UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WISCONSIN

KATHLEEN McHUGH and
DEANNA SCHNEIDER, Individually
and on behalf of all persons similarly
situated ,

Plaintiffs,

v.

MADISON-KIPP CORPORATION,
CONTINENTAL CASUALTY COMPANY,
COLUMBIA CASUALTY COMPANY,
UNITED STATES FIRE INSURANCE
COMPANY and ABC INSURANCE
COMPANIES 1 – 50,

Defendants,

--and--

MADISON-KIPP CORPORATION,

Cross-Claimant,

Case No. 11-cv-724-bbc

v.

CONTINENTAL CASUALTY COMPANY,
COLUMBIA CASUALTY COMPANY and
UNITED STATES FIRE INSURANCE
COMPANY,

Cross-Claim Defendants,

--and--

CONTINENTAL CASUALTY COMPANY and
COLUMBIA CASUALTY COMPANY,

Cross-Claimants/Third-Party Plaintiffs,

v.

MADISON-KIPP CORPORATION,

Cross-Claim Defendant,

and

LUUMBERMENS MUTUAL CASUALTY COMPANY, AMERICAN MORTORISTS INSURANCE COMPANY, and JOHN DOE INSURANCE COMPANIES 1-20,

Third-Party Defendants.

DEFENDANT MADISON KIPP CORPORATION'S PROPOSED FINDINGS OF FACT IN SUPPORT OF THEIR MOTION FOR SUMMARY JUDGMENT

Madison Kipp Corporation ("Madison-Kipp") submits the following proposed findings of fact in support of their motion for summary judgment:

PROPOSED FINDINGS OF FACT

Background

1. The Madison-Kipp site has been used as an industrial metal casting facility for more than 100 years. (Bianchi Dec. ¶ 120, Ex. 118)

2. Madison-Kipp started operations in its current facility in 1902. (Bianchi Dec. ¶ 120, Ex. 118)

3. Madison-Kipp originally manufactured lubrication parts for farm tractors and power units. (Bianchi Dec. ¶ 120, Ex. 118)

4. Madison-Kipp now produces precision machined aluminum die cast components for transportation and industrial end users. (Meunier Dec. ¶ 2)

5. The Madison-Kipp facility is on the east side of the City of Madison, and is bound on the north by a bike path, on the south by Atwood Avenue, on the east by South Marquette Street, and on the west by Waubesa Street. (Meunier Dec. ¶ 11, Ex. 7 at MK010498)

6. The facility's footprint has changed over the years but now the 130,000-square foot building occupies much of the site. (Kubacki Dec. ¶ 2, Ex. 1)

7. There are thirty-four (34) homes that share a property line with Madison-Kipp. (Kubacki Dec. ¶ 2, Ex. 1)

8. These thirty-four homes were built after the Madison-Kipp facility was built. (Meunier Dec. ¶ 11, Ex. 7 at MK010498)

9. Given the residences' close proximity to the facility, the company has paid particular attention over the years to neighbor relations. (Meunier Dec. ¶ 9, Ex. 5)

10. For much of the last century, PCE was believed to have low toxicity and was widely used in medicine, industry and household products. (Dkt. 144 at 53)

11. Perchloroethylene ("PCE") was widely used in metal degreasing operations at industrial facilities. (Dkt. 145 at 3; Bianchi Dec. ¶ 53, Ex. 51; Bianchi Dec. ¶ 54, Ex. 52)

12. PCE is not a banned substance and is readily available today at any local hardware store in cleaning products. (Bianchi Dec. ¶ 131, Ex. 129; Bianchi Dec. ¶ 102, Ex. 100)

13. Most dry cleaning operators still use PCE in the dry cleaning process. (Bianchi Dec. ¶ 57, Ex. 55)

Site Investigations – 1994 to 1995

14. Madison-Kipp received a letter from the Wisconsin Department of Natural Resources ("WDNR") dated July 18, 1994 requesting Madison-Kipp to investigate the occurrence of volatile organic compounds ("VOCs") found in shallow groundwater at two neighboring properties [to the west and north]. (Bianchi Dec. ¶ 87, Ex. 85)

15. Madison-Kipp informed WDNR that it had retained the environmental consulting firm Dames & Moore, Inc. in a letter dated August 24, 1994. (Bianchi Dec. ¶ 137, Ex. 135)

16. Dames & Moore, on behalf of Madison-Kipp, submitted a work plan for site investigation to WDNR dated September 14, 1994. (Bianchi Dec. ¶ 135, Ex. 133)

17. Following approval by WDNR, site investigations were initiated by Dames & Moore in September 1994 to evaluate the presence of VOCs, including perchloroethylene ("PCE"), in soil and groundwater in the northern portion of the Madison-Kipp site (the "Site"). (Bianchi Dec. ¶ 135, Ex. 133)

18. The Dames & Moore investigation that began in September 1994 included multiple soil borings, soil and groundwater sampling, as well as the installation of one monitoring well (MW-1). (Bianchi Dec. ¶ 136, Ex. 134)

19. Additional soil and groundwater sampling was recommended in a December 14, 1994 Dames & Moore status report to WDNR. (Bianchi Dec. ¶ 136, Ex. 134)

20. Dames & Moore submitted a site investigation report to WDNR dated April 20, 1995 that noted groundwater flow was generally toward the south and elevated concentrations of VOCs were found in shallow groundwater in the vicinity of a former drainage ditch on the northern portion of the Site and in shallow groundwater in the northeast portion of Madison-Kipp's parking lot. (Bianchi Dec. ¶ 101, Ex. 99)

21. The April 20, 1995 letter also noted that lower VOC concentrations were found in groundwater monitoring well MW-1, in the north parking area, and in an off-site downgradient well installed by a neighboring property owner. (Bianchi Dec. ¶ 101, Ex. 99)

22. Site investigations by Dames & Moore that occurred in 1995 were presented to WDNR in a March 20, 1996 progress report. (Bianchi Dec. ¶ 100, Ex. 98)

23. The March 20, 1996 progress report submitted to WDNR indicated that a PCE aboveground storage tank was formerly located outside the northern portion of the building. (Bianchi Dec. ¶ 100, Ex. 98)

24. The former drainage ditch, which had been filled and paved, was identified in the site investigation report dated April 20, 1995 and was located along the east side of the building and extended from the former aboveground storage tank area northward to the property boundary. (Bianchi Dec. ¶ 101, Ex. 99)

25. Soil and groundwater investigations, including the installation of three additional groundwater monitoring wells (MW-2, MW-2A and MW-3) were installed to further define the extent of subsurface VOCs in the northern portion of the site, in the vicinity of the former aboveground storage tank and ditch. (Bianchi Dec. ¶ 100, Ex. 98)

26. The March 20, 1996 letter recommended additional investigation and a pilot study to assess remediation options for vapors and groundwater. (Bianchi Dec. ¶ 100, Ex. 98)

27. By letter dated April 29, 1996, Dames & Moore confirmed its conversation with DNR regarding the agency's approval of the work proposed in March 20, 1996 progress report. (Bianchi Dec. ¶ 134, Ex. 132)

Site Investigation and Remediation Activities – 1996 to 1999

28. Site investigations conducted by Dames & Moore in 1996 were presented to the WDNR in a report dated March 18, 1997. (Bianchi Dec. ¶ 99, Ex. 97)

29. The March 18, 1997 Dames & Moore report proposed excavation of VOC-impacted soils in source areas and included an evaluation of groundwater remedial action options. (Bianchi Dec. ¶ 99, Ex. 97)

30. According to the March 18, 1997 Dames & Moore letter, Dames & Moore reviewed historical information to identify likely contaminant sources. (Bianchi Dec. ¶ 99, Ex. 97)

31. One of the likely contaminant sources identified in the March 18, 1997 letter was a former PCE vapor degreaser that used at in the Madison-Kipp facility. (Bianchi Dec. ¶ 99, Ex. 97)

32. The PCE vapor degreaser had an external vent, located in the northern portion of the Waubesa building, along the east exterior wall. (Dkt. 149 ¶ 8)

33. The March 18, 1997 letter noted that elevated concentrations of VOCs were found in soil in the vicinity of the former degreaser vent. (Bianchi Dec. ¶ 99, Ex. 97)

34. The other likely contaminant source identified in the March 18, 1997 letter is the former PCE aboveground storage tank. (Bianchi Dec. ¶ 99, Ex. 97)

35. Additional monitoring wells (MW-4S and MW-4D) were installed at multiple depths along the south property boundary to define the lateral extent of shallow groundwater contamination in the bedrock and additional soil sampling was conducted in suspected source areas. (Bianchi Dec. ¶ 99, Ex. 97)

36. Dames & Moore installed a groundwater extraction test well for hydraulic test purposes. (Bianchi Dec. ¶ 99, Ex. 97)

37. By July 1996, a total of six (6) groundwater monitoring wells had been installed at the Site. (Bianchi Dec. ¶ 99, Ex. 97)

38. [In the March 18, 1997 letter], Dames & Moore concluded, based on the measured groundwater flow direction toward the south and the lower VOC concentrations found in MW-2 (the well located on the west side of the Waubesa building, between the facility and Waubesa Street), that the lateral definition of VOCs in shallow groundwater was generally defined. (Bianchi Dec. ¶ 99, Ex. 97)

39. The Dames & Moore report dated May 30, 1997 and submitted to WDNR summarized additional site investigations, including soil sampling in the area of the drainage ditch along the north property boundary and in the area of the former degreaser vent to further define the extent of contamination. (Bianchi Dec. ¶ 98, Ex. 96)

40. As reported to WDNR in the report dated May 30, 1997, Dames & Moore noted that elevated PCE concentrations were found in shallow soil samples along the drainage ditch but much lower VOC concentrations were found in soil immediately soth and east, thereby generally defining the lateral extent of soil contamination in the drainage ditch area. (Bianchi Dec. ¶ 98, Ex. 96)

41. Site-wide groundwater sampling of all installed monitoring wells was conducted in February 1998. (Bianchi Dec. ¶ 132, Ex. 130)

42. Site-wide groundwater sampling of all installed monitoring wells was conducted in May 1999. (Bianchi Dec. ¶ 97, Ex. 95)

43. Site-wide groundwater sampling of all installed monitoring wells was conducted in August 1999. (Bianchi Dec. ¶ 132, Ex. 130)

44. Between February 1998 and August 1999, VOC concentrations remained stable in almost all monitoring wells, while VOC concentrations in MW-2S decreased significantly. (Bianchi Dec. ¶ 132, Ex. 130)

45. By letter dated December 7, 1999, WDNR notified residents in the vicinity of Madison-Kipp that "The degree and extent of groundwater contamination at the facility has, for the most part, been determined." (Bianchi Dec. ¶ 119, Ex. 117)

46. By letter dated December 7, 1999, WDNR notified residents in the vicinity of Madison-Kipp that "Efforts to fully delineate the contaminated groundwater plume have been delayed due to the difficulty of finding appropriate locations to advance groundwater quality monitoring near the site which are not obstructed by utilities or other physical barriers." (Bianchi Dec. ¶ 119, Ex. 117)

47. By letter dated December 7, 1999, WDNR notified residents in the vicinity of Madison-Kipp that "Madison-Kipp has to date complied with requirements to identify and remediate the contamination found at the site." (Bianchi Dec. ¶ 119, Ex. 117)

48. According to the December 7, 1999 WDNR letter, "[t]he two most likely routes of exposure to contamination at the Madison Kipp site are by direct ingestion of contaminated soil or by drinking contaminated groundwater. The risk is quite low for both potential routes of exposure, contaminated soil is limited to an area behind the Madison Kipp building and the City of Madison is served by a series of municipal wells rather than private wells." (Bianchi Dec. ¶ 119, Ex. 117)

49. According to the December 7, 1999 WDNR letter, contamination was identified in two discharge points at the facility. The soil contamination is limited to an area around these two point sources and from these points vertically to the groundwater, approximately 20 feet below the ground surface. The groundwater is impacted, from a point directly below these areas of soil contamination and vertically form these directions in a direction of groundwater flow (generally towards Lake Monona). The concentrations of the contamination in groundwater decreases significantly away from the source areas. (Bianchi Dec. ¶ 119, Ex. 117)

50. By report to WDNR dated September 14, 1999, Dames & Moore summarized the results of well installation and sampling for two (2) additional deeper monitoring wells (MW-3D and MW-4D2). (Bianchi Dec. ¶ 132, Ex. 130)

51. The September 14, 1999 report noted that although elevated PCE concentrations were found in MW-3D, much lower PCE levels were found in deeper well MW-4D2, further defining the extent of PCE in shallow groundwater. (Bianchi Dec. ¶ 132, Ex. 130)

Site Remediation Activities – 1996 to 1999

52. In a March 11, 1998 meeting with WDNR, as referenced in a letter from Dames & Moore to WDNR dated April 6, 1998, Madison-Kipp proposed in-situ remediation of VOC-impacted soils in the area of the former PCE aboveground storage tank, drainage ditch and the degreaser vent suing the soil treatment process BiOx process. (Bianchi Dec. ¶ 132, Ex. 130)

53. BiOx is designed to promote the rapid oxidation and degradation of chlorinated VOCs, include PCE. (Bianchi Dec. ¶ 131, Ex. 129)

54. The BiOx soil remediation option was discussed with the WDNR prior to its implementation. (Bianchi Dec. ¶ 96, Ex. 94)

55. Three (3) BiOx injections were completed at multiple locations during June and July 1998 within the two (2) source areas. (Bianchi Dec. ¶ 96, Ex. 94)

