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Alazan Apache Courts, Lincoln Courts, and Cassiano Homes

# SUMMARY REPORT OF COMPREHENSIVE LEAD-BASED PAINT TESTING SAN ANTONIO HOUSING AUTHORITY SAN ANTONIO, TEXAS



*Prepared for the San Antonio Housing Authority  
818 S. Flores Street  
San Antonio, Texas 78204*

**Raba-Kistner Consultants, Inc.**  
1281 W. Golden Lane  
San Antonio, Texas 78249



**Baer Engineering and Environmental Consulting, Inc.**  
7756 Northcross Drive, Suite 211, Austin, Texas 78757  
Baer Engineering Project No. 051027.01  
Publish Date: July 25, 2006  
Under Subcontract to

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## I. INTRODUCTION

The City of San Antonio Housing Authority (SAHA) contracted with Raba-Kistner Consultants, Inc. (RKCI) of San Antonio to perform comprehensive lead-based paint (LBP) testing in 18 housing complexes comprising 2,551 individual apartment units. A total of 600 individual family housing units were tested. The testing was required to comply with *Chapter 7 Lead-Based Paint Inspection of the United States Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1997 Revision)*. The Texas Environmental Lead Reduction Rules for LBP testing were also followed for the testing. Raba-Kistner Consultants subcontracted with Baer Engineering and Environmental Consulting, Inc. (Baer Engineering) of Austin, Texas, to conduct the field testing. Appendix A provides a list of the 18 housing complexes tested. Testing was performed between July 21, 2005, and June 22, 2006.

## II. TESTING PERSONNEL AND QUALIFICATIONS

Baer Engineering is a Texas Department of State Health Services (DSHS) Certified Lead Firm and provided DSHS Certified Lead Risk Assessors (Mr. Michael Cosgrove, Ms. Trina Mullen, and Mr. Robert Long) to conduct the field surveys and risk assessments. Raba-Kistner Consultants, Inc. provided field technicians (Mr. Adam Saenz and Mr. Robert Saenz) experienced in conducting environmental surveys to assist Baer Engineering with the field work. Copies of the respective licenses are presented in Appendix B.

## III. TESTING PROTOCOL

**A. XRF Procedures.** A Niton Model XL-703A Spectrum Analyzer (x-ray fluorescence, XRF), was used to conduct the measurements for LBP. The instrument was leased from Houston Analytical Systems of Houston, Texas, for the duration of the project.

Each painted and varnished fixed surface in each room was analyzed with the XRF at a minimum of one location, including each painted wall, ceiling, cabinet, door and door frame, window frame and sill, and other miscellaneous materials. Movable items were not tested. Exterior painted fixed surfaces were also tested with the XRF, including painted walls, building trim, window frames, staircases, and other miscellaneous materials. It was assumed that exterior walls would have the same paint history for the entire building and only one wall surface was generally tested for each building. The exterior areas of the Alazan, Cross Creek, and Lincoln Heights complexes were excluded from testing at the direction of SAHA (so soil samples were not collected at these complexes).

Each test location was identified using a bar code reader attached to the Niton, which recorded the testing information for each test as observed by the risk assessor (test number, room and side of the room tested, source material and substrate, feature being tested, and painted condition and color). The instrument data system also recorded each test result as positive (1.0 milligram of lead per square centimeter, mg/cm<sup>2</sup>, or greater) or negative (less than 1.0 mg/cm<sup>2</sup>) as well as the date and time of each test. Testing was performed by placing the Niton flat against the surface to be tested and the shutter opened. The instrument was held in place until the instrument indicated visually and by a short tone that the test was complete, usually 10 to 15 seconds but longer for greater thicknesses of paint.

The testing labeled the sides of the unit and rooms as A, B, C, or D. Side A for each unit tested was always the front or main entrance of the unit for both the interior and exterior test surfaces. The labeling of the sides then proceeded in a clockwise fashion. This is how the side of each room is also referenced. Side A in each room will always be the same side as the front or main entrance to the unit. Side B will always be on the clockwise side as if standing inside the unit or room facing the front or main entrance.

