

PREFACE

COMPARATIVE LEACHING BEHAVIOR OF RADIOACTIVE WASTE FORMS

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The papers published in this volume and presented at the Second Argonne Workshop held September 3-4, 1980, describe leach tests, mechanisms of leaching, and comparison of leach properties of candidate nuclear waste forms. The information reported in these papers is of considerable importance to the technical community that will shortly begin more extensive testing of a few selected waste forms. Leach tests have proven to be a cost effective method of monitoring improvements in durability obtained by changing the composition and manufacturing of various waste forms. These papers report the progress and insight to waste form development that has been obtained by leach testing.

In future work, more extensive tests will be required to measure waste form durability under conditions likely to be encountered in a nuclear

waste repository. Already, methods have been employed that examine the interaction of the repository environment with the waste form. Testing schemes have been developed that accelerate the aging of waste forms so that their durability 1000 years from now can be estimated. Hydration, even in the absence of condensed water, will be an important part of these testing programs. The advanced tests will be required for the licensing of a nuclear waste repository and will be an integral part of future efforts based on the understanding presented in the papers of this volume.

Since the meeting at Argonne, J. C. Dran et al. have obtained important new results that modified their earlier conclusions. These results are not yet available, but will be published in *Nuclear Technology* as soon as they are ready.