DRAFT – Asbestos and Lead-Based Paint Survey Report – Kuhlman Diecasting Site

Stanley, Kansas

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1.0 INTRODUCTION

Environment International Government Ltd. (EIGov) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 under Contract Number (No.) EP-W-07-096, Task Order No. 0011, to conduct an asbestos and lead-based paint (LBP) survey for the Kuhlman Diecasting site located in Stanley, Johnson County, Kansas. The asbestos and LBP surveys were conducted as part of a Phase I Environmental Site Assessment (ESA) completed for the Site. The Kuhlman Diecasting site (Site) is a defunct electroplating facility. The Site covers approximately 35.15 acres at 16442 Mission Road, which is near 164th Street and Mission Road in Stanley, Kansas. The Site is included on the Stilwell, Kansas, U.S. Geological Survey (USGS) 7.5-minute topographic series map (USGS 1991; see Appendix A, Figure 1). The Site is located in Section 16, Township 14 South, Range 25 West. The coordinates for the approximate center of the Site are 38.830741 degrees north latitude and 94.633464 degrees west longitude.

The asbestos and LBP surveys were conducted on October 20, 2011. Survey strategies and sample methodologies had been developed based on preliminary plans to demolish the Site building. The purpose of the surveys was to determine if the building contains hazardous structural materials. Specifically, the surveys were conducted to identify and quantify asbestos-containing material (ACM) and LBP associated with the building. Suspected ACM was sampled for laboratory analysis to quantify the material. Paint-covered surfaces were screened with an x-ray fluorescence spectrometer (XRF) to determine the presence and quantity of LBP.

Section 2.0 of this report describes the building. Section 3.0 discusses the ACM and LBP survey activities and also presents the results of the LBP survey. Section 4.0 presents the asbestos sample results. Section 5.0 offers recommendations based on the survey findings.

2.0 SITE BUILDING

The subject property contains a single-story, concrete block building that is 73,730 square feet (ft2) in size). The interior of the building has been gutted and is primarily open. Interior building construction includes concrete floors and primarily concrete walls. **Figure 2** in **Appendix A** is a site aerial of the site, and **Figure 3** is a diagram of the building. Photographs of the building are included in **Appendix B**. Historic operations at the Site have included bulk oil storage and electroplating. The building being assessed as part of this project was utilized during those past operations. The Site has been inactive since the early 1990s, and the building is in a dilapidated condition. At the time of the ACM and LBP survey, the building's basement contained a large volume of water making it inaccessible; therefore, the basement was not surveyed for ACM and LBP.

3.0 SURVEY ACTIVITIES

This section discusses field survey and analytical protocols used for the ACM and LBP surveys. The survey team made every effort to inspect all areas within the building. A full survey of the roof was not possible due to unsafe conditions, and a survey of the building's basement was not possible due to flooded conditions. Photographs of survey activities are included as Appendix B.

3.1 ACM Survey

For the ACM survey, minor demolition of materials (destructive sampling) was required. Asbestos samples were collected in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as adopted by the EPA and the Asbestos Hazard and Emergency Response Act of 1986 (AHERA) protocols. Suspected ACMs were grouped as homogeneous areas if the material was similar in appearance and texture. However, if the inspector decided that a material (for example, floor tile) was not similar in appearance and construction to other materials in the building, the inspector distinguished the material as unique and collected samples of each unique material accordingly. Although destructive sampling was conducted, additional concealed materials could be present within the walls; therefore, if suspect materials are encountered during demolition, demolition activities should be halted to assess and sample those materials.

Bulk samples of suspected ACM were collected to ensure that each distinct layer of material was represented in the sample. A wetting agent was applied to potentially friable surfaces prior to sample collection to reduce the potential for fiber release. All samples collected were placed in plastic bags, labeled, and sealed immediately upon collection. To prevent cross-contamination between samples, the sampling instruments were wiped clean using a wet, lint-free cloth after collection of each sample. A unique sample identification number was assigned to each sample. A total of 60 bulk materials samples were collected during the survey activities on October 20, 2011.

