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SITE INVESTIGATION  
OF THE TRANSWESTERN BUILDING  
DEPARTMENT OF ECONOMIC DEVELOPMENT  
SOUTH BEND, INDIANA

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## I. EXECUTIVE SUMMARY

A site investigation of the Transwestern building was completed by Ken E. Davis Associates (KEDA) on September 26 and 28, 1988 for the City of South Bend's Department of Economic Development. The purpose of a site investigation, which is also known as an environmental audit, is to identify contamination and hazardous materials.

The site investigation conducted by KEDA consisted of a visual inspection of the interior and exterior of the building. The interior inspection included a walk through of the building from the basement through the fourth floor. The interior of the building's walls and ceilings were not inspected. The findings are summarized below and are discussed in Section IV of the report. The owner's responsibility for the cost of the site cleanup is also discussed in Section IV. The results of the investigation will be utilized to recommend further data collection and/or possible remediation. The preliminary assessment was the extent of the work conducted by KEDA on the Transwestern building.

Asbestos like material was observed from the basement and all four floors above. Approximately 10,000 linear feet was identified. The asbestos served as insulation on the metal piping in the building. The state of Indiana and USEPA will require notification if the asbestos is to be removed prior to

renovation or if the building is to be demolished.

Wooden "bricks" were found on the first and third floors of the building and appear to be treated with creosote. The creosote has apparently contaminated the soil material below the "bricks". The extent of subsurface material contamination within the building will require further investigation.

Soil gas analysis for detection of petroleum residuals were conducted on the inside of the building. The exterior of the building was tested in the grassy area along the east and west sides. Soil gas analysis readings of 2-5 ppm hexane indicate background levels of hydrocarbons present on the site in the areas tested. Hand augering was performed at three selected locations where hexane readings of 5 ppm were recorded at the surface by the soil gas meter. The hand augered locations were tested for further traces of hydrocarbons. Hexane levels of 10 ppm were recorded at a depth of approximately one foot by the soil gas meter at each location. The increase in concentration indicates that a source of hydrocarbons may exist below the site or that the ground water may be transporting contaminants under the site. These levels are still considered background by the EPA because of the location of the sample points. The removal of the wooden "bricks", contaminated soil, if present, empty solvent cans, 55 gallon drums containing liquid and trash, will require disposal at hazardous and nonhazardous landfills.

The exterior of the building was also visually inspected. Electrical capacitors which may contain PCB's were located on the west side of the exterior of the building. Capacitors which contain PCB's must be disposed of by incineration.

KEDA recommends that the next phase of the investigation for the Transwestern building consist of laboratory verification of the suspected asbestos material, and contents of the electrical capacitors, soil and ground water analysis in the areas with 10 ppm readings a historical search to determine previous uses of the property and to determine the chemicals which may have been utilized at the site. The cost to remove the contaminated material from the building if it is to be renovated or demolished is estimated between \$300,000.00 and \$500,000.00. These preliminary cost estimates are based on incineration and disposal costs at facilities located in Ft. Wayne, Indiana and Chicago, Illinois.

## II. PROJECT OBJECTIVES

The objectives of this project were to:

1. Visually identify areas either inside or outside the building which have asbestos material utilized as insulation.
2. Recommend general disposal methods and costs for asbestos and

PCB removal, if these materials are present.

3. Determine with the aid of soil gas analysis if hydrocarbons are present in the subsurface, inside and outside the building.

4. Estimate the cost to remove the contaminated soil inside and outside the building.

5. Estimate the cost to remove the creosote treated "bricks" on the first floor of the building.

6. Identify the general responsibilities of the property owners and their liabilities regarding contaminated buildings and soil.

### III. GENERAL COMMENTS

A site investigation of the Transwestern building was completed by Ken E. Davis Associates, Inc. (KEDA) on September 26 and 28, 1988. The site investigation consisted of a visual identification of potentially hazardous materials on the interior and exterior of the building. The interior inspection was limited to a visual inspection of the exposed interior walls, ceilings and floors. The inventory of potentially hazardous material was confined to estimating the quantity of asbestos-like material, capacitors, and empty and filled containers. No asbestos testing was completed during this portion of the

investigation. The testing for hydrocarbons in the subsurface was limited to the first floor inside the building and outside the basement and areas adjacent (east and west side) to the building except where the removal of wooden "bricks" was possible. In those areas where removal of "bricks" was possible, exposed material beneath the "bricks" was tested for the presence of hydrocarbons.

The three areas which contained the highest surficial hydrocarbon readings during the preliminary scan outside the building were hand augered one foot below the surface and the exposed soil was retested for the presence of hydrocarbons. "The soil gas analysis was performed utilizing a Model 90 gas detector which operates with a gas sensitive semiconductor sensor. When combustible or reducing gases are absorbed on the sensor surface, a marked decrease of electrical resistance occurs. This decrease is registered by the instrument and calibrated by the gauge as ppm hexane. The advantage of this sensing principle for soil gas surveys is that the instrument is sensitive to a wide range of hydrocarbon volitiles from methane and gasoline to diesel fuel and motor oil.

#### IV. DISCUSSION OF RESULTS

The visual inspection and soil gas survey of the Transwestern building resulted in the location of several areas



which contain potentially hazardous materials.

