

Assessment of Environmental Lead Found in Soils and Indoor Dust in Communities of the City of Sunland Park, New Mexico

Final Report

Prepared for:

New Mexico Department of Health
Office of Border Health
Thomas Ruiz, Project Manager
1170 North Solano Drive, Suite L
Las Cruces, New Mexico 88001



Prepared by:

Paul Dulin, Environmental Specialist
P.O. Box 388, HATCH NM 87937

Contract No. 05.665.0009.0031

June 30, 2005

Acknowledgements

The Author would like to express his appreciation for the hard work of the other two members of the Assessment Team. Philip Watts, Jr., a budding professional geographer who recently completed his graduate class work at New Mexico State University, served as GIS Specialist/Cartographer and was responsible for GPS registry in the field during the sampling campaigns, data entry and analysis in GIS, and production of the excellent maps presented in this report. Olga Hernandez, a community *promotora* and resident of Sunland Park, served ably as the Community Relations Liaison, and assisted in the collection of indoor dust samples.

Thomas Ruiz, Epidemiologist with the New Mexico Health Department, Office of Border Health located in Las Cruces, served ably as Project Manager and technical quality control. He and his Supervisor, Dan Reyna, Director of the Office of Border Health, are responsible for obtaining financing for this important study, liaising with their colleagues in the New Mexico Environment Department and EPA Region 6, and to furthering the objectives of health improvement within New Mexico's Border Region.

I extend thanks to the Mayor, Ruben Segura, and City Council of the City of Sunland Park who, in the interest of their community, were supportive of the assessment; and to staff at U.S. EPA Region 6 who provided valuable insight and much of the background materials reviewed in preparation of the current assessment. I would also like to express my appreciation to New Mexico State University for provision of the base map used in the GIS.

Finally, it is important to recognize the residents of the communities of Sunland Park who, among continuous controversy, supported the assessment by permitting the Team to take soil and dust samples from their yards and homes. They now know if indeed environmental lead exposes them to health risks. Thank you!

Paul Dulin, Environmental Specialist
Contractor/Principal Investigator

This assessment and report were prepared expressly for the New Mexico Department of Health, Office of Border Health under Contract No. 05.665.0009.0031. Information contained herein shall not be used, interpreted or disseminated, in whole or part, except as may be disclosed directly or permitted in writing by the Office of Border Health.

TABLE OF CONTENTS

	<u>Page</u>
Acknowledgements	
A. Overview	1
B. Previous Environmental Lead Assessment in the El Paso/Sunland Park Region	2
1. Soils and Indoor Dust	2
2. Blood lead screening	5
3. Speciation studies for determining the source of lead in the Paso del Norte region	6
C. Strategic and Analytical Methods used in the Current Assessment of Lead in Soils and Indoor Dust in Sunland Park	6
1. Technical literature review and consultation	6
2. Public meetings to announce the project	7
3. Determination of the sampling sites	7
4. Collection and laboratory analysis of soil/dust samples	7
5. Data and spatial analysis	9
6. Preparation of final report and information disclosure to the public	9
D. Results of the Analysis	10
1. Lead in soil samples	10
2. Lead in indoor dust	11
3. Trends in the spatial distribution of lead in soils	11
E. Phenomena Affecting the Spatial Distribution of Lead in the Environment and Limitations to the Assessment	12
F. Final Conclusions and Considerations for Follow-on Studies	13
References Consulted	15
List of Materials in the Annex	17
List of Materials in the Appendix (Confidential)	18