been in temporary suspension since 2:25 a.m. September 1st, and the injection of CO₂ was not being conducted when the earthquake occurred. No damage or abnormalities of the facilities of the Tomakomai CCS Demonstration Project was found.

(1) Regarding the CO₂ Storage Condition

In the Tomakomai CCS Demonstration Project, CO₂ is being injected via two separate injection wells, one for the Moebetsu Formation and the other for the Takinoue Formation, and in order to monitor the storage condition on a 24-hour basis, the pressure and temperature of the formations into which CO₂ is injected is measured continuously.

Although pressure and temperature data of the reservoirs are partly lacking due to power outage caused by the earthquake, there is no data suggesting the leakage of CO₂, as data acquired after power recovery follows the same trend as that before the power outage, identical to the trend seen in past stoppages of injection. A number of experts have expressed the same view as JCCS regarding this matter, and we will continue to seek the opinions of more experts.

(2) Regarding the Tomakomai CCS Demonstration Project and the Eastern Iburi Earthquake

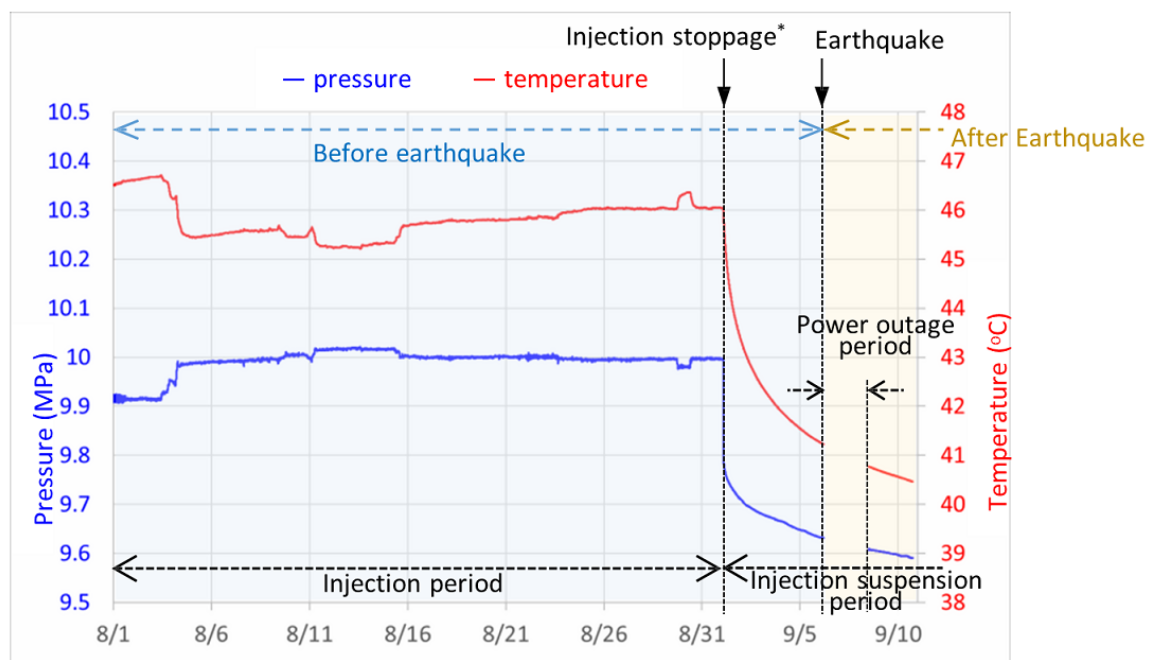
In the Tomakomai CCS demonstration Project, CO₂ is stored mainly in the Moebetsu Formation located approximately 1,000m below the seabed, 3km offshore of Tomakomai West Port, and the stored CO₂ exists in the reservoir within an approximately 500m horizontal distance around the injection point.

The earthquake occurred in the mid-eastern part of the Iburu Region about 31km in horizontal distance from the CO₂ storage point, at a depth of 37km (the direct distance between the storage point and epicenter is about 47km). There is no continuity between the formation where the CO₂ is actually being injected and the formation where the epicenter is located, and there is nothing suggesting any effect of the CO₂ injection extending to the depth of the epicenter.