The samples remained in the inspector's custody until they were sent to the laboratory. Upon completion of sampling activities, the bulk samples were sent, along with chain-of-custody documentation, to Quantem Laboratories (Quantem) in Oklahoma City, Oklahoma. Suspect ACM samples were analyzed per EPA Method 600/R-93/116 by Quantem using Polarized Light Microscopy (PLM) analysis. Additionally, three of the samples were analyzed for asbestos by EPA Point Count 400, which is also PLM analysis. Point Count 400 analysis was performed to confirm sample results. Quantem is a National Voluntary Laboratory Accreditation Program (NVLAP)-certified laboratory, certification number 101959-0. Table C-1 in Appendix C summarizes the asbestos samples collected during the survey activities.

3.2 Lead-Based Paint Survey

A Niton^{TM} XRF was used to perform the LBP inspection. The XRF provides a quantitative in-situ measurement of lead in paint on various substrates. During the survey, the survey team performed routine XRF standard checks according to the instrument's recommended procedures, and all readings were within acceptable limits. The LBP inspection protocol involved a systematic screening of interior and exterior paint-covered surfaces. Lead-based paint is defined by the Housing and Urban Development (HUD) Residential Lead-Based Paint Hazard Reduction Act of 1992 as containing a concentration of lead equal to or greater than 1 milligram per square centimeter (mg/cm^2) or 0.5% lead. Paint-covered surfaces indicated by the XRF to contain lead at a concentration equal to or greater than 1 mg/cm^2 were deemed LBP.

LBP was identified on two components associated with the building. Specifically, LBP was identified on the metal boiler (orange paint) located in the southwest corner of the building and on a stone wall

(green paint) that was located in the central portion of the building. XRF readings from those areas were 2.5 mg/cm^2 from the boiler and 2.3 mg/cm^2 from the stone wall. The LBP identified was in poor (flaking) condition. No paint chip samples were collected for laboratory analysis, as it is standard practice to rely only upon XRF readings for LBP inspections. **Table 1** below summarizes the LBP identified during the survey. **Table C-2** in **Appendix C** summarizes the XRF screening results. **Figure 3** in **Appendix A** shows the locations of LBP at the Site.

Table 1
MATERIALS CONTAINING LEAD-BASED PAINT
Kuhlman Diecasting Site, Stanley, Kansas

Material	Location	Estimated Quantity	XRF Reading (mg/cm^2)
Metal Boiler – Orange Paint	Boiler Room – Southwest Corner of Building	500 ft^2	2.5
Stone Wall – Green Paint	Central Portion of Building – Base of Wall	2,800 ft^2	2.3

Notes:

ft^2	Square feet
mg/cm^2	Milligrams per square centimeter
XRF	X-ray fluorescence spectrometer

4.0 ACM SAMPLE RESULTS

Under the Occupational Safety and Health Administration regulations, any product containing greater than 1% asbestos (by weight) is a regulated asbestos product, and any product containing less than 1% asbestos is not a regulated asbestos product [29 CFR 1910.1001(b)]. EPA defines ACM as any material containing asbestos at a concentration above 1% (by weight). Structural material suspected of containing ACM was evaluated based on this standard.

Based on analytical results, ten different materials were determined to contain detectable concentrations of asbestos. Materials associated with the building that were determined to contain asbestos included transite board, transite roof paneling, sprayed on thermal system insulation (TSI), door glaze, floor tile, and ceramic tile mastic. Additionally, debris located at the Site that was determined to contain asbestos included transite board and roofing materials, including tar paper. In those materials, chrysotile asbestos was detected at concentrations that ranged from 3% to 20 %. **Table 2** below summarizes the ACM identified during the survey. **Table C-1** in **Appendix C** summarizes the asbestos sample locations, materials, quantities, and laboratory results. **Figure 3** in **Appendix A** shows the locations of ACM at the Site. The complete analytical data packages for the asbestos is included as **Appendix D**.