A. Asbestos

Fibrous material which was observed on piping during the interior inspection of the building was tentatively identified as asbestos. There were approximately 8,000 to 12,000 linear feet of the suspected asbestos insulating the piping inside the building. The state of Indiana has jurisdiction over the removal and disposal of asbestos. There are no regulations which require the removal of asbestos from buildings except in schools. The regulations are in place to govern the removal of asbestos to decrease liability during the renovation or demolition of a building containing asbestos. The maximum amount of asbestos material which can go unreported to the state during removal is 260 linear feet, 160 cubic feet, or material which contains less than 1% asbestos by weight. If the building contains greater than the amounts listed above, the state must be notified of the intent to remove the asbestos 10 days prior to removal or demolition. A plan must also be filed with the state describing the removal methods to be used. Requirements for personnel safety during removal of the asbestos, include cartridge respirators, protective clothing and gloves. Containerized breathing is required if the fiber-count per cubic foot of air exceeds the state limit. Asbestos can be disposed of in a municipal land fill. The disposal requires the property owner to acquire a special permit.

## B. Potentially Hazardous Material

One potentially hazardous material which was identified were the wooden "bricks" that were found on the first and third floors. The estimated number of wooden "bricks" on the first floor is 450,000. The estimated number of wooden "bricks" on the third floor is 50,000. These "bricks" are approximately 8"x 3"x 2" and appear to be treated with creosote. The material beneath the wooden "bricks", when tested for hydrocarbons utilizing the soil gas meter, registered a range of 2 ppm to 5 ppm of hexane. The readings are near background and indicate that contamination is probably due to the bricks. Several of 55 gallon drums and solvent spray cans were located inside the building. The disposal of the containers can be accomplished in a municipal landfill if laboratory testing indicates no hazardous materials are present. The electrical capacitors, if determined to contain PCB's, must be disposed of by a hazardous waste land fill which has the ability to incinerate.

## C. Soil Gas Analysis

Three hand auger borings were completed during the exterior inspection of the building in the areas which contained the most significant level of hydrocarbon readings. At a depth of approximately one foot below the surface, the hydrocarbon readings increased from 5 ppm Hexane to 10 ppm Hexane. The higher meter readings indicate an increase in concentration of hydrocarbons beneath the surface. These readings are considered

a further delineation of the background level because of the sample points. However, soil borings and laboratory analysis will confirm these readings.

#### D. Owners Responsibility/Liability

The site investigation has identified extensive asbestos-like material on the piping on all floors of the building. The asbestos removal is the owners responsibility and is estimated to cost approximately \$20.00 per linear foot or \$200,000.00. This reflects the removal, transportation and disposal costs. An asbestos removal plan must be prepared and submitted to the Indiana Department of Environmental Management (IDEM) 10 days prior to the removal and a special permit must be obtained to bury the asbestos material in a landfill. The estimated cost to prepare the permit is \$5,000.00.

The removal and transportation of the wooden "bricks" to a hazardous waste land fill is estimated to cost between \$50,000.00 and \$100,000.00. The cost to incinerate and bury the ashes of the capacitors which may contain PCB's will be will be approximately \$1.25 per pound or \$200.00 each. The cost to remove and bury empty 55 gallon drums is approximately \$.09 per pound. If the drums are filled with a liquid that must be disposed of at a hazardous waste land fill, the cost can range from \$92.00 per 55 gallon drum to \$175.00 per drum. These costs reflect stabilization of the fluid and/or incineration.

Contaminated soil which must be taken to a hazardous waste land fill for disposal is estimated to cost between \$135.00 per ton for burial and \$570.00 per cubic yard for material which must be incinerated. These costs do not include the transportation cost to the landfill or incinerator. Incineration would be performed at Chemical Waste Management's facility outside Chicago, Illinois. Transportation costs are approximately \$600.00 per trip. This hauler will remove of 80, 55 gallon drums or a 30 cubic yard container. Landfill disposal for contaminated soil could be performed by Chemical Waste Management's facility in Ft. Wayne, Indiana. The estimated cost for transportation is \$450.00 for 80, 55 gallon drums or a 30 cubic yard container. Asbestos and nonhazardous material disposal can be completed by a sanitary or municipal land fill. The local facility which could be involved is the Prarieview Landfill.

#### V. CONCLUSIONS

- o The fibrous material which may be asbestos was utilized as insulating material on the pipes in the interior of the building.
  
- o Surficial hexane readings ranging from 2-5 ppm were recorded on the interior of the first floor below the wooden "bricks", along the grounds adjacent to the east and west walls of the building. Hexane readings ranged from 5-10

ppm from a depth of approximately 1 foot. These are background readings.

- o Capacitors were located along the west side of the building which may contain PCB's.
- o Sealed containers of asbestos roofing material and 55 gallon drums containing liquid were observed on the site.

#### VI. RECOMMENDATIONS

KEDA recommends that the following steps be taken:

- o Laboratory analysis to positively identify the asbestos-like insulating material.
- o The liquid contained in the 55 gallon drums should be tested for chemical constituents and relative concentrations.
- o The soil and material on the interior and exterior of the building produced 2-10 ppm Hexane readings on the soil gas meter. These readings should be compared to the soil gas data acquired by EIS.
- o The electrical capacitors on the west side of the building should be tested for PCB's.
- o The chemicals used to treat the wooden "bricks" should be identified by laboratory analysis.



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