56. Additional BiOx injections were completed in December 1998 and May 1999 to further treat VOC-impacted soils in the former drainage ditch area. (Bianchi Dec. ¶ 96, Ex. 94)

57. By letter dated March 21, 2000, Dames & Moore submitted a soil remediation documentation report to WDNR. (Bianchi Dec. ¶ 96, Ex. 94)

58. The March 21, 2000 soil remediation documentation report submitted to WDNR concluded that soil in both source areas was remediated to the extent practicable. (Bianchi Dec. ¶ 96, Ex. 94)

Site Investigation Activities – 2001 to 2003

59. The environmental consulting firm URS, on behalf of Madison-Kipp, installed additional shallow and deeper groundwater monitoring wells (MW-3D2 in the north parking area and MW-5 and MW-5D along the eastern side of the property). (Bianchi Dec. ¶ 95, Ex. 93)

60. URS performed routine groundwater monitoring at the site in March 2001. (Bianchi Dec. ¶ 95, Ex. 93)

61. By letter dated December 27, 2001, URS reported groundwater monitoring results to WDNR. (Bianchi Dec. ¶ 95, Ex. 93)

62. The concentrations detected at MW-5D and MW-5S, along the eastern side of the property, lead URS to conduct additional source area investigation in the area of the MW-5 wells. (Bianchi Dec. ¶ 95, Ex. 93)

63. The December 27, 2001 letter to WDNR indicated that a vapor degreaser and external vent was at one time located in the building adjacent to the MW-5 well nest. (Bianchi Dec. ¶ 95, Ex. 93)

64. An investigation was completed in 2002 to evaluate soil conditions in the area of the former vapor degreaser vent location on the east side. (Bianchi Dec. ¶ 94, Ex. 92)

65. The environmental consulting firm URS, on behalf of Madison-Kipp, reported the results of the 2002 soil investigation to WDNR in a letter dated August 30, 2002. (Bianchi Dec. ¶ 94, Ex. 92)

66. The August 30, 2002 soil investigation report noted that: "Subsequent investigation by Madison-Kipp resulted in the identification of a former vapor degreaser in the vicinity of the MW-5 well nest….Although the area is now paved, the former degreaser pre-dates the pavement, which would have prevented condensate from the degreaser hood to migrate into the subsurface." (Bianchi Dec. ¶ 94, Ex. 92)

67. The August 30, 2002 soil investigation report submitted to WDNR recommends additional field screening to fully define the vertical extent of contamination in the MW-5 area and monitoring to evaluate potential improvements after remediation of the MW-5 source area. (Bianchi Dec. ¶ 94, Ex. 92)

68. By letter dated October 31, 2002, URS reported the results of soil and groundwater sampling to WDNR. (Bianchi Dec. ¶ 93, Ex. 91)

69. The October 31, 2002 letter to WDNR noted that Madison-Kipp would evaluate remedial options for impacted soil and groundwater remediation. (Bianchi Dec. ¶ 93, Ex. 91)

70. The WDNR drafted a memo to file regarding the October 31, 2002 submittal and summarized Madison-Kipp's proposed next steps. (Bianchi Dec. ¶ 130, Ex. 128)

71. Soil sampling was conducted between November 25, 2002 and November 26, 2002 at three adjacent residential properties - 150, 154 and 162 South Marquette Street. (Bianchi Dec. ¶ 115, Ex. 113; Bianchi Dec. ¶ 116, Ex. 114; Bianchi Dec. ¶ 117, Ex. 115)

72. A URS memo to WDNR dated December 4, 2002 provided sample results from soil samples taken between November 25, 2002 and November 26, 2002 adjacent to Madison-Kipp's east property line. (Bianchi Dec. ¶ 129, Ex. 127)

73. By letter dated January 3, 2003, URS informed Deanna Schneider of 150 South Marquette that there were "low" concentrations of PCE in three (3) of five (5) soil samples collected from her backyard. (Bianchi Dec. ¶ 115, Ex. 113)

74. According to the January 3, 2003 letter to Deanna Schneider, the PCE concentrations in soil samples from 150 South Marquette were 0.031 ppm, 0.086 ppm and 0.266 ppm. (Bianchi Dec. ¶ 115, Ex. 113)

75. By letter dated January 3, 2002, URS informed Barbara Brownstorm, the then owner of 154 South Marquette, that there were low concentrations of PCE in three (3) of the seven (7) soil samples collected from her backyard. (Bianchi Dec. ¶ 116, Ex. 114)

76. According to the January 3, 2003 letter to Barbara Brownstorm, the PCE concentrations in soil samples from 154 South Marquette were 1.43 ppm, 0.032 ppm and 0.036 ppm. (Bianchi Dec. ¶ 116, Ex. 114)

77. By letter dated January 3, 2003, URS informed Peter Uttech of 162 South Marquette that there were low concentrations of PCE in one (1) of six (6) soil samples collected from his backyard. (Bianchi Dec. ¶ 117, Ex. 115)

78. According to the January 3, 2003 letter to Peter Uttech, the PCE concentration in the soil sample from 162 South Marquette was 0.221 ppm. (Bianchi Dec. ¶ 117, Ex. 115)

79. The December 4, 2002 soil sample results were provided to Dr. Henry Nehls-Lowe of the Wisconsin Department of Health Services by Dino Tsoris at WDNR on April 3, 2003. (Bianchi Dec. ¶ 113, Ex. 111)

80. In February 2003, three additional monitoring wells (MW-5D2, MW-6S and MW-6D) were installed at multiple depths at the site as reported to WDNR by letter from URS dated April 17, 2003. (Bianchi Dec. ¶ 91, Ex. 89)

81. On June 3, 2003 soil sampling was performed by URS at 150, 154 and 162 South Marquette. (Bianchi Dec. ¶ 126, Ex. 124; Bianchi Dec. ¶ 127, Ex. 125; Bianchi Dec. ¶ 128, Ex. 126)

82. According to July 8, 2003 URS letters to homeowners of 150, 154 and 162 South Marquette, the United States Environmental Protection Agency's ("USEPA") risk-based residential residual contaminant level ("RCL") for PCE in soil was 32 ppm. (Bianchi Dec. ¶ 126, Ex. 124; Bianchi Dec. ¶ 127, Ex. 125; Bianchi Dec. ¶ 128, Ex. 126)

83. By letter dated July 8, 2003, URS informed Deanna Schneider of 150 South Marquette that PCE was detected at her property at 0.11 ppm at two (2) feet of depth, below the UESPA regional risk-based residential RCL for PCE in soil of 32 ppm. (Bianchi Dec. ¶ 126, Ex. 124)

84. By letter dated July 8, 2003, URS informed Barbara Brownstorm of 154 South Marquette that PCE was detected at her property at 0.272 ppm at two (2) feet of depth, below the UESPA regional risk-based residential RCL for PCE in soil of 32 ppm. (Bianchi Dec. ¶ 127, Ex. 125)

85. By letter dated July 8, 2003, URS informed Peter Uttech of 162 South Marquette that PCE was detected at his property at 2.68 ppm at two (2) feet of depth, below the UESPA regional risk-based residential RCL for PCE in soil of 32 ppm. (Bianchi Dec. ¶ 128, Ex. 126)

86. URS conducted soil sampling again at 150, 154 and 162 South Marquette in July 2003. [See PLF008314-17] (Bianchi Dec. ¶ 125, Ex. 123)

87. By letter dated October 6, 2003, URS provided to WDNR results from the July 2003 sampling efforts and draft letters to 150, 154 and 162 South Marquette for WDNR's review. (Bianchi Dec. ¶ 114, Ex. 112)

88. On October 13, 2002, WDNR faxed the October 6, 2003 URS letter to Henry Nehls-Lowe of the [Wisconsin Department of Health Services] for Nehls-Lowe's review and comment. (Bianchi Dec. ¶ 114, Ex. 112)

89. By letters dated December 4, 2003, URS informed the homeowners of 150, 154 and 162 South Marquette that the WDNR, Wisconsin Department of Health and City of Madison's Health Department concluded the soil sampling results "[did] not pose a public health concern". (Bianchi Dec. ¶ 125, Ex. 123)

90. By letter dated December 4, 2003, URS informed Deanna Schneider of 150 South Marquette that the highest concentration of PCE detected in soil samples collected from her property had a concentration of 0.166 ppm, below the UESPA regional risk-based residential RCL for PCE in soil of 32 ppm. (Bianchi Dec. ¶ 125, Ex. 123)

91. By letter dated December 4, 2003, URS informed Barbara Brownstorm of 154 South Marquette that the highest concentration of PCE detected in soil samples collected from her property had a concentration of 0.272 ppm, below the UESPA regional risk-based residential RCL for PCE in soil of 32 ppm. (Bianchi Dec. ¶ 125, Ex. 123)

92. By letter dated December 4, 2003, URS informed Peter Uttech of 162 South Marquette that the [highest concentration of PCE detected in soil samples collected from his property had a concentration of 0.272 ppm, below the UESPA regional risk-based residential RCL for PCE in soil of 32 ppm. (Bianchi Dec. ¶ 125, Ex. 123)

Site Investigation and Remediation Activities – 2007 to 2009

93. Madison-Kipp's 2003 groundwater sampling efforts were summarized in a April 12, 2004 report to WDNR by its consultant, RSV. (Bianchi Dec. ¶ 92, Ex. 90)

94. As of the April 12, 2004 report, the groundwater monitoring network consisted of 14 wells at 6 locations. (Bianchi Dec. ¶ 92, Ex. 90)

95. In a May 7, 2004 letter from WDNR to Madison-Kipp, WDNR requested monitoring of soil vapor on the property boundary to assess migration of vapors onto adjacent property. (Bianchi Dec. ¶ 108, Ex. 106)

96. According to the May 7, 2004 letter, representatives of Madison-Kipp and WDNR met on April 27, 2004 to discuss the status of the PCE soil and groundwater investigation. (Bianchi Dec. ¶ 108, Ex. 106)

97. By letter dated June 21, 2004, RSV submitted a Proposal and Remedial Options Analysis for Soil and Groundwater Remediation to WDNR. (Bianchi Dec. ¶ 118, Ex. 116)

98. The June 21, 2004 submittal recommended chemical oxidation for in-situ soil treatment. (Bianchi Dec. ¶ 118, Ex. 116)

99. By letter dated July 21, 2004, WDNR approved the conceptual remedial action options summarized in Madison-Kipp's June 21, 2004 submittal. (Bianchi Dec. ¶ 107, Ex. 105)

100. By a letter to WDNR dated October 8, 2004, RSV proposed additional soil sampling, a pilot test for soil injection on Madison-Kipp property, treatment of one off-site soil area

using soil injection, and soil vapor probe construction and sampling. (Bianchi Dec. ¶ 124, Ex. 122)

101. By email correspondence dated October 15, 2004, WDNR communicated its approval of Madison-Kipp's submittal dated October 8, 2004 with certain modifications. (Bianchi Dec. ¶ 123, Ex. 121)

102. In December 2004, Madison-Kipp installed four shallow soil vapor monitoring probes (VP-1S, VP-2S, VP-1N and VP-2N) along the east property boundary. (Bianchi Dec. ¶ 90, Ex. 88)

103. RSV conducted a pilot test in December 2004 for remediation of VOC-impacted soils in the loading dock area of Madison-Kipp's parking lot using Cool-Ox, an oxidizing agent similar to BiOx. (Bianchi Dec. ¶ 90, Ex. 88)

104. A reagent treatment was injected into shallow soils at multiple locations in the loading dock area of Madison-Kipp's parking lot as well as twelve (12) off-site locations, including an off-site area in the backyard of 162 South Marquette. ("Bianchi Dec. ¶ 89, Ex. 87; Bianchi Dec. ¶ 110, Ex. 108)

105. RSV provided an annual soil and groundwater report to WDNR by letter dated March 25, 2005. (Bianchi Dec. ¶ 90, Ex. 88)

106. The March 25, 2005 annual report was also provided to homeowner Deanna Schneider by letter dated May 11, 2005. (Bianchi Dec. ¶ 110, Ex. 108)

107. WDNR observed Madison-Kipp's installation of soil borings on the east side of the facility, as noted in a May 20, 2005 WDNR memo to file. (Bianchi Dec. ¶ 104, Ex. 102)

108. In August 2005, Cool-Ox was also injected into soils under the loading dock driveway. (Bianchi Dec. ¶ 89, Ex. 87)

109. Confirmation soil sampling taken in October, 2005 indicated that the in-situ Cool-Ox treatment reduced PCE concentrations in soil. (Bianchi Dec. ¶ 122, Ex. 120)

110. As documented in a November 14, 2005 memo to file, WDNR considered Madison-Kipp's soil remediation efforts to have been "very effective in cleanup of PCE contaminants on the east side of the property." (Bianchi Dec. ¶ 122, Ex. 120)

111. In a February 7, 2012 "Frequently Asked Questions" document on the WDNR webpage regarding Madison-Kipp, WDNR noted that:

> The soil investigations conducted to date have identified three primary areas of soil contamination at the Kipp property: (1) along the northeastern property boundary bordering the bike path, and in 2 places along on the eastern side of the building, (2) in the

> location of monitoring well 3 (in the middle of the property along the east side) and (3) in the location of monitoring well 5 (bordering the backyards of several Marquette Street properties)…
>
> Between 1998 and 2005, all three areas of soil contamination were remediated in-place by injecting a chemical into the soil to break down the contamination (known as in-situ oxidation). This treatment method reduced soil tetrachloroethene (PCE) contamination levels from the several hundred parts per million (ppm) to less than 5 ppm, and in some instances to below 1 ppm.

