

EARLY LUNG CANCER DETECTION IN  
URANIUM MINERS WITH ABNORMAL SPUTUM CYTOLOGY

Technical Progress Report  
for Period September 1, 1990 - July 31, 1991

Geno Saccomanno, Ph. D., M. D., Pathologist  
Principal Investigator

St. Mary's Hospital & Medical Center  
Grand Junction, Colorado

July, 1991

Prepared for

THE UNITED STATES DEPARTMENT OF ENERGY  
AGREEMENT NO. DE-FG02-90ER60939

**MASTER**



DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

## DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

## DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

---

NOTICE

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the Department of Energy, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, expressed or implied, or assumes any legal liability of responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately-owned rights.

### ABSTRACT

This work, supported by the United States Department of Energy, continues to add data on the health affects of cigarette smoking and radon exposure.

Since the beginning of this contract, 473 sputum samples have been collected from 286 uranium workers who are routinely screened in an effort to identify cell changes that could signal possible progression to lung cancer; seven new lung cancer cases have been identified during this period.

At this time, there are 426 lung cancer cases in the uranium miner tumor registry with diagnostic slides from surgery and/or autopsy; an additional 40 cases have been diagnosed with sputum cytology only.

This work, supported by the United States Department of Energy, continues to add data on the health affects of cigarette smoking and radon exposure.

The scope of these studies consists of performing routine sputum studies on uranium miners with atypical sputum cytology. This is done in an effort to identify early lung cancers in this high risk population. Also, this study continues to accumulate clinical history (including smoking history, work history, and radon exposure levels), diagnostic microscope slides, and medical records on uranium miners who develop lung cancer.

Since the beginning of this contract, 473 sputum samples have been collected from 286 uranium workers who are routinely screened in an effort to identify cell changes that could signal possible progression to lung cancer; seven new lung cancer cases have been identified during this period.

At this time, there are 426 lung cancer cases in the uranium miner tumor registry with diagnostic tissue slides from surgery and/or autopsy; an additional 40 cases have been diagnosed with sputum cytology only.

In addition, fresh lung cancer tissue specimens have been collected from eight uranium miners and 18 nonminers for Dr. Jonathan Samet's tissue resource bank at the University of New Mexico in Albuquerque (DE-FG04-89ER60852).

It is believed that St. Mary's Hospital is in compliance with the contract in every detail.

It is estimated that 20 percent of the principal investigator's time is devoted to this project; however, the principal investigator does not receive any financial compensation from the contract. The principal investigator will continue to devote a similar amount of time to the contract with no compensation during the remainder of the contract.

This research contributes new cases to our ongoing studies in an effort to prove that sputum cytology can diagnose lung cancer at an early stage and, thus, improve survival. We contend that the National Cancer Institute's studies at Memorial Sloan-Kettering, Johns Hopkins, and Mayo Clinic were too premature to adequately evaluate cytologic interpretations. During the past five years, 60 sputum positive/chest x-ray negative lung cancer cases (miners and nonminers) have been diagnosed at St. Mary's Hospital. Follow-up of these cases is beginning to show improved survival.

Our studies on the uranium miners continue to add valuable information on the health effects of smoking and radon exposure. It is important that these studies continue.