



Quality Environmental Professionals, Inc.

September 27, 2010

Ms. Pamela C. Meyer
Director
Urban Enterprise Association of South Bend, Inc.
227 West Jefferson Boulevard
South Bend, Indiana 46601

**Re: Document Review and Findings Report
Sample Street Business Complex
3702 West Sample Street
South Bend, Indiana**

Dear Ms. Meyer,

Quality Environmental Professionals, Inc. (Qepi) is pleased to provide the Urban Enterprise Association of South Bend (UEA) with this letter report documenting Qepi's opinions on historic environmental investigation and remediation activities conducted at the Sample Street Business Complex located at 3702 West Sample Street in South Bend, Indiana. These findings are based on a review of environmental documents provided to Qepi by the UEA. Only documents provided by the UEA were reviewed as part of this document review.

Background

Qepi was contacted by the UEA to provide environmental consulting services with regards to the historic environmental investigation and remediation activities conducted at the above referenced property. Qepi was requested to provide an opinion as to completeness of investigative and remedial activities conducted and to provide recommendations as to whether additional investigative activities should be conducted in concert with any potential future real estate transactions involving the property.

Based on the information provided by the UEA, the property was subject to numerous environmental site assessments undertaken by the previous site owners and was subject to soil and groundwater remediation. Soil and groundwater impacts present at the property were the result of historic manufacturing operations at the site. Qepi was provided the following documents to review pertaining to the subject property from the UEA:

Canonie Engineers, Inc., *Environmental Assessment, Torrington's Bantam Bearing Division Plant*. October 1984.

Harza Environmental Services, Inc., *Environmental Assessment, The Torrington Company*. June 1986.

Best Environmental, Inc., *Torrington Site Environmental Assessment Analytical Results*. September 20, 1990, September 24, 1990, October 01, 1990 and October 12, 1990.

Best Environmental, Inc., *Subsurface Environmental Assessment and Remedial Action Plan, The Torrington Company*. April 1991.



- Best Environmental, Inc., *Interior Pit Cleaning Project, Torrington Bearing Plant*. September 1991.
- Capsule Environmental Engineering, Inc., *Torrington Investigation Report*. December 11, 1991.
- Asbestos Control Methods of Indiana, Inc., *Asbestos Containing Building Materials Survey*. 1991.
- Capsule Environmental Engineering, Inc., *Phase II Environmental Assessment, The Torrington Company*. May 26, 1992.
- LAW Engineering, Inc., *Report of Soil Gas Investigation, Former Torrington Heavy Bearings Facility*. February 12, 1993.
- Capsule Environmental Engineering, Inc., *Soil Vapor Extraction/Air Sparging Documentation Report & Conceptual Design, The Torrington Company*. June 21, 1994.
- Capsule Environmental Engineering, Inc., *Corrective Action Work Plan, Torrington Company Former Heavy Bearings Facility*. November 16, 1994.
- Capsule Environmental Engineering, Inc., *Corrective Action Work Plan, Revision 1, Torrington Company Former Heavy Bearings Facility*. February 27, 1995.
- Capsule Environmental Engineering, Inc., *1998 Annual System Effectiveness Report, Torrington Company Former Heavy Bearings Facility*. February 16, 1999.
- Asbestos Control Methods of Indiana, Inc., *Asbestos Containing Building Materials and Lead Based Paint Survey – Area "C" of Sample Street Business Complex*. November 30, 1999.

In addition to these documents, several internal memorandums and correspondences between the UEA, the Torrington Company and the various environmental consulting groups associated with the project were reviewed. Additional documents pertaining to asbestos and lead-based paint abatement activities were also reviewed. It should be noted that these were the only documents reviewed by Qepi as part of this file review.

Findings

Soil and Groundwater

Based on a review of the documents referenced above, the subject property was developed in 1928 and utilized for the manufacture of metal bearings. The facility expanded several times, last expanding in 1967. The site historically operated an approximately 350,000 square foot manufacturing facility encompassing 15 acres of property. The site historically operated two underground storage tank (UST) areas and five storm water and cool water ponds located at the south end of the property. The site ceased manufacturing operations in September 1983.

