

# Modeling of the geological-structure and confirmation of applicability of investigation technologies

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Japan Nuclear Cycle Development Institute (JNC) is proceeding with underground research laboratory (URL) project for the sedimentary rock in Horonobe, Hokkaido. This project is an investigation project which is planned over 20 years. Surface-based investigations (Phase 1) have been conducted for the present.

The purposes of the Phase 1 are to construct the geological environment model (geological-structural, hydrogeological, and hydrochemical models) and to confirm the applicability of investigation technologies for the geological environment. The geological-structural model comprises the base for the hydrogeological and hydrochemical models.

We constructed the geological-structural model by using data obtained from literature studies, geological field investigations and deep borehole investigations. Besides, we compared the geological-structural model with the results of lineament investigation, airborne geophysical survey (electromagnetic, magnetic, radiometric) and ground geophysical survey (electromagnetic). Then, we studied the applicability of these investigation technologies.