Calibration check readings were made on a daily basis on the Standard Reference Material (SRM) paint film provided with the Niton instrument nearest to 1.0 milligrams per square centimeter ( $\text{mg}/\text{cm}^2$ ) in accordance with the procedures recommended by Niton. As a minimum, these consisted of two sets of check readings at least every 4 hours, beginning before the first test of the day. A single calibration check was generally made at the end of testing for each housing unit. The Niton Model XL-703A self-compensates for substrate corrections and was designed to eliminate inconclusive results, which eliminated the need for confirmation paint chip sampling.

The data logging capability of the Niton Model XL-703A was used to store the extensive testing data. The raw data were downloaded generally at the end of each day of sampling. The data were subsequently reviewed and edited using field notes written by the testing personnel to produce a summary report of each housing unit tested.

**B. Random Selection of Units for Testing.** An Excel Spreadsheet was used to randomly select units to be tested from each housing complex. The total number of units in a complex and the number requiring testing in that complex, based on the table in Appendix A, were used to determine the specific units to be tested. The following formula was used to determine the list of random number of units to be tested:

$$\text{Random number} = \text{RAND}() * (b - a) + a$$

where:  $\text{RAND}()$  = a random number between 0 and 1  
b = total number of units in complex  
a = 1

**C. Radiation Safety.** Each surveyor using the Niton received and followed the manufacturer's training regarding safe use of the instrument. The instrument contains radioactive isotopes that emit gamma radiation. The radiation activity of the source material was relatively low, with a hazard distance of a few inches, but still required caution and responsible use of the instrument. Tenants were not allowed near the instrument during its use, and tenants were not allowed near the other side of the wall, floor, ceiling, or other surfaces being tested.

**D. Laboratory.** EMSL Analytical of Indianapolis, Indiana, provided the laboratory analytical support for wipe and soil samples (no paint chip samples were required). Analysis of samples was by flame atomic absorption as follows: wipes by Method SW 846 3050B and 7420 and soil by Method SW 846 3050B and 7420. EMSL is a participant in the American Industrial Hygiene Association (AIHA) Environmental Lead Proficiency Analytical Testing (ELPAT) rounds and the National Lead Laboratory Accreditation Program (NLLAP). A copy of its AIHA accreditation is provided in Appendix B.

**E. Paint Chip Samples.** Paint chip samples were not collected for laboratory analysis as the Niton XRF model used for the testing eliminates inconclusive tests.

**F. Risk Assessments.** The respective Niton test data were used with laboratory results from interior surface wipe samples and exterior soil samples to make risk assessments of possible lead exposures. Interior wipe samples of floors (bare, uncarpeted floors) and window sills were collected from a one square foot area of each living room near the main entry, the kitchen or rear entry, one child's bedroom (when the bedroom could be identified as such), and one child's bedroom window sill or hallway outside a child's bedroom for a total of four wipe samples per unit surveyed. Window sill samples were not collected from unpainted window systems (e.g., brushed aluminum frames, such as at the Alazan complex).

The samples were collected by wiping the area with a Ghost™ Wipe and placing the wipe in a rigid plastic tube with screw top and labeled for submittal to the laboratory. Composite soil samples were collected from the exterior driplines/foundations and from exterior children play areas where bare soil was present at the units selected for testing for a total of two composite soils samples per unit tested (the exterior driplines and grounds of buildings with multiple housing units undergoing paint testing were only sampled once). Additional soil samples were taken from common play areas at each housing complex where bare soil was present. The soil samples were also placed in rigid plastic tubes with screw tops and labeled for submittal to the laboratory.

The following action levels from the Texas Environmental Lead Reduction Rules were used to evaluate the interior wipe sample laboratory results:

- Dust wipes from floors: maximum of 40 micrograms of lead per square foot ( $\mu\text{g}/\text{ft}^2$ );
- Dust wipes from window sills: maximum of 500  $\mu\text{g}/\text{ft}^2$ .

The following U.S. Environmental Protection Agency (EPA) action levels were used to evaluate the exterior soil sample results:

- Child's play areas: maximum of 400 milligrams lead per kilogram of soil (mg/Kg);
- Other residential yard areas: maximum of 1,200 mg/Kg.

Each unit tested was classified as Category A, B, C, or D according to the following:

- Category A: no lead-based paint present and dust wipes below action level;
- Category B: lead-based paint present and dust wipes below action level;
- Category C: no lead-based paint present and dust wipes above action level;
- Category D: lead-based paint present and dust wipes above action level.

Table 1 summarizes the categories that were used to assess the risk inside each unit tested, based on the results of the Niton testing and the laboratory wipe sample results, with the recommended actions.