From 1984 through 1991 numerous subsurface soil and groundwater investigations were conducted at the site. These investigations were primarily centered around the two former UST areas and in the vicinity of the storm water and cool water ponds. The site investigations incorporated the advancement of several soil borings and the installation of groundwater monitoring wells to evaluate the presence of chemical impacts to soil and groundwater.



From 1984 to 1986, sampling events were conducted to evaluate soil and groundwater for the presence of volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH) and polychlorinated biphenyls (PCBs). It should be noted that sampling protocols utilized during the varying site assessments were inconsistent and chemical analyses requested varied from assessment to assessment.

Based on the results of these investigations, significantly elevated concentrations of VOCs in the form of trichloroethene (TCE), tetrachloroethene (PCE), dichloroethene and dichloroethane were encountered in pond sediments and water samples collected from the ponds. Furthermore, significantly elevated concentrations of TCE, PCE, dichloroethane, cis(1,2)dichloroethene, benzene and mineral spirits (light hydrocarbon chemicals) were encountered in soil and groundwater borings throughout the site. Chemical concentrations encountered exceeded modern day Indiana Department of Environmental Management (IDEM) Risk Integrated System of Closure (RISC) Industrial Default Closure Levels (IDCLs). The area with the highest concentration of impacts was encountered near the loading dock area located in the southwest portion of the site.

In July 1986, five USTs were removed from the site. These USTs historically contained petroleum products and chemical solvents. Soil confirmation samples taken after the removal of the USTs indicated TCE and dichloroethene impacts remained in the soil. Additionally, four of the five pond areas were excavated and removed, with approximately 1,700 cubic yards of impacted pond sediments removed from the site.

Additional site investigation was conducted in from 1990 through 1991 to further evaluate the presence of chemical impacts at the site. Based on these investigative activities, additional groundwater impacts in the form of VOCs were encountered in both existing groundwater monitoring wells and newly installed shallow and deep groundwater monitoring wells. Chemical impacts were also encountered in groundwater monitoring wells installed down-gradient from the source areas at the site. Testing of the groundwater monitoring wells near the loading dock area indicated that free product light non-aqueous phase liquid (LNAPL) petroleum existed in the area.

Laboratory analysis of soil and groundwater for metals indicated that elevated concentrations of metals were encountered in fill material higher than normal background concentrations in the area. The highest concentration of impacts still remained in the southwest portion of the site and associated with the cool water pond identified as "Pond 4". Visual chemical impacts were noted down to 5 feet in the area of the pond. Concentrations of cyanide were encountered in these sediments, however no PCBs were present.

In August 1992, the area surrounding "Pond 4" was excavated and removed. Approximately 960 cubic yards of sediment was removed from this area to a depth of 7 feet below ground surface. Soil sampling results after the excavation of pond sediments indicated that VOC impacts to soil still remained at depth. Based on the results of these investigations, it was conceded that impacts to soil and groundwater at the site was much more widespread than initially estimated.



From 1992 through 1994, pilot testing and engineering was completed to design a soil vapor extraction (SVE) and air sparging (AS) remediation system. This remediation system was designed to remediate free product petroleum and VOC impacts to both soil and groundwater at the site. The design called for the construction of two separate remediation systems. The first system was to be installed in the loading dock area to remediate impacts in that location. The second remediation system was to be installed in the eastern portion of the site building to remediate VOC impacts in that location.

In February 1995, the system was formally recommended. The system was installed in late 1995/early 1996 and began full time operation midyear 1996. At the time, the Corrective Action Work Plan designed referred to IDEM Tier II Cleanup Goals as the standard to monitor the effectiveness of the remediation system. No formal consultation with IDEM was conducted as part of the site investigation or remedial design. The annual system effectiveness report for the year 1998 indicated that the system was running efficiently with a 90% run time; however free product petroleum was still present in groundwater monitoring wells at the loading dock and both TCE and PCE were still encountered at elevated concentrations throughout the site. No additional documentation was available after this date regarding the remediation system or pertaining to any system closure.