(Bianchi Dec. ¶ 140, Ex. 138)

112. Madison-Kipp submitted its annual soil and groundwater report for 2005 to WDNR by RSV letter dated March 23, 2006. (Bianchi Dec. ¶ 89, Ex. 87)

113. Madison-Kipp submitted its annual soil and groundwater report for 2006 to WDNR by RSV letter dated February 7, 2007. (Bianchi Dec. ¶ 88, Ex. 86)

Site Investigation and Remediation Activities – 2004 to 2006; Off-Site Soil Investigation and Remediation Activities

114. By letters dated November 11, 2004, RSV informed the owners of 150, 154 and 162 South Marquette of the results of soil samples collected October 25, 2004. (Bianchi Dec. ¶ 105, Ex. 103; Bianchi Dec. ¶ 106, Ex. 104; Bianchi Dec. ¶ 109, Ex. 107)

115. As noted in the November 11, 2004 letters, USEPA revised its non-industrial RCL for PCE from 32 ppm (also expressed as 32 mg/kg) to 1.23 ppm (also described as 1.23 mg/kg). (Bianchi Dec. ¶ 105, Ex. 103; Bianchi Dec. ¶ 106, Ex. 104; Bianchi Dec. ¶ 109, Ex. 107)

116. Of the samples collected at 150, 154 and 162 South Marquette on October 25, 2004, only one sample – at 162 South Marquette – exceeded the revised USEPA non-industrial RCL for PCE (2.68 ppm, also expressed as 2.68 mg/kg). (Bianchi Dec. ¶ 105, Ex. 103; Bianchi Dec. ¶ 106, Ex. 104; Bianchi Dec. ¶ 109, Ex. 107)

117. In December 2004, a reagent treatment was also injected at twelve (12) off-site locations. (Bianchi Dec. ¶ 90, Ex. 88)

118. Also in December 2004, a reagent treatment was injected into shallow soils in the area of the exceedance at 162 South Marquette. (Bianchi Dec. ¶ 90, Ex. 88)

119. The owners of 150, 154 and 162 South Marquette were informed by letters from RSV dated November 9, 2006, that confirmatory sampling was conducted on October 10, 2006 and VOCs were not detected above the detection limit at the three off-site residential properties. (Bianchi Dec. ¶ 111, Ex. 109; Meunier Dec. ¶ 6, Ex. 2; Meunier Dec. ¶ 7, Ex. 3)

120. Soil vapor probes were installed at 150, 154 and 162 South Marquette in 2006. (Bianchi Dec. ¶ 122, Ex. 120; Dkt. 145 at A-18)

121. The soil vapor probes at off-site properties were sampled in October 2006, December 2006, and April 2007. (Bianchi Dec. ¶ 88, Ex. 86; Bianchi Dec. ¶ 103, Ex. 101)

122. According to the annual soil and groundwater report submitted by RSV, on behalf of Madison-Kipp, concentrations of VOCs were not detected in soil vapor probes above detection levels at 150, 154 and 162 South Marquette from October 2006 to April 2007 with the exception of one December 2006 sample from 150 South Marquette. (Bianchi Dec. ¶ 88, Ex. 86)

Site Investigation and Remediation Activities – 2007 to 2009

123. By letter dated January 2, 2007, RSV prepared a pilot test work plan for an ozone sparge system for groundwater remediation. (Meunier Dec. ¶ 10, Ex. 6)

124. WDNR approved the pilot test for the ozone sparge system by letter dated January 19, 2007. (Bianchi Dec. ¶ 122, Ex. 120)

125. RSV performed the ozone sparge pilot test in April 2007 and reported the results to WDNR by letter dated June 6, 2007. (Bianchi Dec. ¶ 103, Ex. 101)

126. By June, 2008, an ozone injection/sparge system, including three injection wells, was installed in the eastern portion of the site. (Bianchi Dec. ¶ 138, Ex. 136)

127. By letter dated February 11, 2009, RSV submitted a soil and groundwater report to WDNR that summarized work completed in 2007 and 2008. (Bianchi Dec. ¶ 138, Ex. 136)

128. Quarterly soil vapor sampling continued at off-site residences in 2006, 2007, 2008, and 2009. (Bianchi Dec. ¶ 88, Ex. 86; Bianchi Dec. ¶ 138, Ex. 136; Meunier Dec. ¶ 35, Ex. 31; Bianchi Dec. ¶ 112, Ex. 110)

129. By letter dated February 3, 2010, RJN submitted a soil and groundwater report to WDNR that provided a summary of groundwater and soil vapor monitoring for 2009. (Bianchi Dec. ¶ 121, Ex. 119)

Site Investigation and Remediation Activities – 2010 to Present; Off-Site Soil Vapor, Subslab and Indoor Air Sampling

130. In November 2010, RJN conducted sub-slab soil vapor sampling at 150, 154 and 162 South Marquette. (Meunier Dec. ¶ 8, Ex. 4)

131. In February 2011, RJN collected samples of sub-slab soil vapor and indoor air at 150, 154 and 162 South Marquette. (Meunier Dec. ¶ 8, Ex. 4)

132. The February 2011 sampling detected PCE in the indoor air at one property (0.668 ppbv at 154 South Marquette) and subslab soil vapors ranged from 5.78 ppbv (150 South Marquette) to 470 ppb (154 South Marquette). (Meunier Dec. ¶ 8, Ex. 4)

133. In June 2011, soil vapor probes were installed by RJN at 142 and 202 South Marquette to evaluate soil vapor. (Meunier Dec. ¶ 8, Ex. 4)

134. Soil vapor samples were collected from 142, 150, 154 and 202 South Marquette (the homeowner of 162 South Marquette had previously removed the vapor probe located on his property). (Meunier Dec. ¶ 8, Ex. 4)

135. As requested by WDNR, in the Spring of 2012 ARCADIS, on behalf of Madison-Kipp collected sub-slab vapor and indoor air samples from nine (9) residences near Madison-Kipp. (Kubacki Dec. ¶ 10, Ex. 9)

136. Access was not provided to two (2) residences that WDNR requested Madison-Kipp conduct sampling at – 106 and 138 South Marquette. (same as above) (Kubacki Dec. ¶ 10, Ex. 9)

137. ARCADIS provided standard operating procedures for its sampling efforts to WDNR and WDNR approved these SOPs via electronic correspondence on February 21, 2012. (Kubacki Dec. ¶ 10, Ex. 9)

138. A building survey and chemical inventory was also performed at each residence. (Kubacki Dec. ¶ 10, Ex. 9)

139. Two sub-slab vapor probes were installed in the basement of each of the 9 residences and two indoor air samples (one from the basement, one from the first floor of the residence) were taken from each of the 9 residences. (Kubacki Dec. ¶ 10, Ex. 9)

140. The indoor air and sub-slab vapor samples were analyzed for five (5) VOCs – PCE, TCE, cis-1,2-dichloroethene, trans-1,2-dichloroethene and vinyl chloride, as requested by WDNR. (Kubacki Dec. ¶ 10, Ex. 9)

141. The indoor air results were compared to the Wisconsin residential vapor action levels for indoor air and the sub-slab vapor results were compared to calculated screening levels for sub-slab vapor to indoor air in accordance with the guidelines presented in WDNR's Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin (dated December 2010). (Kubacki Dec. ¶ 10, Ex. 9)

142. The action levels and calculated screening levels used in analyzing the data collected in the Spring 2012 are based on the U.S. Environmental Protection Agency Residential Air Screening levels that represent health-protective concentrations that an individual can be exposed to for 30 years for 24 hours a day. (Kubacki Dec. ¶ 10, Ex. 9)

143. As summarized in the May 7, 2012 ARCADIS letter report, none of the VOC detections in the indoor air or sub-slab vapor samples exceeded the Wisconsin residential vapor action levels or calculated residential screening levels. (Kubacki Dec. ¶ 10, Ex. 9)

144. Based on the U.S. Environmental Protection Agency's final Toxicological Assessment for Tetrachloroethylene (Perchloroethylene) in February 2012, WDNR set a Vapor Action Level of 6.2 parts per billion by volume (ppbv) for indoor air . (Dkt. 146 at 6)

145. Based on the attenuation factors defined by the WDNR, the WDNR set a PCE Vapor Risk Screening Level of 62 ppbv for sub-slab soil gas after February 2012. (Dkt. 146 at 6)

146. Results of indoor air sampling by ARCADIS at 102 South Marquette were: <0.033 ppbv (basement) and <0.033 ppbv (1st floor) for PCE on March 16, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

147. Results of indoor air sampling by WDNR at 102 South Marquette was <0.085*IS for PCE on October 15, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

148. Results of sub-slab sampling by ARCADIS at 102 South Marquette were 0.96 ppbv and 0.18 ppbv for PCE on April 13, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

149. Result of sub-slab sampling by WDNR at 102 South Marquette was 2.7*IS for PCE on October 15, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

150. Results of indoor air sampling by ARCADIS at 106 South Marquette was 0.061 ppbv (basement) and 0.045 ppbv (1st floor) for PCE on May 11, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

151. Results of sub-slab sampling by ARCADIS at 106 South Marquette were 0.52 ppbv and 2.0 ppbv for PCE on May 10, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

152. Results of indoor air sampling by ARCADIS at 110 South Marquette were 0.060 ppbv (basement) and 0.060 ppbv (1st floor) for PCE on March 15, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

153. Results of indoor air sampling by WDNR at 110 South Marquette was <0.085*IS for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

154. Results of sub-slab sampling by ARCADIS at 110 South Marquette were 0.28 ppbv and 1.5 ppbv for PCE on March 16, 2012 and March 17, 2012, respectively. (Kubacki Dec. ¶ 19, Ex. 18)

155. Results of sub-slab sampling by WDNR at 110 South Marquette were 1.5*IS ppbv for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

156. Results of indoor air sampling by ARCADIS at 114 South Marquette were 0.084 ppbv (basement) and 0.092 ppbv (1st floor) for PCE on March 29, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

157. Results of sub-slab sampling by ARCADIS at 114 South Marquette were 0.50 ppbv and 1.7 ppbv for PCE on March 29. 2012. (Kubacki Dec. ¶ 19, Ex. 18)

158. Results of indoor air sampling by ARCADIS at 118 South Marquette were 0.14 ppbv (basement) and 0.061 ppbv (1st floor) for PCE on March 13, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

159. Results of indoor air sampling by WDNR at 118 South Marquette were 0.318 ppbv for PCE on September 17, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

160. Results of sub-slab sampling by ARCADIS at 118 South Marquette were 0.32 ppbv and 1.4 ppbv for PCE on March 13, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

161. Results of sub-slab sampling by WDNR at 118 South Marquette were 2.34*IS ppbv for PCE on September 17, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

162. Results of indoor air sampling by ARCADIS at 126 South Marquette were 0.046 ppbv (basement) and 0.045 ppbv (1st floor) for PCE on March 15, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

163. Results of sub-slab sampling by ARCADIS at 126 South Marquette were 0.79 ppbv and 5.8 ppbv for PCE on March 16, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

164. Results of indoor air sampling by ARCADIS at 128 South Marquette were <0.033 ppbv (basement) and <0.038 ppbv (1st floor) for PCE on March 13, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

165. Results of indoor air sampling by WDNR at 128 South Marquette were <0.085 for PCE on September 17, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

166. Results of sub-slab sampling by ARCADIS at 128 South Marquette were 0.18 ppbv and <0.15 ppbv for PCE on March 14, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

167. Results of sub-slab sampling by WDNR at 128 South Marquette were 0.407 ppbv for PCE on September 17, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

168. Results of indoor air sampling by ARCADIS at 130 South Marquette were 0.036 ppbv (basement) and <0.043 ppbv (1st floor) for PCE on March 14, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

169. Results of indoor air sampling by WDNR at 130 South Marquette were <0.085*IS for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

170. Results of sub-slab sampling by ARCADIS at 130 South Marquette were 0.46 ppbv and 2.4 ppbv for PCE on March 14, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

171. Results for sub-slab sampling by WDNR at 130 South Marquette were 2.0*IS ppbv for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

172. Results of indoor air sampling by ARCADIS at 134 South Marquette were 0.14 ppbv (basement) and 0.035 ppbv (1st floor) for PCE on March 15, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

173. Results of sub-slab sampling by ARCADIS at 134 South Marquette were 1.6 ppbv and 6.2 ppbv for PCE on March 16, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

174. Results of indoor air sampling by WDNR at 138 South Marquette were <0.085 ppbv*IS for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

175. Results of sub-slab sampling by WDNR at 138 South Marquette were 4.1*IS ppbv for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

176. Results of indoor air sampling by ARCADIS at 142 South Marquette were <0.035 ppbv (basement) and <0.036 ppbv (1st floor) for PCE on March 14, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

177. Results of sub-slab sampling by ARCADIS at 142 South Marquette were 1.4 ppbv and 0.52 ppbv for PCE on March 14, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

178. Results of indoor air sampling by WDNR at 146 South Marquette was <0.085*IS ppbv for PCE on May 17, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

179. Results of indoor air sampling by ARCADIS at 166 South Marquette were <0.14 ppbv for PCE on April 26, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

180. Results of indoor air sampling by WDNR at 166 South Marquette were 0.170* ppbv for PCE on April 26, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