**Table 1. Risk Assessment Categories**

<b>Classification</b>	<b>Action</b>
Category A – no concern	No action to be taken
Category B – low concern	1. If paint is in good condition, inspect the area every 6 months for a change in the condition of the paint. 2. If the paint is in poor condition, the surface should be wet scraped to a sound and tight condition, then encapsulated and re-painted. 3. If the substrate is damaged, the component should be abated by a licensed contractor and disposed of in accordance with the USEPA Toxicity Characteristic Leaching Procedure (TCLP) of the material abated.
Category C – high concern	1. Collect soil samples from bare soil outside the unit in both the front and back of the unit and analyze for total lead. 2. If the soil samples do not contain lead, then interview the residents as to the possible source(s) of the lead possibly brought into the unit. 3. If the soil samples contain lead, then there are two options. One is to place sod over the bare soil to minimize exposure. The second option is to remove the affected soil, likely the top 6 inches of soil, and take another round of soil samples.
Category D – high concern	1. Re-locate residents to another unit. 2. Abate the lead-based components by a licensed lead contractor. 3. HEPA vacuum the unit, including carpeting and furniture, and wet clean hard surfaces in the entire unit. 4. Collect clearance wipe samples.
	If more than 15% of the units in any complex fall into Category B or D, assume all of the units are the same.

#### IV. RESULTS AND DISCUSSION

The Niton XRF test results for each of the 18 housing complexes are provided in the enclosed binders, each organized as follows:

- Interior Risk Assessment Summary;
- Units with Positive Lead-Based Paint Test;
- Units with all Negative Lead-Based Paint Test;
- Laboratory Reports – Surface Wipes;
- Laboratory Reports – Soil.

The LBP test data in the binders are presented in Excel Spreadsheet format. Each record identifies the side of the room tested, the source (component) and substrate, the feature (the part of the component), the paint condition and color, and the result as positive (1.0 mg/cm<sup>2</sup> or greater) or negative (less than 1.0 mg/cm<sup>2</sup>).

The determination as to whether a housing complex contains LBP throughout the complex is based on the individual painted components tested (i.e., walls, ceilings, window frames and

sills, doors and door jambs and frames, baseboards, ventilation grilles, etc.). The HUD Chapter 7 Lead-Based Paint Inspection Guidelines require that when 15% or more of a specific component in individual units in a housing complex tests positive for LBP (1.0 mg/cm<sup>2</sup> or greater), then all of those components in the housing complex is assumed to be positive for LBP. For example, if the walls in five out of 32 units test positive, then all of the walls (and probably the ceilings, since they are likely to have the same paint history) in the complex are assumed to have LBP. If four walls in only one of the 32 units test positive, however, then the entire complex is not assumed to have LBP on the walls. The unit with the four walls testing positive, however, should be properly managed for LBP. Table 2 summarizes the positive testing results with recommendations for assuming complex-wide LBP. Table 3 summarizes the risk assessments by housing complex.

**Table 2. Positive Lead-Based Paint Testing Summary**

Housing Complex	Number of Units Tested	Number of Units with LBP Present	Positive Components	Component with 15% or More Positive for Lead: Assume Positive for LBP Throughout Complex on These Components
Alazan	56	32	Floor drain covers, grilles, bath tubs, ceilings & walls, door jambs	Bath tubs, floor drain covers, ceilings & walls
Apache Homes	51	3	Ceilings & walls	None [1120 Vera Cruz – play area soil sample above action level]
Cassiano	55	40	Exterior doors (inside & outside surfaces), bathtubs, window sills, door jambs (inside & outside), walls, porch columns & soffit, exterior siding	Exterior doors (inside & outside surfaces)
Cassiano Homes Addition	25	5	Exterior doors, exterior door casings, window aprons	None
Cheryl West	24	0	None	None
Cross Creek	23	0	None	None
Highview Apartments	23	0	None	None
Kenwood Manor	9	0	None	None
Lincoln Heights	54	27	Interior doors, exterior doors, interior walls, metal pipes, interior door jambs, window aprons	Interior doors, interior walls & ceilings
Olive Park	16	0	None	None