Table 2
MATERIALS CONTAINING ASBESTOS
Kuhlman Diecasting Site, Stanley, Kansas

Sample ID	Material	Location	Estimated Quantity	Asbestos Result
K-TR-1 thru 3	Transite Debris	Throughout Building on Floor	Throughout Building	15% – Chrysotile
K-CRTM-1 thru 3	Ceramic Tile Mastic	Bathroom – East Side	120 ft^2	5% – Chrysotile
K-DG-1 thru 3	Door Glaze (Door Windows)	East Side of Building	90 lf	3% – Chrysotile
K-RM-1 thru 3	Roof Material – Debris	West Loading Dock Debris Pile	5 yd^3	15% – Chrysotile
K-BP-1 thru 3	Tar Paper – Debris	Northwest Side of Building – Debris Pile	15 yd^3	20% – Chrysotile
K-RT-1 thru 3	Roof Tar	Roof Flashing	Unknown*	15% - Chrysotile
K-TR2-1 thru 3	Transite Roof Panels	Roof	34,000 ft^2	15% – Chrysotile
K-TSI2-1 thru 3	TSI – Sprayed On	Under Transite Board Roof	25,000 ft^2	10% – Chrysotile
K-FT3-1 thru 3	Floor Tile	Bathroom – West Side	200 ft^2	7% – Chrysotile
K-TR3-1 thru 3	Transite Board	Bathroom – West Side	100 ft^2	20% – Chrysotile

Notes:
* Roof tar flashing determined to contain asbestos could not be quantified because roof was too dangerous to walk on.

%	Percent
ft^2	Square feet
lf	Linear feet
TSI	Thermal system insulation
Yd^3	Cubic yard

5.0 SUMMARY AND RECOMMENDATIONS

On October 20, 2011, EIGov completed surveys for asbestos-containing materials and LBP at the Kuhlman Diecasting site in Stanley, Kansas. The purpose of the surveys was to determine if the building contains hazardous structural materials that would require special handling during demolition activities. Specifically, the surveys were conducted to identify and quantify ACM and LBP associated with the building. Findings from the surveys and recommendations are summarized below.

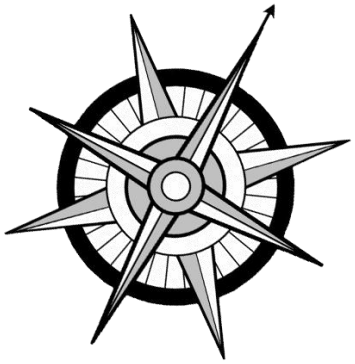
Ten different materials were determined to contain asbestos at concentrations exceeding 1% by weight. EPA defines ACM as any material containing asbestos at a concentration above 1%. Materials associated with the building that were determined to contain asbestos included transite board, transite roof paneling, sprayed on TSI, floor tile, and ceramic tile mastic. Additionally, debris located at the site that was determined to contain asbestos included transite board and roofing materials, including tar paper. In those materials, chrysotile asbestos was detected at concentrations that ranged from 3% to 20%. Based on the findings from this asbestos survey, future renovation/demolition that could disturb the ACM should be conducted in accordance with applicable local, state, and federal regulations.

LBP, as defined by the HUD Residential Lead-Based Paint Hazard Reduction Act of 1992, was identified on two components associated with the building. Specifically, LBP was identified in the orange paint on the boiler located in the southwest corner of the building and in the green paint on a stone wall located

in the central portion of the building. XRF readings from those areas were 2.5 mg/cm^2 from the boiler and 2.3 mg/cm^2 from the stone wall. The identified LBP was in poor (flaking) condition. Future renovation/demolition that could disturb the LBP should be conducted in accordance with applicable local, state, and federal regulations.

6.0 REFERENCES

U.S. Geological Survey (USGS). 1991. Stilwell, Kansas, Quadrangle, 7.5-minute Topographic Series.



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