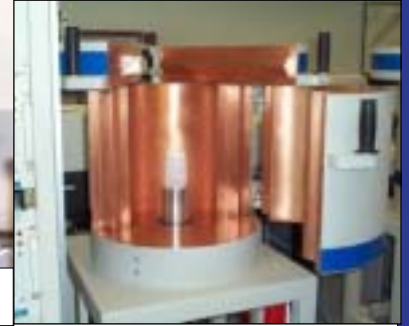




Atomic Absorption Spectrometer



Nd:YAG Laser coupled with a MOPO



Gamma Spectrometer



Inductively Coupled Plasma-Mass Spectrometer

### FOREWORD

This report was written, edited and produced collaboratively by the staff of the Carlsbad Environmental Monitoring & Research Center (CEMRC), who are hereby acknowledged for their contributions to the report and the project activities described herein. The first section is an overview of the current program activities, structure, resources and quality assurance. The second section consists of data summaries containing methods and descriptions of results of studies in the WIPP Environmental Monitoring project. Tables presenting data from the WIPP Environmental Monitoring project, and the contents of this report are available for electronic access at <http://www.cemrc.org>.

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This year's cover photograph features a CEMRC radiochemist performing a step in the separation of radionuclides from environmental samples. Such radiochemical manipulations may include coprecipitation, ion exchange or extraction chromatography. Prior to the start of the separation procedure, each sample is spiked with appropriate carriers and yield tracers to assist in the quantification of the radionuclides of interest. Following separation each radionuclide fraction is converted to an appropriate form for counting by gamma spectrometry, gas proportional counting, liquid scintillation counting or alpha spectrometry. The Foreword shows various equipment used by scientists at CEMRC.



Oxford/Canberra Oasis Alpha Spectrometer



Ion Chromatograph



Dichotomous air sampler near WIPP Site



Lung Counter



X-ray Diffraction Spectrometer



Unsaturated Flow Apparatus