Housing Complex	Number of Units Tested	Number of Units with LBP Present	Positive Components	Component with 15% or More Positive for Lead: Assume Positive for LBP Throughout Complex on These Components
Riverside	24	0	None	None
San Juan Homes	25	4	Interior walls, exterior doors	None
San Juan Homes Addition	50	47	Exterior doors, exterior jambs & headers, exterior walls, interior walls, interior doors, interior jambs & headers, interior window sashes, interior baseboards, interior cabinets, interior shelves	Exterior doors, exterior jambs & headers, exterior walls, interior walls, interior doors, interior jambs & headers, interior window sashes, baseboards [123 Ladyette - play area soil sample above action level]
Sutton Homes	50	20	Exterior doors & jambs, exterior walls, exterior window sashes, interior window sills, interior walls, interior doors & jambs, closet shelves	Exterior doors, exterior door jambs, exterior walls, interior door jambs
Sutton Homes Addition	31	4	Exterior door, exterior door jambs, interior walls, interior door jambs	None
Village East	16	0	None	None
Wheatley Courts	52	46	Interior doors & jambs, exterior doors & jambs, interior walls & ceilings, exterior walls & ceilings, exterior window sashes, interior window sashes & sills	Interior doors & jambs, exterior doors & jambs, interior walls & ceilings, exterior walls & ceilings, exterior window sashes
Wheatley Courts Addition	16	3	Window sills & aprons, interior walls	None



**Table 3. Risk Assessment Summary**

Housing Complex	Category			
	A	B	C	D
Alazan	21	30	3	2
Apache	47	3	1	0
Cassiano Addition	21	4	0	0
Cassiano Homes	15	38	0	2
Cheryl West	24	0	0	0
Cross Creek	23	0	0	0
Highview	22	0	1	0
Kenwood Manor	9	0	0	0
Lincoln Heights	27	26	0	1
Olive Park	16	0	0	0
Riverside	24	0	0	0
San Juan Homes	21	4	0	0
San Juan Addition	3	47	0	0
Sutton Homes	30	18	0	2
Sutton Addition	27	3	1	0
Village East	16	0	0	0
Wheatley Courts	6	43	0	3
Wheatley Addition	13	3	0	0
Totals	365	219	6	10
<b>Percent of total tested</b>	<b>61%</b>	<b>36%</b>	<b>1%</b>	<b>2%</b>

## V. RECOMMENDATIONS

**A.** Lead in the soil exceeded the EPA action level of 400 mg/Kg at two locations: 123 Ladyette in the San Juan Homes Addition Complex and 1120 Vera Cruz in the Apache Complex. It is recommended that sod, gravel, or paving be placed over the bare soil in the play areas at these two complexes. A better alternative is to remove the top 6 inches of soil, replace it with clean fill, and cover it with sod, gravel, or paving.

**B.** There were six housing units where there was no LBP present but at least one of the dust wipe samples exceeded the action level. The source of the lead at these units could not be identified. One soil sample from a housing complex play area exceeded the action level, but this was not at the unit with the elevated wipe sample. The following is a list of the units with the elevated dust wipe samples:

- Alazan Homes – 709 San Marcos  
 – 621 San Marcos  
 – 1214 San Fernando
- Apache Homes – 1316 Colima (soil samples at unit did not exceed action level but one in the play area at 1120 Vera Cruz did exceed the action level)
- Sutton Homes Addition – 430 Bethune
- Highview Apartments – Unit 1801.

It is recommended that the unit occupants be interviewed to determine if the source of lead in the wipes originated from outside the housing complex (e.g., place of employment).

It is also recommended that the floors in these units be cleaned in accordance with the SAHA Procedures Manual.

**C.** Many of the bathtubs in the Alazan Homes complex have been painted, and the paint is peeling. These tubs tested positive for LBP. It is recommended that all the bathtubs in the Alazan Homes complex be inspected for condition of the paint and that the paint be removed from tubs with peeling paint in accordance with the SAHA Procedures Manual. A better alternative is to remove and replace all the tubs with LBP and peeling paint.

**D.** The paint condition in units listed as Category D (having positive tests for LBP and elevated wipe samples) should be prioritized for correcting paint conditions other than "Good" and cleaned in accordance with the SAHA Procedures Manual.

## **VI. OWNER'S LEGAL DISCLOSURE OBLIGATIONS**

The owner should provide one of the following disclosure statements to new lessees (tenants) and purchasers of property tested for LBP.