181. Results of indoor air sampling by ARCADIS at 202 South Marquette were <0.18 ppbv for PCE on July 3, 2012. (Kubacki Dec. ¶ 19, Ex. 18)
182. Results of indoor air sampling by WDNR at 202 South Marquette were <0.085*IS ppbv for PCE on April 26, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

183. Results of indoor air sampling by WDNR at 202 South Marquette were <0.085 ppbv for PCE on July 2, 2012 (Kubacki Dec. ¶ 19, Ex. 18)

184. Results of sub-slab sampling by ARCADIS at 202 South Marquette were 5.6 ppbv for PCE on July 2, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

185. Results of sub-slab sampling by WDNR at 202 South Marquette were 4.46 ppbv for PCE on April 26, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

186. Results of sub-slab sampling by WDNR at 202 South Marquette were 7.44 ppbv for PCE on July 2, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

187. Results of indoor air sampling by WDNR at 206 South Marquette were <0.085 ppbv for PCE on April 26, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

188. Results of indoor air sampling by WDNR at 206 South Marquette were 0.483 ppbv for PCE on July 5, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

189. Results of sub-slab sampling by WDNR at 206 South Marquette were 0.465 ppbv for PCE on April 26, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

190. Results of sub-slab sampling by WDNR at 206 South Marquette were 0.678 ppbv for July 5, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

191. Results of indoor air sampling by ARCADIS at 210 South Marquette were <0.034 ppbv for PCE on June 6, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

192. Results of indoor air sampling by WDNR at 210 South Marquette were <0.085 ppbv for PCE on June 6, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

193. Results of indoor air sampling by WDNR at 210 South Marquette were <0.085 ppbv for PCE on September 6, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

194. Results of sub-slab sampling by ARCADIS at 210 South Marquette were 0.69 ppbv for June 5, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

195. Results of sub-slab sampling by WDNR at 210 South Marquette were 1.50*IS ppbv for June 5, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

196. Results of sub-slab sampling by WDNR at 210 South Marquette were 1.22*IS ppbv for PCE on September 6, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

197. Results of indoor air sampling by ARCADIS at 218 South Marquette were <0.035 ppbv for PCE on July 3, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

198. Results of indoor air sampling by WDNR at 218 South Marquette were <0.085*IS ppbv for PCE on April 11, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

199. Results of indoor air sampling by WDNR at 218 South Marquette were <0.085 ppbv for PCE on July 2, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

200. Results of sub-slab sampling by ARCADIS at 218 South Marquette were 0.42 ppbv for PCE on July 2, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

201. Results of sub-slab sampling by WDNR at 218 South Marquette were 0.518*IS ppbv for PCE on April 11, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

202. Results of sub-slab sampling by WDNR at 218 South Marquette were 0.753 ppbv for PCE on July 5, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

203. Results of indoor air sampling by WDNR at 222 South Marquette were <0.085 ppbv for PCE on April 25, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

204. Results of indoor air sampling by WDNR at 222 South Marquette were <0.085 ppbv for PCE on August 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

205. Results of sub-slab sampling by WDNR at 222 South Marquette were 0.356*IS ppbv for PCE on April 25, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

206. Results for sub-slab sampling by WDNR at 222 South Marquette were 0.343*IS ppbv for PCE on August 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

207. Results of indoor air sampling by ARCADIS at 226 South Marquette were <0.034 ppbv for PCE on July 11, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

208. Results for indoor air sampling by WDNR at 226 South Marquette were <0.085 ppbv for PCE on July 10, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

209. Results for indoor air sampling by WDNR at 226 South Marquette were <0.085*IS ppbv for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

210. Results for sub-slab sampling by ARCADIS at 226 South Marquette were 0.45 ppbv for PCE on July 10, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

211. Results for sub-slab sampling by WDNR at 226 South Marquette were 0.415 ppbv for PCE on July 10, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

212. Results for sub-slab sampling by WDNR at 226 South Marquette were 1.1*IS ppbv for PCE on October 1, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

213. Results for indoor air sampling by WDNR at 233 Waubesa were 0.307*IS ppbv for PCE on April 12, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

214. Results for indoor air sampling by WDNR at 233 Waubesa were 0.376 ppbv for PCE on June 4, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

215. Results for sub-slab sampling by WDNR at 233 Waubesa were 0.502*IS ppbv for PCE on April 12, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

216. Results for sub-slab sampling by WDNR at 233 Waubesa were 1.45*IS ppbv for PCE on June 4, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

217. Results for indoor air sampling by WDNR at 241 Waubesa were <0.085*IS ppbv for PCE on April 11, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

218. Results for indoor air sampling by WDNR at 241 Waubesa were <0.085*IS ppbv for PCE on June 7, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

219. Results for sub-slab sampling by WDNR at 241 Waubesa were 2.67 ppbv for PCE on April 11, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

220. Results for sub-slab sampling by WDNR at 241 Waubesa were 4.01*IS ppbv for PCE on June 7, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

221. Results for indoor air sampling by WDNR at 245 Waubesa were 0.524 ppbv for PCE on May 17, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

222. Results for sub-slab sampling by WDNR at 245 Waubesa were 9.22*IS ppbv for PCE on May 17, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

223. Results for indoor air sampling by ARCADIS at 249 Waubesa were <0.034 ppbv for PCE on June 8, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

224. Results for indoor air sampling by WDNR at 249 Waubesa were <0.085 ppbv for PCE on April 25, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

225. Results for indoor air sampling by WDNR at 249 Waubesa were 5.88 ppbv for PCE on June 7, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

226. Results for sub-slab sampling by WDNR at 249 Waubesa were 3.47 ppbv for PCE on April 25, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

227. Results for sub-slab sampling by ARCADIS at 249 Waubesa were 3.2 ppbv for PCE on June 7, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

228. Results for sub-slab sampling by WDNR at 249 Waubesa for 5.99*IS ppbv for PCE on June 7, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

229. Results for indoor air sampling by ARCADIS at 249 Waubesa were <0.031 ppbv for PCE on January 11, 2013. (Kubacki Dec. ¶ 19, Ex. 18)

230. Results for indoor air sampling by ARCADIS at 253 Waubesa were <0.037 ppbv for PCE on June 5, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

231. Results for indoor air sampling by WDNR at 253 Waubesa were 0.099*IS ppbv for PCE on April 12, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

232. Results for indoor air sampling by WDNR at 253 Waubesa were <0.085 ppbv for PCE on June 4, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

233. Results for sub-slab sampling by WDNR at 253 Waubesa were 4.90*IS ppbv for PCE on April 12, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

234. Results for sub-slab sampling by ARCADIS at 253 Waubesa were 3.6 ppbv for PCE on June 4, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

235. Results for sub-slab sampling by WDNR at 253 Waubesa were 5.60*IS ppbv for PCE on June 4, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

236. Results for indoor air sampling by WDNR at 257 Waubesa were 0.107*IS ppbv for PCE on April 12, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

237. Results for sub-slab sampling by WDNR at 257 Waubesa were 9.99*IS ppbv for PCE on April 12, 2012. (Kubacki Dec. ¶ 19, Ex. 18)

238. In December 2012, WDNR released a report "Review of Vapor Sampling Results for the Neighborhood Surrounding the Madison Kipp Corporation" (PUB-RR-931) (this is available online, maybe produced as well). (Bianchi Dec. ¶ 139, Ex. 137)

239. The December 2012 WDNR report notes that "Indoor air and sub-slab vapors have been sampled by the [WDNR] and [Madison-Kipp] at 50 homes in the neighborhood surrounding the Madison-Kipp property." (Bianchi Dec. ¶ 139, Ex. 137)

240. The December 2012 WDNR report summarizes the 2012 WDNR-led investigation of the vapor intrusion risk in the South Marquette and Waubesa neighborhood surrounding Madison-Kipp and concluded that the investigation "[a]ll 47 homes evaluated were below the 2012, revised PCE health risk screening values for both sub-slab vapors and indoor air." (Bianchi Dec. ¶ 139, Ex. 137)

241. The December 2012 WDNR report noted that WDNR "chose to use the older screening levels that were in effect in 2011 for evaluating the indoor air and sub-slab vapor samples results from homes near Madison-Kipp for the purpose of decided where mitigation systems should be offered to homeowners. This added a 10-fold factor of safety to the current 2012 screening levels, which are already considered very protective of human health." (Bianchi Dec. ¶ 139, Ex. 137)

242. The December 2012 WDNR further noted that "Nine neighborhood homes had sub-slab PCE above conservative, project specific vapor screening levels. The source of sub-slab PCE at two of these homes is indeterminate." (Bianchi Dec. ¶ 139, Ex. 137)

243. With respect to indoor air levels, the December 2012 WDNR report concluded that "Four homes exceed conservative, project-specific indoor air action levels. The source of PCE in indoor air at three of these homes is indeterminate." (Bianchi Dec. ¶ 139, Ex. 137)

244. The December 2012 WDNR report concluded that "No homes exceeded the current (2012) DNR indoor air screening levels." (Bianchi Dec. ¶ 139, Ex. 137)

Site Investigation and Remediation Activities – 2010 to Present; Off-Site VOC Soil Sampling

245. By letters dated September 1, 2010, Class Members Schneider, Uttech, Berge and Yang were invited to a meeting at Madison-Kipp, with Madison-Kipp's consultant and WDNR on September 16, 2010 to answer questions about soil vapor sampling efforts (Meunier Dec. ¶ 34, Ex. 30)

246. Soil samples were collected in May 2011 from the backyards of 150, 154 and 162 South Marquette where prior soil sampling and soil remediation had been conducted in 2003. (Bianchi Dec. ¶ 139, Ex. 137)

247. The May 2011 soil sampling results indicated that the prior 2003 soil remediation remained effective. (Bianchi Dec. ¶ 139, Ex. 137)

248. A June 2011 public meeting informed neighbors about vapor intrusion issues. (Meunier Dec. ¶ 5, Ex. 1)

249. At WDNR's request, soil samples were collected from backyards on South Marquette Street starting in April 2012 and from backyards on Waubesa Street in June 2012. (Kubacki Dec. ¶ 12, Ex. 11)

250. From April 2012 to August 2012, 121 soil samples were collected from 32 off-site residential properties. (Kubacki Dec. ¶ 12, Ex. 11)

251. The homeowners of 237 and 269 Waubesa have never provided Madison-Kipp with access to conduct soil sampling activities. (Kubacki Dec. ¶ 12, Ex. 11)

252. In response to an August 3, 2012 letter from WDNR regarding additional soil investigation requirements, additional soil samples were collected in August 2012 from residential samples along South Marquette Street. (Kubacki Dec. ¶ 12, Ex. 11)

253. By letter dated October 9, 2012, ARCADIS, on behalf of Madison-Kipp, summarized all off-site soil investigation activities that occurred from April 2012 to August 2012. (Kubacki Dec. ¶ 12, Ex. 11)

254. The 121 soil samples collected from April 2012 to August 2012 were analyzed for VOCs, polycyclic aromatic hydrocarbons ("PAHs"), polychlorinated biphenyls ("PCBs"), Resource Conservation Recovery Act ("RCRA") metals and total cyanide. (Kubacki Dec. ¶ 12, Ex. 11)

255. PCE were detected in only one soil sample at 102 South Marquette Street at 2.19 mg/kg, below the non-industrial direct contact residual contaminant level ("RCL") of 30.7 mg/kg. (Kubacki Dec. ¶ 12, Ex. 11)

256. The only other detection of VOCs in the April 2012 to August 2012 sampling was at 106 South Marquette were trichloroethylene ("TCE") was detected at 0.71 mg/kg at 3-4 ft below ground surface, above the non-industrial direct contact RCL of 0.644 mg/kg. (Kubacki Dec. ¶ 12, Ex. 11)

257. 102 South Marquette was resampled on October 1, 2012 and TCE was detected at 0.18 mg/kg, below the non-industrial direct contact RCL of 0.644 mg/kg. (Kubacki Dec. ¶ 19, Ex. 18)

258. In a February 7, 2012 "Frequently Asked Questions" document on the WDNR webpage regarding Madison-Kipp, in response to a question "Is it safe to garden in my backyard if my home is adjacent to Madison-Kipp Corporation?" the WDNR noted that "[t]here is known soil contamination in shallow soils on at least three properties on South Marquette Street. Soils were sampled, and detected concentrations do not exceed established health-based guidelines. Direct contact with these soils poses no apparent public health hazard." (Bianchi Dec. ¶ 140, Ex. 138)

Site Investigation and Remediation Activities – 2010 to Present; PAHs Detected in Off-Soil Sampling

259. On May 30, 2012, when WDNR conditional approved of Madison-Kipp's Work Plan for Polychlorinated Biphenyl Investigation, WDNR requested that Madison-Kipp add polycyclic aromatic hydrocarbon ("PAHs") to the analyte list for the requested soil samples. (Kubacki Dec. ¶ 12, Ex. 11)

260. The soil samples collected from April 2012 to August 2012 were analyzed for PAHs. (Kubacki Dec. ¶ 12, Ex. 11)

261. By letter dated September 11, 2012, ARCADIS submitted to WDNR results of further investigations regarding the off-site occurrence of PAHs in an Off-Site Residential Polycyclic Aromatic Hydrocarbon (PAH) Results Summary. (Meunier Dec. ¶ 22, Ex. 18)

262. The September 11, 2012 ARCADIS submittal concluded that PAHs are ubiquitous in an urban environment. (Meunier Dec. ¶ 22, Ex. 18)

263. Soil sampling results presented to WDNR in by letter dated October 9, 2012 summarized the detections of one or more PAH compounds at concentrations above one or more WDNR PAH screening levels at most residential properties in the area. (Kubacki Dec. ¶ 12, Ex. 11)

