

## 基隆新山水庫壩體滲流水之來源探討-逐步多元迴歸分析之結果

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**摘要** 本研究利用逐步多元迴歸分析法檢視基隆新山水庫等相關水文數據，以探討土石壩壩體滲流水之可能來源。結果顯示新山水庫壩趾排水之來源除原水庫滲漏水外，依季節氣候特徵而另有來自雨水或觀測井內水體之額外來源。異常出現於壩體左邊坡之滲流水來源與庫水有很大的關聯，庫水可經由左山脊而滲流至壩體下游面之殼層而形成左邊坡滲流水，或者水庫滲水與雨水、左山脊入滲水匯集而成的壩體滲流水穿過排水濾層上湧而形成壩體左邊坡滲流水。是故，形成左邊坡滲流水的原因均與庫區左山脊之地質弱面帶有關，在後續水庫之安全維護工程上，應設法防堵來自左山脊入滲而來的水體以降低壩體滲流量。

**關鍵詞**：滲流水、水文資料、逐步多元迴歸分析法、土石壩、新山水庫。

### Source Study of Seepage in Xin-Shan Reservoir, Keelung: Results of Stepwise Multiple Regression Method

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**ABSTRACT** This study used the stepwise multiple regression approach to inspect the related hydrological data of the Xin-Shan Reservoir, Keelung for discussing the possible source of seep water of this earth dam. The results showed the sources of toe drain include not only the excepted leakage of reservoir, but also the added source of rainwater or water from the observation well. The source of abnormal seep water on the left slope seep site of the dam is in close relation with the reservoir water. Left slope seep water may be formed by reservoir water seeping into the dam shell by the left ridge area, or be formed by the seepage. This included leaked water from the reservoir, rainwater and infiltrated water from the left ridge that went through the drain filter and overflowed onto the shell of dam. The reasons seepage existed on the left slope seep site are all related to the geologically weakened zone of the left ridge in the reservoir area. Follow-up safe maintenance project of the reservoir should prevent water seeping from the left ridge to reduce the seepage of the dam.

**Key Words:** seepage, hydrological data, stepwise multiple regression, earth dam, Xin-Shan Reservoir.

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