(Reference: Regarding the situation of CO₂ storage)

For the Moebetsu Formation, CO₂ is being stored at a depth of approximately 1,000m below the seabed, 3km offshore of Tomakomai West Port. The most recent injection period was from July 31st thru September 1st, after which CO₂ injection was suspended due to the stoppage of supply from the CO₂ source. Following suspension, the pressure and temperature of the reservoir has been declining (Fig. 1). The cumulative injected CO₂ volume is 207,209 tonnes.

Fig. 1 Change in the pressure and temperature of the Moebetsu Formation injection well

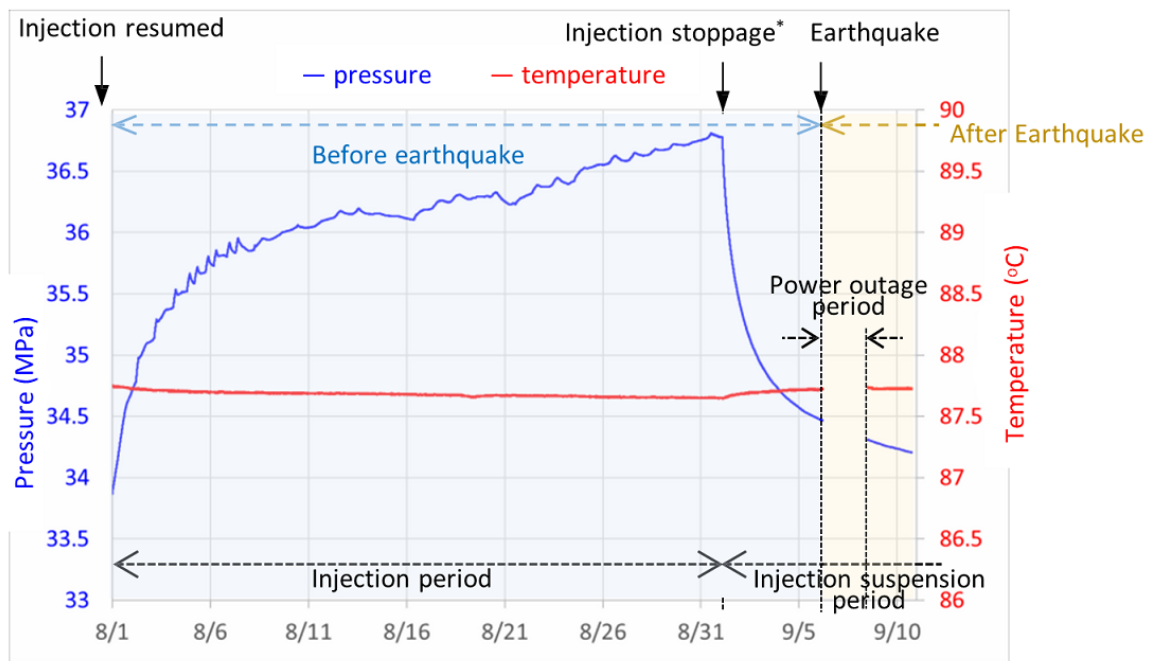


* The injection of CO₂ into the reservoir has been temporarily suspended from September 1st due to the stoppage of the supply from the CO₂ source.

With regard to the Takinoue Formation, CO₂ is stored at a depth of about 2,400m below the

seabed, 4km offshore of Tomakomai West Port. Injection was started on July 31st, and the pressure of the reservoir was on an upward trend since August 1st, but the temperature was on a declining trend as the temperature of the injected CO₂ was lower than that of the reservoir. Upon the stoppage of injection, the pressure of the reservoir went into decline, whereas the temperature has risen slightly (Fig. 2). The cumulative CO₂ injected amount is 98.2 tonnes.

Fig.2 Changes in the pressure and temperature of the Takinoue Formation injection well



* The injection of CO₂ into the reservoir has been temporarily suspended from September 1st due to the stoppage of the supply from the CO₂ source.

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