264. WDNR responded by letter dated December 7, 2012 directing Madison-Kipp to submit a work plan "either … for determining whether any of the health-based direct contact exceedances can be attributed to background concentrations or … a remedial action plan to be employed by Madison-Kipp …" (Meunier Dec. ¶ 28, Ex. 24)

265. On December 14, 2012, ARCADIS, on behalf of Madison-Kipp, submitted the Polynuclear Aromatic Hydrocarbons (PAH) Work Plan, Determination of Whether Health-Based Direct Contact Exceedances Can be Attributed to Background Concentrations. (Kubacki Dec. ¶ 15, Ex. 14)

266. By ARCADIS letter dated January 21, 2013, the results of the December 14, 2012 Work Plan were submitted to WDNR. (Dkt. 143)

267. Over 400 soil samples have been taken from the on- site and off-site locations. (Dkt. 143)

Site Investigation and Remediation Activities – 2010 to Present; On-Site and Off-Site PCB Investigations

268. ARCADIS notified WDNR on March 26, 2012 that the sampled soil generated during the installation of the on-site SVE system had detectable concentrations of PCBs. (Kubacki Dec. ¶ 5, Ex. 4)

269. By letter dated April 19, 2012, WDNR informed Madison-Kipp that it was responsible for the investigation and cleanup of PCB contamination. (Meunier Dec. ¶ 12, Ex. 8)

270. In April 2012, RJN, on behalf of Madison-Kipp, collected samples from 102, 110, 114, 118, 126, 128, 130, 134 and 142 South Marquette and the soil samples were analyzed for VOCs and PCBs. (Kubacki Dec. ¶ 12, Ex. 11)

271. According to the September 26, 2012 ARCADIS letter report submitted to WDNR, in the June-August 2012 soil sampling efforts, PCBs were not detected above laboratory detection limits, above 1mg/kg or above 0.22 mg/kg (the WDNR's non-industrial direct contact residual contaminant level). (Meunier Dec. ¶ 25, Ex. 21)

272. By letter dated May 4, 2012, WDNR requested that Madison-Kipp prepare a work plan for PCB site invistigation and subsequent clean-up. (Meunier Dec. ¶ 13, Ex. 9)

273. By letter dated May 11, 2012, WDNR notified Madison-Kipp of their expectations for the comprehensive investigation and remediation of the Madison-Kipp property. (Meunier Dec. ¶ 14, Ex. 10)

274. ARCADIS, on behalf of Madison-Kipp, submitted a Work Plan for Polychlorinated Biphenyl Investigation, to WDNR by letter dated May 21, 2012. (Kubacki Dec. ¶ 2, Ex. 1)

275. The WDNR provided conditional approval of the May 21, 2012 Work Plan by letter dated May 30, 2012. (Meunier Dec. ¶ 15, Ex. 11)

276. ARCADIS initiated investigation activities on June 1, 2012. [check PCB summary letter to confirm/cite to June 1st initiation date] (Kubacki Dec. ¶ 13, Ex. 12)

277. ARCADIS submitted the results of PCB investigations through June 26, 2012 to WDNR on July 12, 2012. (Meunier Dec. ¶ 18, Ex. 14)

278. During a July 12, 2012 telephone call with Madison-Kipp, ARCADIS, WDNR and USEPA, WDNR requested a work plan for supplemental investigation activities associated with PCBs. [look at July 23, 2012 Supplemental Work Plan for cite] (Kubacki Dec. ¶ 3, Ex. 2)

279. ARCADIS, on behalf of Madison-Kipp, submitted a Work Plan for Supplemental Polychlorinated Biphenyls Investigation to WDNR on July 23, 2012. (Kubacki Dec. ¶ 3, Ex. 2)

280. By letter dated August 3, 2012, WDNR informed Madison-Kipp of additional soil investigation requirements. (Meunier Dec. ¶ 20, Ex. 16)

281. By letter dated August 6, 2012, WDNR provided final approval for the July 23, 2012 Work Plan with comments. (Meunier Dec. ¶ 19, Ex. 15)

282. Supplemental PCB investigation activities were completed from August 6 through August 15, 2012. (Kubacki Dec. ¶ 13, Ex. 12)

283. Results of the additional investigation activities were provided to WDNR via email correspondence on September 11 and September 12, 2012 and the data was presented to the WDNR and USEPA in the Polychlorinated Biphenyl (PCB) Investigation Summary and Work Plan for Recommended Activities by letter dated September 26, 2012. ("Meunier Dec. ¶ 21, Ex. 17; Meunier Dec. ¶ 24, Ex. 20)

284. By letter report dated October 22, 2012, ARCADIS, on behalf of Madison-Kipp, presented the results of the supplemental soil investigation and presented a work plan to implement the recommended activities with respect to on-site PCB-impacted soils. (Kubacki Dec. ¶ 13, Ex. 12)

285. The October 22, 2012 letter report confirmed that PCBs were not present at Madison-Kipp's eastern property line above 1 mg/kg (USEPA's high occupancy cleanup level with no site restrictions) and the areas on-site containing PCB concentrations above 50 mg/kg (the Toxic Substance Control Act disposal limit) have been delineated and are limited in depth to 0 to 2 feet below ground surface. (Kubacki Dec. ¶ 13, Ex. 12)

286. In addition, the October 22, 2012 letter confirmed that of the 121 soil samples taken from off-site residences, PCBs were not detected above laboratory detection limits, above 1 mg/kg, or above 0.22 mg/kg (WDNR's non-industrial direct contact residual contaminant level). (Kubacki Dec. ¶ 13, Ex. 12)

287. Due to space limitations on the southwestern side of Madison-Kipp's facility, the October 22, 2012 letter report recommended additional soil sampling on off-site residential properties on Waubesa Street to further delineate soil conditions. (Kubacki Dec. ¶ 13, Ex. 12)

288. The additional off-site soil sampling on residential properties on Waubesa Street was completed in November 2012, at properties where access was provided. (Kubacki Dec. ¶ 16, Ex. 15)

289. Multiple revised work plans for on-site PCB-related excavation activities were submitted to WDNR and USEPA in October and November 2012 and by letter dated December 4, 2012, ARCADIS submitted a Final Revised Work Plan for Polychlorinated Biphenyl Recommended Activities to WDNR and USEPA. ("Kubacki Dec. ¶ 14, Ex. 13; Kubacki Dec. ¶ 16, Ex. 15)

290. The Final Revised Work Plan was approved on December 5, 2012 for the on-site PCB-related excavation activities. (Meunier Dec. ¶ 30, Ex. 26)

291. By letter dated December 14, 2012, ARCADIS, on behalf of Madison-Kipp, submitted an Addendum to the Final Revised Work Plan for Polychlorinated Biphenyl Recommended Activities to WDNR. (Kubacki Dec. ¶ 16, Ex. 15)

292. This Addendum to the Final Revised Work Plan for PCBs presented the results of the soil investigation on off-site residential properties adjacent to Madison-Kipp's southwest property boundary. (Kubacki Dec. ¶ 16, Ex. 15)

293. For all but four (4) properties, PCBs were either not detected, or were detected below the WDNR residential action level of 0.22 mg/kg, which would also be below the USEPA residential action level of 1 mg/kg for PCBs. (Kubacki Dec. ¶ 16, Ex. 15)

Site Investigation and Remediation Activities – 2010 to Present; Further Groundwater Investigation

294. According to the Site Investigation Work Plan, submitted to WDNR on May 31, 2012 by ARCADIS, on behalf of MKC, additional groundwater monitoring wells (MW-7, MW-8, MW-9D and MW-9D2) were installed in 2011. (Kubacki Dec. ¶ 9, Ex. 8)

295. By letter dated May 22, 2012, ARCADIS submitted a Bedrock Characterization Work Plan to install deeper borings and monitoring wells in the vicinity of existing wells MW-3 and MW-5. (Kubacki Dec. ¶ 8, Ex. 7)

296. WDNR approved the Bedrock Characterization Work Plan by letter dated June 7, 2012. (Meunier Dec. ¶ 16, Ex. 12)

297. By letter dated May 31, 2012, ARCADIS submitted to WDNR a Site Investigation Work Plan to take additional soil, soil vapor and groundwater samples. (Kubacki Dec. ¶ 9, Ex. 8)

298. WDNR approved the Site Investigation Work Plan by letter dated June 25, 2012. (Meunier Dec. ¶ 17, Ex. 13)

299. By letter dated September 13, 2012, ARCADIS submitted a Site Investigation Work Plan Addendum for additional on-site and off-site groundwater monitoring wells. (Meunier Dec. ¶ 23, Ex. 19)

300. According to the Site Investigation Work Plan, submitted to WDNR on May 31, 2012 by ARCADIS, on behalf of MKC, three additional shallow monitoring wells (MW-10S, MW-11S and MW-12S) to the west, east and northeast of Madison-Kipp were installed in 2012. (Kubacki Dec. ¶ 9, Ex. 8)

301. There are currently 58 groundwater monitoring wells, multi-port groundwater sampling wells, and pilot test injection wells at depths ranging from 13 to 235 ft below ground surface ("bgs") on the Madison-Kipp property and in the surrounding area. (Dkt. 145 at A-29)

Site Investigation and Remediation Activities – 2010 to Present; Building Subsurface Investigation

302. On September 28, 2012, ARCADIS submitted to WDNR a Site Investigation Work Plan Addendum, Building Subsurface Investigation. (Meunier Dec. ¶ 26, Ex. 22)

303. The Site Investigation Work Plan Addendum, Building Subsurface Investigation proposed up to 38 soil borings and two groundwater monitoring wells. (Meunier Dec. ¶ 26, Ex. 22)

304. According to the Site Investigation Work Plan Addendum, Building Subsurface Investigation, soil borings locations in the building were selected based on historical information regarding chemical use and handling at the facility. (Meunier Dec. ¶ 26, Ex. 22)

305. WDNR approved of the soil boring locations in the building. (Meunier Dec. ¶ 29, Ex. 25)

306. WDNR approved of the Site Investigation Work Plan Addendum, Building Subsurface Investigation by letter dated October 17, 2012. (Meunier Dec. ¶ 32, Ex. 28)

307. According to February 14, 2013 Building Subsurface Investigation Summary, prepared by ARCADIS and provided to WDNR, in October 2012, a total of 45 soil borings were completed within the Madison-Kipp facility (41 using the direct-push rig and 4 using the mini-sonic rig), from depths of approximately 8 feet below ground surface to approximately 16 feet below ground surface. (Kubacki Dec. ¶ 17, Ex. 16)

308. According to Building Subsurface Investigation dated February 14, 2013, a total of 68 soil samples were collected and submitted for laboratory analysis of VOCs, PCBs, PAHs, RCRA metals and total cyanide. (Kubacki Dec. ¶ 17, Ex. 16)

309. According to Building Subsurface Investigation dated February 14, 2013, two monitoring wells and two piezometers were installed at two depth intervals at two locations in December 2012 to sample groundwater beneath the Madison-Kipp building. (Kubacki Dec. ¶ 17, Ex. 16)

310. According to Building Subsurface Investigation dated February 14, 2013, the locations of the wells were determined based on the soil analytical results and approved by WDNR via email correspondence on December 11, 2012. (Meunier Dec. ¶ 29, Ex. 25)

311. By letter dated February 14, 2013, ARCADIS submitted to WDNR a Building Subsurface Investigation Summary. (Kubacki Dec. ¶ 17, Ex. 16)

312. The February 14, 2013 Building Subsurface Investigation Summary concluded that : "PAHs, PCBs, and mercury were detected beneath the building above the industrial direct contact RCL and the extent of soils exceeding the industrial direct contact RCL has been defined. The soil is located beneath 6 to 8 inches of concrete and is therefore, not a direct contact issue. As part of the overall site plan, an Engineered Barrier (Cap) Maintenance Plan and Soil Management Plan will be developed as described in the Final Revised Work Plan for Polychlorinated Biphenyl Recommended Activities, dated December 4, 2012, and incorporated into the site operation and maintenance. (Kubacki Dec. ¶ 17, Ex. 16)

313. The February 14, 2013 Building Subsurface Investigation Summary also concluded that: VOCs and PCBs were detected at one or more of the new monitoring wells installed beneath the building above the respective ES. The concentrations of PCE and TCE are consistent or less than the concentrations present in the on-site wells with screens set at similar elevations. PCBs have only been detected in the interior monitoring wells at the site. As part of the Site Investigation report, a groundwater monitoring program will be proposed, which will include the collection of additional VOC data as well as PCB data at select wells to confirm the presence of PCBs in groundwater. (Kubacki Dec. ¶ 17, Ex. 16)

Site Remediation Activities – 2012 to Present; Soil Vapor Extraction

314. By letter dated February 8, 2012, ARCADIS, on behalf of Madison-Kipp, submitted to WDNR a Soil Vapor Extraction Pilot Study Work Plan. (Kubacki Dec. ¶ 6, Ex. 5)

315. As outlined in the Soil Vapor Extraction Pilot Study Work Plan, the purpose of the work plan was to evaluate the effectiveness of SVE in addressing soil gas concentrations and to collect the necessary data to complete a full-scale system design. (Kubacki Dec. ¶ 6, Ex. 5)

316. ARCADIS conducted the pilot test at Madison-Kipp on February 9-10, 2012 to evaluate the effectiveness of soil vapor extraction ("SVE") technology for removing subsurface VOCs and controlling off-site migration of vapors. (Kubacki Dec. ¶ 4, Ex. 3)