**A.** Recommended Report Language On Disclosure For Use In Lead-Based Paint Inspections. A copy of the most current inspection must be provided to new lessees (tenants) and purchasers of this property under Federal law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords (lessors) and sellers are also required to distribute an educational pamphlet approved by the U.S. Environmental Protection Agency and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards.

**B.** Recommended Report Language for Inspections Where No Lead-Based Paint Was Identified. The results of this inspection indicate that no lead in amounts greater than or equal to 1.0 mg/cm<sup>2</sup> in paint was found on any building components, using the inspection protocol in Chapter 7 of the *HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1997 Revision)*. Therefore, this dwelling qualifies for the exemption in 24 CFR part 35 and 40 CFR part 745 for target housing being leased that is free of lead-based paint, as defined in the rule. However, some painted surfaces may contain levels of lead below 1.0 mg/cm<sup>2</sup>, which could create lead dust or lead-contaminated soil hazards if the paint is turned into dust by abrasion, scraping, or sanding. This report should be kept by the inspector and should also be kept by the owner and all future owners for the life of the dwelling.

## **VII. LEAD-BASED PAINT TESTING QUALIFICATIONS**


Testing for LBP, as defined by the HUD, was accomplished following Chapter 7 of the *HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1997 Revision)* using x-ray fluorescence instrumentation. The Texas Environmental Lead Reduction Rules for LBP testing were also followed for the testing. Not all dwelling units in the 18 housing complexes were tested. A representative number of dwelling units in each complex was selected and tested in accordance with the Chapter 7 HUD guidelines. The testing location on each surface is assumed to be representative of the entire surface and results were based on

this assumption, although it is possible that there are variations in lead test results at different locations on the tested surfaces.

### VIII. REPORT SIGNATURE

This survey was performed per:

  
Michael P. Cosgrove      Date 7/25/06  
DSHS Lead Risk Assessor Certification No. 2070150

  
Jerry M. Morford, CIH, P.E.      Date 7/25/06  
Manager, Industrial Hygiene  
Services

# APPENDIX A

## HOUSING COMPLEXES TESTED

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<b>FAMILY HOUSING COMPLEXES TESTED</b>					
<b>Housing Complex</b>	<b>TX No.</b>	<b>Address</b>	<b>Date of Construction</b>	<b>Number of Units</b>	<b>Number of Units Tested</b>
Alazan	TX 6-01	1011 S. Brazos	1939	501	56
Apache	TX6-01A	1011 S. Brazos	1939	184	51
Cassiano Homes	TX 6-06	2919 S. Laredo	1950	400	55
Cassiano Homes Addition	TX 6-20B	2919 S. Laredo	1967	99	25
Cheryl West	TX 6-34	333 W. Cheryl	1975	86	24
Cross Creek	TX 6-44	2818 Austin Hwy.	1977	66	23
Highview Apts.	TX 6-43	1351 Rigsby	1977	68	23
Kenwood Manor	TX 6-46	121 Avenue M.	1978	9	9
Lincoln Heights	TX 6-05	1315 N. Elmendorf	1942	338	54
Olive Park	TX 6-35B	819 N. Hackberry	1975	26	16
Riverside	TX 6-31	515 Riverside Dr.	1976	74	24
San Juan Homes	TX 6-08	300 Gante Walk	1952	32	25
San Juan Homes Addition	TX 6-13	300 Gante Walk	1953	154	50
Sutton Homes	TX 6-09	909 Runnels	1952	196	50
Sutton Homes Addition	TX 6-14	909 Runnels	1959	46	31
Village East	TX 6-35A	819 N. Hackberry	1975	24	16
Wheatley Courts	TX 6-04	906 N. Mittman	1941	232	52
Wheatley Courts Addition	TX 6-16	906 N. Mittman	1959	16	16
			<b>TOTALS</b>	<b>2551</b>	<b>600</b>

## APPENDIX B PROFESSIONAL AND LABORATORY CERTIFICATIONS

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**DSHS LEAD FIRM CERTIFICATION**

**TEXAS DEPARTMENT OF HEALTH**  
BE IT KNOWN THAT  
**BAER ENGINEERING & ENVIRONMENTAL  
CONSULTING INC**  
is hereby granted Certification as a  
**Lead Firm**  
in the State of Texas within the purview of Vernon's Texas Civil Statutes, Article 9029,  
as amended, so long as not suspended or revoked, and as long as renewed according to  
the rules adopted by the Texas Board of Health.



