

Author: Keyword: 

Search

[ADVANCED](#)[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1881-4824

PRINT ISSN : 0912-7984

**BUTSURI-TANSA(Geophysical Exploration)**

Vol. 58 (2005) , No. 1 pp.92-96

[\[Image PDF \(2246K\)\]](#) [\[References\]](#)**Application of hydrogeological and geophysical methods to delineate leakage pathways in an earth fill dam**Sung-Ho Song<sup>1)</sup>, Yoonho Song<sup>2)</sup> and Byung-Doo Kwon<sup>3)</sup>

1) Korea Agricultural and Rural Infrastructure Corporation

2) Korea Institute of Geoscience and Mineral Resources

3) Dept. of Earth Science Education, Seoul National University

(Manuscript received June 29, 2004)

(Accepted November 2, 2004)

**ABSTRACT** Comprehensive field surveys, including various hydrogeological and geophysical methods, were carried out to appraise the applicability of those methods to a leakage problem at the Sandong earth fill dam in southwestern Korea. The methods applied in the field site were tracer tests, monitoring of drawdown and leakage with discharge of reservoir water, electrical resistivity surveys using the dipole-dipole array, self-potential (SP), and temperature logging methods. The leakage pattern in the reservoir wall was demonstrated by hydrogeological methods and was further clarified by the geophysical surveys. Leakage turned out to be through the right abutment of the reservoir wall. In this study, we confirmed that the electrical resistivity method is effective in detecting the zones favorable to leakage, and SP methods are useful for delineating the leakage pathways themselves, because leaks generate strong streaming-potential anomalies.

**Key words:** leakage, drawdown, hydrogeological approach, geophysical survey, electrical resistivity, self-potential

[\[Image PDF \(2246K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

Sung-Ho Song, Yoonho Song and Byung-Doo Kwon (2005): Application of hydrogeological and geophysical methods to delineate leakage pathways in an earth fill dam , BUTSURI-TANSA(Geophysical Exploration), **58**, 92-96 .

---

doi:10.3124/segj.58.92

JOI JST.JSTAGE/segj/58.92

Copyright (c) 2007 The Australian Society of Exploration Geophysicists/The Society of Exploration Geophysicists of Japan/The Korean Society of Exploration Geophysicists

---



---

[Japan Science and Technology Information Aggregator, Electronic](#)