317. By letter dated February 27, 2012, ARCADIS presented the results of the pilot test to WDNR as well as a proposed full-scale SVE system design. (Kubacki Dec. ¶ 7, Ex. 6)

318. From February 23, 2012 through March 9, 2012, ARCADIS installed a full-scale SVE system to capture vapors in the northeast portion of the Madison-Kipp site. (Kubacki Dec. ¶ 4, Ex. 3)

319. The SVE system, which includes nine SVE wells and a carbon treatment system, began continuous operation on March 9, 2012. (Kubacki Dec. ¶ 4, Ex. 3)

320. By letter dated May 8, 2012, ARCADIS submitted a construction summary of the SVE system to WDNR. (Kubacki Dec. ¶ 4, Ex. 3)

321. Regular monitoring has confirmed the SVE is operating as intended. (See, e.g., Meunier Dec. ¶ 18, Ex. 14; Meunier Dec. ¶ 22, Ex. 18; Meunier Dec. ¶ 25, Ex. 21)

Site Remediation Activities – 2012 to Present; On-Site and Off-Site Soil Excavation

322. By letter dated December 4, 2012, ARCADIS submitted to WDNR and USEPA a Final Revised Work Plan for Polychlorinated Biphenyl Recommended Activities and WDNR, in conjunction with USEPA, provided approval of the Final Revised Work Plan for PCBs on December 5, 2012. (Meunier Dec. ¶ 31, Ex. 27)

323. According to the December 4, 2012 Final Revised Work Plan for PCBs, on-site soils containing PCBs at concentrations above 50 mg/kg will be excavated and disposed of at a Toxic Substances Control Act approved landfill at two specific on-site excavation areas. (Meunier Dec. ¶ 31, Ex. 27)

324. The on-site soil excavation began on December 17, 2012 and Madison-Kipp mailed a Neighbor Notification letter to residents in the surrounding neighborhood to provide information on the on-site activities. (Bianchi Dec. ¶ 143, Ex. 141)

325. ARCADIS, on behalf of Madison-Kipp, coordinated with WDNR during the excavation and conducted the excavation and confirmatory sampling efforts with WDNR's approval. (Kubacki Dec. ¶ 18, Ex. 17)

326. By letter dated December 14, 2012, ARCADIS, on behalf of Madison-Kipp, submitted an Addendum to the Final Revised Work Plan for Polychlorinated Biphenyl Recommended Activities to WDNR. This Addendum to the Final Revised Work Plan for PCBs presented the results of the soil investigation on off-site residential properties adjacent to Madison-Kipp's southwest property boundary. (Kubacki Dec. ¶ 16, Ex. 15)

327. The Addendum to the Final Revised Work Plan for PCBs provided recommendations for managing the identified PCBs on four (4) properties, including the excavation of off-site soils containing PCBs at concentrations above 0.22 mg/kg (WDNR's non-industrial direct contact residual contaminant level) and disposal of excavated soils at an approved landfill. (Kubacki Dec. ¶ 16, Ex. 15)

328. Madison-Kipp has not yet received approval from WDNR or USEPA for the excavation work outlined in the December 14, 2012 Addendum to the Final Revised Work Plan for PCBs. (Meunier Declaration ¶ 3)

329. Madison-Kipp will perform the necessary off-site excavation activities, as required by WDNR and USEPA and will perform coordination of such excavation activities as soon as

regulatory approval has been granted and access to the properties is obtained. (Meunier Declaration ¶ 4)

Site Remediation Activities – 2012 to Present; Groundwater Remediation

330. By letter dated October 17, 2012, ARCADIS, on behalf of Madison-Kipp, submitted the In-Situ Chemical Oxidation (ISCO) Groundwater Pilot Test Work Plan, for treatment of VOCs in groundwater. (Kubacki Dec. ¶ 11, Ex. 10)

331. ISCO is a technology used to treat chlorinated VOCs in groundwater. (Kubacki Dec. ¶ 11, Ex. 10)

332. The ISCO Groundwater Pilot Test Work Plan was designed to determine the geologic and hydraulic design parameters necessary for full-scale remedial implementation and to evaluate the effectiveness of ISCO as a groundwater treatment remedy. (Kubacki Dec. ¶ 11, Ex. 10)

333. ISCO is a method of in-situ remediation that adds a chemical oxidant to the subsurface to break the carbon bonds in VOCs and allow complete degradation of chlorinated ethenes (e.g. PCE and TCE) to their non-toxic daughter products. (Kubacki Dec. ¶ 11, Ex. 10)

334. By letter dated November 2, 2012, WDNR approved the ISCO Groundwater Pilot Test Work Plan. (Meunier Dec. ¶ 27, Ex. 23)

335. The ISCO Groundwater Pilot Test Work Plan was initiated in November and injection activities began on December 10, 2012. (Meunier Dec. ¶ 33, Ex. 29)

336. ISCO pilot test activities were conducted to support evaluation of potential full-scale deployment of the ISCO technology to treat VOCs in groundwater at the Site. (Meunier Dec. ¶ 33, Ex. 29)

337. A pilot test injection and monitoring well network was installed, including two new injection wells and one new injection dose response well. (Meunier Dec. ¶ 33, Ex. 29)

338. The injection wells were constructed to allow targeted delivery of a solution (sodium permanganate and non-reactive hydraulic tracers) to three separate depths – in shallow unconsolidated soil (20-30 feet below ground surface (bgs)), shallow bedrock (60-90 feet bgs) and deep bedrock (110-140 bgs). (Meunier Dec. ¶ 33, Ex. 29)

339. Baseline groundwater monitoring was conducted before the event and the dose response well and wells in the groundwater monitoring network were sampled during and after the injection event. (Meunier Dec. ¶ 33, Ex. 29)

340. By letter dated February 15, 2013, ARCADIS submitted a report titled Implementation Summary and Recommendations – In-Situ Chemical Oxidation Groundwater Pilot Test to WDNR. (Meunier Dec. ¶ 33, Ex. 29)

341. The interim results show that at least one monitoring well within each of the shallow unconsolidated, shallow bedrock and deep bedrock intervals showed reductions of PCE greater than 80% (83%, 88% and 85% PCE reduction, respectively). (Meunier Dec. ¶ 33, Ex. 29)

342. The ISCO injection events achieved a measured benefit within the injection area and, because the injectate solution (sodium permanganate) continues to be present, it is anticipated that additional reductions in VOCs will occur. (Meunier Dec. ¶ 33, Ex. 29)

343. Continued post-injection monitoring will be used to monitor sodium permanganate present, washout, conductivity change, and potential concentration rebound in the injection area; this information will be utilized in evaluating final remedial design. (Meunier Dec. ¶ 33, Ex. 29)

344. The February 15, 2013 ARCADIS submittal concluded that injection reagents can be successful distributed in shallow unconsolidated soil, shallow bedrock and deep bedrock and the results of the pilot test and subsequent monitoring will be used to develop the full-scale groundwater remediation design. (Meunier Dec. ¶ 33, Ex. 29)

345. Of the 34 Class Members 27 responded to Madison-Kipp's First Set of Interrogatories. (Bianchi Dec. ¶ 3, Ex. 1; Bianchi Dec. ¶ 4, Ex. 2; Bianchi Dec. ¶ 5, Ex. 3; Bianchi Dec. ¶ 6, Ex. 4; Bianchi Dec. ¶ 7, Ex. 5; Bianchi Dec. ¶ 8, Ex. 6; Bianchi Dec. ¶ 9, Ex. 7; Bianchi Dec. ¶ 10, Ex. 8; Bianchi Dec. ¶ 11, Ex. 9; Bianchi Dec. ¶ 12, Ex. 10; Bianchi Dec. ¶ 13, Ex. 11; Bianchi Dec. ¶ 14, Ex. 12; Bianchi Dec. ¶ 15, Ex. 13; Bianchi Dec. ¶ 16, Ex. 14; Bianchi Dec. ¶ 17, Ex. 15; Bianchi Dec. ¶ 18, Ex. 16; Bianchi Dec. ¶ 19, Ex. 17; Bianchi Dec. ¶ 20, Ex. 18; Bianchi Dec. ¶ 21, Ex. 19; Bianchi Dec. ¶ 22, Ex. 20; Bianchi Dec. ¶ 23, Ex. 21; Bianchi Dec. ¶ 24, Ex. 22; Bianchi Dec. ¶ 25, Ex. 23; Bianchi Dec. ¶ 26, Ex. 24; Bianchi Dec. ¶ 27, Ex. 25; Bianchi Dec. ¶ 28, Ex. 26; Bianchi Dec. ¶ 29, Ex. 27)

346. All 27 responding Class Members responded that their properties have lost their value and that the value cannot be restored. (Bianchi Dec. ¶ 3, Ex. 1 ¶¶ 2, 5; Bianchi Dec. ¶ 4, Ex. 2 ¶¶ 2, 5; Bianchi Dec. ¶ 5, Ex. 3 ¶¶ 2, 5; Bianchi Dec. ¶ 6, Ex. 4 ¶¶ 2, 5; Bianchi Dec. ¶ 7, Ex. 5 ¶¶ 2, 5; Bianchi Dec. ¶ 8, Ex. 6 ¶¶ 2, 5; Bianchi Dec. ¶ 9, Ex. 7 ¶¶ 2, 5; Bianchi Dec. ¶ 10, Ex. 8 ¶¶ 2, 5; Bianchi Dec. ¶ 11, Ex. 9 ¶¶ 2, 5; Bianchi Dec. ¶ 12, Ex. 10 ¶¶ 2, 5; Bianchi Dec. ¶ 13, Ex. 11 ¶¶ 2, 5; Bianchi Dec. ¶ 14, Ex. 12 ¶¶ 2, 5; Bianchi Dec. ¶ 15, Ex. 13 ¶¶ 2, 5; Bianchi Dec. ¶ 16, Ex. 14 ¶¶ 2, 5; Bianchi Dec. ¶ 17, Ex. 15 ¶¶ 2, 5; Bianchi Dec. ¶ 18, Ex. 16 ¶¶ 2, 5; Bianchi Dec. ¶ 19, Ex. 17 ¶¶ 2, 5; Bianchi Dec. ¶ 20, Ex. 18 ¶¶ 2, 5; Bianchi Dec. ¶ 21, Ex. 19 ¶¶ 2, 5; Bianchi Dec. ¶ 22, Ex. 20 ¶¶ 2, 5; Bianchi Dec. ¶ 23, Ex. 21 ¶¶ 2, 5; Bianchi Dec. ¶ 24, Ex. 22 ¶¶ 2, 5; Bianchi Dec. ¶ 25, Ex. 23 ¶¶ 2, 5; Bianchi Dec. ¶ 26, Ex. 24 ¶¶ 2, 5; Bianchi Dec. ¶ 27, Ex. 25 ¶¶ 2, 5; Bianchi Dec. ¶ 28, Ex. 26 ¶¶ 2, 5; Bianchi Dec. ¶ 29, Ex. 27 ¶¶ 2, 5)

347. All 34 Class Members fail to provide any specific facts to support the loss of value to their properties. (See Bianchi Dec. ¶ 3, Ex. 1; Bianchi Dec. ¶ 4, Ex. 2; Bianchi Dec. ¶ 5, Ex. 3; Bianchi Dec. ¶ 6, Ex. 4; Bianchi Dec. ¶ 7, Ex. 5; Bianchi Dec. ¶ 8, Ex. 6; Bianchi Dec. ¶ 9, Ex. 7; Bianchi Dec. ¶ 10, Ex. 8; Bianchi Dec. ¶ 11, Ex. 9; Bianchi Dec. ¶ 12, Ex. 10;

Bianchi Dec. ¶ 13, Ex. 11; Bianchi Dec. ¶ 14, Ex. 12; Bianchi Dec. ¶ 15, Ex. 13; Bianchi Dec. ¶ 16, Ex. 14; Bianchi Dec. ¶ 17, Ex. 15; Bianchi Dec. ¶ 18, Ex. 16; Bianchi Dec. ¶ 19, Ex. 17; Bianchi Dec. ¶ 20, Ex. 18; Bianchi Dec. ¶ 21, Ex. 19; Bianchi Dec. ¶ 22, Ex. 20; Bianchi Dec. ¶ 23, Ex. 21; Bianchi Dec. ¶ 24, Ex. 22; Bianchi Dec. ¶ 25, Ex. 23; Bianchi Dec. ¶ 26, Ex. 24; Bianchi Dec. ¶ 27, Ex. 25; Bianchi Dec. ¶ 28, Ex. 26; Bianchi Dec. ¶ 29, Ex. 27)

348. For 2012, the property value at 102 S. Marquette Street was assessed to be $146,000 by the City of Madison. (Dkt. 135 at 8:3-11; Bianchi Dec. ¶ 30, Ex. 28 at 2-3)

349. Class Member Leslie Anne Bellais did not disagree with the City of Madison's property value assessment. (Dkt. 135 at 8:14-25)

350. Class Member Bellais has not contacted the city assessor to attempt to lower the assessed value of her home. (Dkt. 135 at 28:11-15)

351. Class Member Bellais has not changed her use of her basement since learning of the alleged contamination. (Dkt. 135 at 10:14-17)

352. The home at 102 S. Marquette Street was purchased for $55,100 in 1992. (Dkt. 135 at 24:15-17)

353. The mortgage on the property at 102 S. Marquette Street was last successfully refinanced in 2011. (Dkt. 135 at 23:12-15)