Additional Environmental Considerations

In 1991, numerous drums and interior pits were cleaned, with pit water being pumped out and disposed of offsite or directly to the sanitary sewer. A total of 16 drums of non-hazardous liquids were pumped out and disposed of offsite along with one dumpster of soil and debris collected from the interior pits. No sampling data was reviewed regarding the nature of liquids or if any residual impacts remained to flooring after the cleaning was completed. Additionally, in May 1992, all hazardous waste transformers and capacitors previously known to contain PCBs were removed and disposed of offsite by Trans Tech Electric, Inc. of South Bend, Indiana.

During the redevelopment of the site, both asbestos containing building materials (ACBMs) and lead based paint (LBP) were abated. Qepi reviewed reports which documented the abatement of LBPs prior to occupation of the building in 1991. Additionally, in 1999, asbestos and LBP building inspections were conducted in "Area C" of the site building. These inspections indicated the presence of ACBMs and LBPs throughout this area and provided recommendations for abatement. No abatement forms were found regarding this area during the file review.

Conclusions & Recommendations

Based on the review of the site history and the subsurface investigations completed for subject property, it is likely that impacts to both soil and groundwater are still present at the site exceeding current IDEM RISC IDCLs.

Based on the document review, there exists a significant data gap in the UEA files. The final



report reviewed detailed remedial system effectiveness for the year 1998. No documentation was reviewed after February 1999. The UEA should, at minimum, have documentation pertaining to the following:

- Additional remediation system annual effectiveness reports;
- Soil and groundwater monitoring data documenting system effectiveness;
- Documentation of soil and groundwater sampling events both during and post remediation system operation;
- Documentation of soil and groundwater concentrations with respect to IDEM cleanup goals;
- Remediation system shut down documentation; and
- Site closure and remediation system well and groundwater monitoring well abandonment documentation.

Without evaluation of this documentation, it is not feasible to properly evaluate the effectiveness of the historically operated remediation system at the site. Furthermore, the historic site environmental remedial actions were conducted without proper oversight from IDEM. Without IDEM oversight and proper closure documentation from IDEM, historic impacts at the site still represent a reportable incident to IDEM.

Qepi has reviewed the proposal provided by Superior Environmental Remediation, Inc. (SER) submitted to the Raitt Corporation for additional site assessment activities. Qepi agrees with SER's assessment that certain areas of concern are present that cannot be discounted due to the data gaps present in the UEA's records.

It is likely that a larger scale subsurface investigation will need to be conducted to properly evaluate the extent of chemical impacts to soil and groundwater at the site; however, at this time Qepi recommends that a limited soil and groundwater subsurface investigation be initiated. This limited subsurface investigation should be initiated in the formerly identified source areas to evaluate whether the historically operated remediation system was effective in remediating soil and groundwater impacts. Additionally, investigation in other potential source areas such as the location of the former fuel oil and cutting oil USTs and near the locations of the former pond areas, specifically "Pond 4", is recommended. Site investigation activities should evaluate soil and groundwater for VOCs and TPH. A site reconnaissance should be conducted to determine if any of the previously installed groundwater monitoring wells are still present. These wells should be evaluated and if suitable, be redeveloped and sampled as part of this limited investigation. Sampling soils for metals should also be conducted at the initial encountered subsurface interval to determine if fill material used at the site was impacted. Groundwater sampling for metals is not recommended. PCB analysis of soil and groundwater is not recommended.

Should this limited investigation determine that chemical impacts are still present, then a widespread site investigation should be initiated. This widespread investigation should encompass the entire property and both horizontally and vertically delineate chemical impacts. Additionally, if the limited investigation encounters impacts to soil and/or groundwater, then the UEA should begin consultation with IDEM to properly bring closure to the site.



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Due to the age of the building and the redevelopment at the site, it is unlikely that ACBMs still remain; however Qepi does recommend an asbestos building inspection be conducted at the site. This asbestos building inspection should encompass the whole building and fully identified all remaining ACBMs in the building.

Qepi believes that this limited site investigation and asbestos building inspection should be implemented by the UEA as soon as possible to properly evaluate the extent of impacts at the property. Qepi is prepared to advise the UEA as requested to further assist in developing a limited investigation work plan for the site.

If you have any questions or comments, please feel free to contact me at (574) 360-0961.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nivas R. Vijay', written over a faint rectangular box.

Nivas R. Vijay, CHMM
Project Manager