ENVIRONMENTAL LEAD  
BRANCH

2110103  
Certification Number  
02/21/2003  
Issue Date  
02/21/2006  
Expiration Date

  
 Keith Alexander, Chief  
Environmental Lead Branch  
Toxic Substances Control Division  
  
  
 Eduardo J. Sanchez, M.D., M.P.H.  
Commissioner of Health

**VOID IF ALTERED      NON-TRANSFERABLE**

K10    2004



**TEXAS DEPARTMENT OF STATE HEALTH SERVICES**

*Be it known that*

**BAER ENGINEERING & ENVIRONMENTAL  
CONSULTING INC**

*is certified to perform as a*

**Lead Firm**

*in the State of Texas and is hereby governed by the rights, privileges and responsibilities  
set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295  
relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.*

  
Eduardo J. Sanchez, M.D., M.P.H.  
Commissioner of Health

License Number: 2110103  
Effective Date: 2/21/2006

Expiration Date: 2/21/2008  
(Void After Expiration Date)

**VOID IF ALTERED      Control Number 6692      NON-TRANSFERABLE**

**DSHS LEAD RISK ASSESSOR CERTIFICATIONS**

**TEXAS DEPARTMENT OF HEALTH**  
BE IT KNOWN THAT  
**Michael P. Cosgrove**  
is hereby granted Certification as a  
**Lead Risk Assessor**  
in the State of Texas within the purview of Vernon's Texas Civil Statutes, Article 9029,  
as amended, so long as not suspended or revoked, and as long as renewed according to  
the rules adopted by the Texas Board of Health.

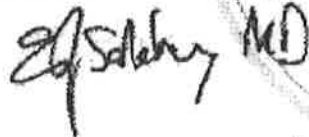
	<p>2070150 Certification Number 12/30/2002 Issue Date 12/30/2005 Expiration Date</p>	<p> Keith Alexander, Chief Environmental Lead Branch Toxic Substances Control Division</p> <p> Eduardo J. Sanchez, M.D., M.P.H. Commissioner of Health</p>
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VOID IF ALTERED      NON-TRANSFERABLE

№ 3599

Department of State Health Services  
**MICHAEL P. COSGROVE**  
Lead Risk Assessor

Certification No: 2070150  
Control No: 5567  
12/30/2005 Expires 12/30/2007



Eduardo J. Sanchez, M.D. M.P.H.  
Commissioner of Health



# TEXAS DEPARTMENT OF HEALTH

BE IT KNOWN THAT

## Trina L. Mullen

is hereby granted Certification as a

### Lead Risk Assessor

in the State of Texas within the purview of Vernon's Texas Civil Statutes, Article 9029, as amended, so long as not suspended or revoked, and as long as renewed according to the rules adopted by the Texas Board of Health.



Certification Number  
2070622  
07/30/2002  
Issue Date  
07/30/2005  
Expiration Date

*Keith Alexander*  
Keith Alexander, Chief  
Environmental Lead Branch  
Toxic Substances Control Division  
*Eduardo J. Sanchez*  
Eduardo J. Sanchez, M.D., M.P.H.  
Commissioner of Health

**VOID IF ALTERED      NON-TRANSFERABLE**

NID      2220



## TEXAS DEPARTMENT OF STATE HEALTH SERVICES

*Be it known that*

**TRINA L. MULLEN**

*is certified to perform as a*

**Lead Risk Assessor**

*in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295 relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.*

*Eduardo J. Sanchez*  
Eduardo J. Sanchez, M.D., M.P.H.  
Commissioner of Health

License Number: 2070622  
Issue Date: 10/14/2005

Expiration Date: 7/30/2007  
Void After Expiration Date

VOID IF ALTERED

Control Number: 5682

NON-TRANSFERABLE



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

It is known that  
**ROBERT O LONG**  
is certified to perform as a  
**Lead Risk Assessor**

in the State of Texas and is hereby governed by the rights, privileges and responsibilities  
set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295  
relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.

*[Signature]*  
L. Curtis Housh, M.D., M.P.H.  
Commissioner of Health

License Number 2070797  
Effective Date 11/29/2005

Expiration Date 11/29/2007  
(Valid After Expiration Date)

VOID IF ALTERED

Control Number 5679

NON-TRANSFERABLE