354. Class Member Bellais was not told by anyone that it was unsafe to have people in her home but still feels that her home is unsafe. (Dkt. 135 at 29:7-18)

355. For 2012, the property value at 154 S. Marquette Street was assessed to be $206,500 by the City of Madison (Dkt. 136 at 8:1-10; Bianchi Dec. ¶ 31, Ex. 29 at 2-3)

356. Class Member Prentice Berge did not believe the City of Madison's 2012 property value assessment to be incorrect. (Dkt. 136 at 8:17-22)

357. Class Member Berge has not changed his use of his basement since first learning of the alleged contamination. (Dkt. 136 at 10:3-6)

358. Class Member Berge has not attempted to sell the property at 154 S. Marquette Street within the last five years. (Dkt. 136 at 10:7-9)

359. Class Member Berge first received notice about testing his property for soil vapors back in 2004. (Dkt. 136 at 13:23-14:6; Bianchi Dec. ¶ 32, Ex. 30)

360. The home at 154 S. Marquette Street was purchased in 2003 for $172,000. (Bianchi Dec. ¶ 31, Ex. 29 at 4)

361. The mortgage on the property at 154 S. Marquette Street was last successfully refinanced in August 2012. (Dkt. 136 at 22:21-25)

362. The bank still refinanced the mortgage even though Mr. Berge told him about the alleged PCE contamination issues. (Dkt. 136 at 33:5-11)

363. Class Member Berge was not told by anyone that it was unsafe to continue to garden in his backyard but he feels that it is unsafe. (Dkt. 136 at 28:23-25, 29:1-7)

364. For 2012, the property value at 222 S. Marquette Street was assessed to be $190,800 by the City of Madison. (Dkt. 133 at 6:8-23; Bianchi Dec. ¶ 33, Ex. 31 at 2-3)

365. Class Member Dianne Booth has not contacted the City assessor to challenge this assessment. (Dkt. 133 at 22:2-4)

366. However, Ms. Booth knows how to contest here property tax assessment, as she successfully challenged here assessment when she first purchased the home. (Dkt. 133 22:5-15)

367. The home at 222 S. Marquette Street was purchased in 2005 for $130,000. (Bianchi Dec. ¶ 33, Ex. 31 at 4)

368. Ms. Booth has not done anything to ascertain or quantify any property damage the alleged contamination has caused to her home. (Dkt. 133 26:3-9)

369. The 2012, the property value at 110 S. Marquette Street was assessed to be $173,500 by the City of Madison. (Dkt. 119 at 8:8-9:5; Bianchi Dec. ¶ 34, Ex. 32 at 2-3)

370. Class Member Elanie Bott changed her use of her basement from fear of contamination but no one told her that she needed to change her use of her basement. (Dkt. 119 at 9:6-10:1)

371. The home at 110 S. Marquette Street was purchased in 2007 for $167,000. (Bianchi Dec. ¶ 34, Ex. 32 at 4)

372. Class Member Bott had not obtained an appraisal of the value of her home for within the previous 12 months. (Dkt. 119 at 35:6-8)

373. For 2012, the property value at 130 S. Marquette Street was assessed to be $206,800 by the City of Madison. (Dkt. 120 at 5:9-22; Bianchi Dec. ¶ 35, Ex. 33 at 2-3)

374. Class member Barry Carlsen did not believe that the 2012 assessment was inaccurate. (Dkt. 120 at 15:20-16:16)

375. The home at 130 S. Marquette Street was purchased in 1986 for $55,900. (Bianchi Dec. ¶ 35, Ex. 33 at 4)

376. Class Member Carlsen added a screen porch onto his home in 2012. (Dkt. 120 at 8:16-21)

377. Class Member Carlsen refinanced the mortgage on his home at 130 S. Marquette Street between 2010 and 2011, which was at the same time he learned about the alleged contamination. (Dkt. 120 at 10:3-13)

378. Class Member Carlsen has done nothing to ascertain that his home has diminished in value. (Dkt. 120 at 24:9-16)

379. Although no one from the WDNR or Health Department has told Mr. Carlsen not to use his basement, but he uses it less because that is the way he feels it should be. (Dkt. 120 at 26:9-16)

380. The property at 265 Waubesa is used by Class Member UCAN Tellurian, a non-profit organization, as a rental unit for patients. (Dkt. 127 at 7:3-21)

381. Because it is a non-for-profit property, there is no city tax assessment of 265 Waubesa. (Dkt. 127 at 11:20-13:12; Bianchi Dec. ¶ 36, Ex. 34 at 2-3)

382. Class Member UCAN Tellurian decided to remove 3 of its 4 patients that were renting the 265 Waubesa home based solely on information it heard in news accounts. (Dkt. 127 at 7:22-10:3)

383. Class Member UCAN Tellurian's decision to not use the 265 Waubesa home for its patients is based on its feeling that the home is not safe. (Dkt. 127 at 20:6-12)

384. Class Member UCAN Tellurian has not had the home at 265 Waubesa appraised to determine its value or change in value. (Dkt. 127 at 20:22-21:1)

385. Even when Class Member UCAN Tellurian was renting its home to four patients it was not receiving fair market rental value. (Dkt. 127 at 22:22-23:25)

386. For 2012, the property value at 249 Waubesa Street was assessed to be $186,800 by the City of Madison. (Dkt. 140 at 7:6-15; Bianchi Dec. ¶ 37, Ex. 35 at 2-3)

387. Class Member Julie Bernhardt did not believe that the city assessment was incorrect and has never challenged the assessed value of her home at 249 Waubesa Street. (Dkt. 140 at 8:2-18)

388. It is Class Member Bernhardt's personal preference to not have herself or her dog on the soil in the yard of her home at 249 Waubesa Street. (Dkt. 140 at 19:15-19)

389. Class Member Bernhardt believes that there should not be any VOCs around her because that is the way she personally chooses to live her life. (Dkt. 140 at 22:3-14)

390. Class Member Bernhardt improved her home at 249 Waubesa Street after learning of the potential contamination issues by remodeling the kitchen and bathroom. (Dkt. 140 at 25:5-14)

391. The home at 249 Waubesa Street was purchased by Class Member Bernhardt in 2002 for $135,000. (Bianchi Dec. ¶ 37, Ex. 35 at 4)

392. For 2012, the property value at 245 Waubesa Street was assessed to be $137,000 by the City of Madison. (Dkt. 138 at 12:13-13:8; Bianchi Dec. ¶ 38, Ex. 36 at 2-3)

393. Class member George Gilbertsen purchased the home at 245 Waubesa Street in 1955. (Dkt. 138 at 8:10-11)

394. Previous to the current lawsuit, Class Member Gilbertsen never had any problems with Madison-Kipp. (Dkt. 138 at 9:17-25)

395. Class Member Gilbertsen did not know what the market value of his home would be currently. (Dkt. 138 at 14:24-15:1)

396. For, 2012, the property value at 128 S. Marquette Street was assessed to be $134,000 by the City of Madison. (Dkt. 124 at 7:9-17; Bianchi Dec. ¶ 39, Ex. 37 at 2-3)

397. Class Member Patrick Hannon noted that the city assessment was correct. (Dkt. 124 at 7:18-25)

398. Although no one told Class Member Hannon to reduce using his basement in 2011, he reduced his use of his basement because of the possibility of contamination in the subsoil. (Dkt. 124 at 19:5-15; 36:16-22)

399. Class Member Hannon has not personally had his home appraised. (Dkt. 124 at 37:9-10)

400. For 2012, the property value at 166 S. Marquette Street was assessed to be $144,300 by the City of Madison. (Dkt. 125 at 11:20-12:8; Bianchi Dec. ¶ 40, Ex. 38 at 2-3)

401. Class Member Sharon Helmus has not done anything to investigate what the value of her home at 166 S. Marquette is currently. (Dkt. 125 at 21:9-11)

402. Ms. Helmus did not hire an appraiser or real estate agent to determine the value of her home. (Dkt. 125 at 21:12-15)

403. For 2012, the property value at 142 S. Marquette Street was assessed to be $121,000 by the City of Madison. (Dkt. 137 at 8:13-18; Bianchi Dec. ¶ 41, Ex. 39 at 2-3)

404. Class member Kenneth Hennrick noted that the city's assessment was correct. (Dkt. 137 at 8:24-9:3)

405. Class Member Kenneth Hennrick has rented out the upper unit at 142 S. Marquette Street to Megan Otto since August 2010, with a year lease having been renewed twice. (Dkt. 137 at 5:17-6:17)

406. For the initial two lease terms Class Member Hennrick charged $700 in rent for the upper unit and in the most recent, 2012, lease the rent was raised to $720. (Dkt. 137 at 6:18-21)

407. Class Member Hennrick purchased the home at 142 S. Marquette Street for $99,000 in 2010. (Bianchi Dec. ¶ 41, Ex. 39 at 4)

408. Class Member Hennrick was able to refinance his mortgage on the home at 142 S. Marquette Street in 2012. (Dkt. 137 at 11:8-12, 12:6-7)

409. Class Member Hennrick believes that the $720 a month rent he is currently obtaining for the upper unit is a fair rental value for that unit. (Dkt. 137 at 14:9-13)

410. When Ms. Otto resigned her most recent lease, in which her rent was increased, she was aware of the alleged contamination issues. (Dkt. 137 at 18:23-19:18)

411. Ms. Otto was not forced into signing the new, more expensive lease. (Dkt. 137 at 40:15-21)

412. Class Member Hennrick is not a real estate professional and does not know what a reasonable offer to purchase his home at 142 S. Marquette would be. (Dkt. 137 at 30:3-7)

413. For 2012, the property value at 118 S. Marquette Street was assessed to be $206,500 by the City of Madison. (Dkt. 130 at 8:2-8; Bianchi Dec. ¶ 42, Ex. 40 at 2-3)

414. Class member Judith James did not believe that the city's assessment was incorrect. (Dkt. 130 at 8:9-18)

415. Class Member James never challenged the city's 2012 assessment regarding the value of her home at 118 S. Marquette. Street. (Dkt. 130 at 8:19-22)

416. Although Class Member James does not believe that her property at 118 S. Marquette has any value she has not contacted the city to attempt to lower her assessed tax value. (Dkt. 130 at 23:25-24:10)

417. Although no one from WDNR or the City Department of Health told Ms. James that she should use her basement less, she decided, on her own to reduce her use. (Dkt. 130 at 10:5-20)

418. For 2012, the property value at 253 Waubesa Street was assessed to be $139,600 by the City of Madison. (Dkt. 128 at 8:24-9:7; Bianchi Dec. ¶ 43, Ex. 41 at 2-3)

419. The home at 253 Waubesa Street was purchased in 2002 for $115,000. (Bianchi Dec. ¶ 43, Ex. 41 at 4)

420. The home at 253 Waubesa Street was appraised at $170,000 in September 2012. (Bianchi Dec. ¶ 43, Ex. 41 at 128-129)

421. The September 2012 appraisal of the 253 Waubesa Street property was part of a refinancing of the mortgage on the property, which was completed in October. (Dkt. 128 at 23:2-14)

422. For 2012, the property value at 126 S. Marquette Street was assessed to be $209,400 by the City of Madison. (Dkt. 123 at 7:19-8:8; Bianchi Dec. ¶ 44, Ex. 42 at 2-3)

423. Class Member Elizabeth Reynolds did not find that the city's assessment was incorrect. (Dkt. 123 at 8:9-16)

424. The home at 253 Waubesa Street was purchased in 2009 for $210,500. (Bianchi Dec. ¶ 44, Ex. 42 at 4)

425. Class Member Reynolds believes that her property has lost its value because she believes no one would purchase her home. (Dkt. 123 at 19:19-20:10)

426. Class Member Reynolds has not tried to sell her home or contact a realtor about trying to sell her home. (Dkt. 123 at 24:15-25)

427. For 2012, the property value at 202 S. Marquette Street was assessed to be $217,900 by the City of Madison. (Dkt. 134 at 7:15-8:4; Bianchi Dec. ¶ 45, Ex. 43 at 2-3)

428. Class Member Brandi Rogers has never challenged the city's tax assessment value of her home at 202 S. Marquette Street. (Dkt. 134 at 20:7-9)

429. The home at 202 S. Marquette Street was purchased in 2010 for $217,900. (Bianchi Dec. ¶ 45, Ex. 43 at 4)

430. Class Member Rogers has not done anything to ascertain he present market value of her home. (Dkt. 134 at 27:8-10)

431. Class Member Rogers has not done anything to ascertain the mortgage eligibility of her home. (Dkt. 134 at 30:12-15)

432. For 2012, the property value at 206 S. Marquette Street was assessed to be $191,100 by the City of Madison. (Dkt. 132 at 4:21-5:8; Bianchi Dec. ¶ 46, Ex. 44 at 2-3)

433. Class Member Karsten Schilling noted that the city's assessment was in the "right ballpark. (Dkt. 132 at 14:5-7, 15:6-8)

434. The home at 206 S. Marquette Street was purchased in 1994 for $78,725. (Bianchi Dec. ¶ 46, Ex. 44 at 4)

435. For 2012, the property value at 257 Waubesa Street was assessed to be $151,900 by the City of Madison. (Dkt. 126 at 8:15-9:4; Bianchi Dec. ¶ 47, Ex. 45 at 2-3)

436. Class Member Julie Sheahan noted that the city's assessment was correct. (Dkt. 126 at 9:5-18)

437. Class Member Sheahan has not attempted to reduce the property tax assessment for her home. (Dkt. 126 at 27:5-7)

438. The home at 257 Waubesa Street was purchased in 2008 for $155,000. (Bianchi Dec. ¶ 47, Ex. 45 at 4)

439. For 2012, the property value at 230 S. Marquette Street was assessed to be $164,500 by the City of Madison. (Dkt. 129 at 12:23-13:6; Bianchi Dec. ¶ 48, Ex. 46 at 2-3)

440. Although Class Member Daniel Stevens has challenged and reduced a tax assessment on another property, he has not tried to reduce the tax assessment of the 230 S. Marquette Street property. (Dkt. 129 at 14:5-11)

441. Class Member Daniel Stevens purchased the home at 230 S. Marquette Street in 1973 as a rental property. (Dkt. 129 at 9:5-8)

442. The tenant living in the upper unit has been renting from Mr. Stevens for over 25 years. (Dkt. 129 at 9:25-10:2)

443. The current tenant living in the lower unit entered into a year lease in August 2012. (Dkt. 129 at 9:17-24)

444. The current tenant living in the lower unit pays $900 a month in rent, which is $25 more than the previous tenant who rented the lower unit the year before. (Dkt. 129 10:19-21)

445. Class Member Stevens believes the rent he obtains for the lower unit might be a little under fair rental value. (Dkt. 129 at 10:22-24)

446. Class Member Stevens informed the current tenants in the lower unit of the alleged contamination but they still decided to rent the unit and they did not request, and were not given, and reduction in rent. (Dkt. 129 at 21:7-15)

447. Since Class member Stevens began owning the property at 230 S. Marquette Street he has not had any problems with Madison-Kipp. (Dkt. 129 at 17:18-20)

448. At one point, when Madison-Kipp converted a parcel of property abutting 230 S. Marquette Street to a parking lot it resulting in water running down into Mr. Stevens' property, but

Mr. Stevens spoke with Reid Coleman of Madison-Kipp and Madison-Kipp resolved the problem. (Dkt. 129 at 18:5-22)

449. For 2012, the property value at 241 Waubesa Street was assessed to be $158,000 by the City of Madison. (Dkt. 139 at 7:2-9; Bianchi Dec. ¶ 49, Ex. 47 at 2-3)

450. Class Member Kate Thompson did not find the city's assessment to be incorrect. (Dkt. 139 at 8:3-13)

451. Class Member Thompson did not contact the city regarding her 2012 tax assessment. (Dkt. 139 8:14-17)

452. The home at 241 Waubesa Street was purchased in 1985 for $42,000. (Bianchi Dec. ¶ 49, Ex. 47 at 4)

453. At some point after 1985, Ms. Thompson had her property flooded as a result of heavy runoff from Madison-Kipp's property during heavy rains. (Dkt. 139 at 14:24-15:5)

454. Class Member Thompson contacted Madison-Kipp about the flooding and they arranged to pay to have someone come and repair any damage done by the flooding. (Dkt. 139 at 15:8-19)

455. Class Member Thompson was satisfied with the action Madison-Kipp took in response to her contact. (Dkt. 139 at 15:20-21)

456. Class Member Thompson has not had any realtors even attempt to determine what the market value of 241 Waubesa could be. (Dkt. 139 at 20:24-21:1)

457. For 2012, the property value at 162 S. Marquette Street was assessed to be $136,000 by the City of Madison (Dkt. 131 at 8:24-9:8; Bianchi Dec. ¶ 50, Ex. 48 at 2-3)

458. Class Member Peter Uttech purchased the property at 162 S. Marquette Street in 1977 to serve as a rental property. (Dkt. 131 at 9:9-19)

459. Class Member Uttech currently rents the property for $910 a month, which is higher than the rent he charged back in 2010. (Dkt. 131 11:6-11)

460. The $910 rent defrays the total expense of the property for Mr. Uttech and provides him with some additional income. (Dkt. 131 12:7-11)

461. For 2012, the property value at 233 Waubesa Street was assessed to be $163,500 by the City of Madison. (Dkt. 122 at 5:14-20; Bianchi Dec. ¶ 51, Ex. 49 at 2-3)

462. The home at 233 Waubesa Street was purchased in 1999 for $89,000. (Bianchi Dec. ¶ 51, Ex. 49 at 4)

463. For 2012, the property value at 210 S. Marquette Street was assessed to be $152,800 by the City of Madison. (Dkt. 121 at 6:6-17; Bianchi Dec. ¶52, Ex. 50 at 2-3)

464. The home at 210 S. Marquette Street was purchased in May 2011 for $142,500 as an investment property. (Bianchi Dec. ¶ 52, Ex. 50 at 4; Dkt. 121 at 5:16-6:1)

465. Both units at the property are rented through July 31, 2013 under leases entered into on August 1, 2012. (Dkt. 121 at 24:14-25:17)

466. Class Member Brent Wilder is deriving income through the rental of the home at 233 Waubesa Street by obtaining what he believes to be a fair rental value for the home. (Dkt. 121 at 24:9-13)

467. Historically, PCE has been used widely in metal degreasing operations at industrial facilities, and continues to be used in numerous industrial, commercial, and household cleaning products, as well as in dry cleaning products. (Dkt. 145 at 2)

468. Madison-Kipp's use of PCE as a solvent for degreasing was a common and accepted industrial practice up to and including the late 1980s, when its use at Madison-Kipp ceased. (Dkt. 145 at 2-3; Bianchi Dec. ¶ 53, Ex. 51; Bianchi Dec. ¶ 54, Ex. 52)

469. Madison-Kipp's use of PCE to clean die machines through sometime in the 1980s was entirely consistent with industry practice at the time. (Dkt. 145 at 2-3)

470. Madison-Kipp's use of PCE solvent for degreasing meets the standard of care recognized in the industry at the time. (Dkt. 145 at 2-3)

471. Storing PCE in an aboveground storage tank on a concrete pad, receiving PCE by tanker truck using a hose system to fill the tank and transferring PCE from the tank to the degreaser are all methods of receiving, storing, and handling PCE that are consistent with industry standards and practices at the relevant time. (Dkt. 145 at 3-4; Bianchi Dec. ¶ 53, Ex. 51; Bianchi Dec. ¶ 54, Ex. 52)

472. After removing used PCE from a degreaser for reclamation, the remaining waste would consist of a semi-solid sludge comprised of oils, metal particles, dirt and PCE residue. (Dkt. 145 at 4; Bianchi Dec. ¶ 53, Ex. 51; Bianchi Dec. ¶ 54, Ex. 52)

473. Between the 1940s and 1970s, industry guidance with regards to the disposal of chlorinated solvent waste, i.e., waste sludge, recommended that such waste be poured on the ground. ("Dkt. 145 at 4; Bianchi Dec. ¶ 53, Ex. 51; Bianchi Dec. ¶ 54, Ex. 52; Bianchi Dec. ¶ 56, Ex. 54; Bianchi Dec. ¶ 55, Ex. 53)

474. Madison-Kipp's use of hydraulic oils that may have contained PCBs into the 1970s was consistent with industry standards at the time. (Dkt. 145 4-5)

475. The use of waste oils for dust control and use of oils and tar on roadways for dust suppression has been common place for decades throughout the United States. (Dkt. 145 at 6; Bianchi Dec. ¶ 147; Bianchi Dec. ¶ 60, Ex. 58; Bianchi Dec. ¶ 61, Ex. 59; Bianchi Dec. ¶ 62, Ex. 60)

476. Such waste oils usually contained many contaminants, including heavy metals, organic solvents, and PCBs. ("Dkt. 145 at 6; Bianchi Dec. ¶ 62, Ex. 60)

477. Studies by the USEPA, U.S. Department of Energy,, and others indicated that waste oils used for road oiling typically contained high concentrations of PCBs, as high as 3,800 parts per million. (Dkt. 145 at 6; Bianchi Dec. ¶ 60, Ex. 58; Bianchi Dec. ¶ 61, Ex. 59; Bianchi Dec. ¶ 62, Ex. 60)

478. In 1982, USEPA estimated that approximately 50 to 80 million gallons of waste oils was being used in the United States for dust suppression on unpaved roads. (Dkt. 145 at 6; Bianchi Dec. ¶ 62, Ex. 60)

479. Wisconsin was one of the states that used the largest quantities of waste oil on roads for dust suppression. (Dkt. 145 at 6; Bianchi Dec. ¶ 60, Ex. 58; Bianchi Dec. ¶ 62, Ex. 60)

480. In Wisconsin in the 1980s, large quantities of waste oil was used on unpaved roads (road oils) for dust suppression at the Badger Army Ammunition Plant in Baraboo, Wisconsin. (Dkt. 145 at 6; Bianchi Dec. ¶ 147)

481. It was not until 1992 that USEPA banned the use of road oils for dust suppression, due to the possible presence of hazardous substances. (Dkt. 145 at 6; Bianchi Dec. ¶ 147)

482. Although the use of waste oil for unpaved roads has declined since the 1990s, as recently as 2006, Wisconsin regulations permitted the use of used oil for dust suppression. (Dkt. 145 at 6; Bianchi Dec. ¶ 86, Ex. 84)

483. Madison-Kipp's use of waste oils, which may have contained PCBs or PCE, as a dust suppressant in its parking areas until 1976 or 1977 was consistent with industry practices and met with the standard of care at the time. (Dkt. 145 at 6)

484. Madison-Kipp's use, handling, and disposal of industrial products, including PCE and oils, was consistent with the standard of care in the industry at the time. (Dkt. 145 at 2-6)

485. Each of the multiple investigation phases of the site taken by Madison-Kipp since 1994 has provided the information needed at the time, regarding the soil and groundwater conditions and extent of contamination in the area of investigation, to make decisions regarding further investigation and remedial actions. (Dkt. 145 at 7;Dkt. 117 at 56-57)

486. Madison-Kipp's investigation done in a phased or step-wise fashion was and is the standard in the industry. (Dkt. 145 at 7-8)

487. Site investigations and remedial actions taken by Madison-Kipp at the site since 1994 were appropriate and adequate at the time they were conducted. (Dkt. 117 at 56:7-57:10)

488. Further investigations and evolving technical knowledge over time have resulted in increased awareness of the significance and impacts of contamination at the Madison-Kipp site and surrounding area. (Dkt. 145 at 7-8)

489. For example, the vapor intrusion issue was not understood at the time of the initial investigations conducted at the Madison-Kipp site. (Dkt. 117 at 61-62)

490. Since 1994, Madison-Kipp has maintained continuous communications and interaction with WDNR throughout the site investigation process, including submittal of required reports of site investigation and remediation activities, routine status reports and regular meetings, correspondence, and telephone communications with the WDNR project manager and other agency representatives. (Dkt. 145 at 8, Appendix A)

491. Madison-Kipp's communications and interaction with WDNR throughout the site investigation process have been consistent with the standard of care for potentially responsible parties in environmental cleanup matters. (Dkt. 145 at 7-8)

492. The environmental site investigations and remedial activities conducted by Madison-Kipp and the timing of those activities, have been consistent with the standards of practice for such activities at the time. (Dkt. 145 at 7-8)

493. Site investigations at the Madison-Kipp facility and surrounding area have defined the extent of PCE, PCBs, and other site-related contaminants in soil, soil vapor, and groundwater for the purposes of selecting remedial actions. (Dkt. 145 at 8-14)

494. Based on the locations and timing of contaminant sources that have been identified at the site, the distance to adjacent properties, the shallow depth to groundwater, and the extent and magnitude of PCE and other contaminants that have been found in the subsurface, PCE, PCBs, PAHs, and other contaminants were already present in soil and/or shallow groundwater beneath the Madison-Kipp site and immediately adjacent surrounding properties well before 1994, and have not materially increased in lateral extent or magnitude since that time. (Dkt. 145 at 8-12)

495. The extent of PCE and other VOCs in the soil vapor in the off-site area, which includes the Class Member properties, has been defined, and there is an adequate understanding of the site conceptual model at this time regarding VOC occurrence and migration in soil vapor. (Dkt. 145 at 9-10; Dkt. 117 at 33:3-13; Dkt. 118 at 240:14-24)

496. Deeper groundwater is not a source of VOCs to soil vapor in the vadose zone. (Dkt. 145 at 9; Dkt. 117 at 102)

497. The current soil vapor extraction system, installed in 2012, is controlling the off-site migration of soil vapor containing VOCs. (Dkt. 145 at 8-9; Dkt. 117 at 76)

498. Further investigation of VOCs in soil vapor is not needed because there is no migration pathway, and shallow groundwater beyond the area immediately adjacent to Madison-Kipp does not contain VOCs. (Dkt. 145 at 9; Dkt. 117 at 88)

499. PAHs and PCBs have correctly not been identified as a source of contamination in soil vapor. (Dkt. 145 at 10)

500. Through the multiple phases of investigation on and off-site at Madison-Kipp's Facility, the magnitude and lateral extent of soil contamination at the site and surrounding area has been defined and will not materially change in the future, even if no further remediation occurs. (Dkt. 145 at 10)

501. There is a good understanding of shallow soil contamination (at depths to 4 feet below ground surface) from the more than 100 soil boring that have been completed at the site. (Dkt. 145 at 10; Dkt. 117 at 73)

502. Chemical analyses for PCBs have been conducted on more than 300 samples from on-site and off-site areas and these samples define the extent of PCB contamination in the soil for the purposes of selecting remedial actions to address PCB impacts to soil. (Dkt. 145 at 10)

503. The magnitude and lateral extent of PCE in shallow groundwater has not materially changed since a time well before it was first discovered in 1994, and will not materially change in the future, even if no further remediation occurs. (Dkt. 145 at 11)

504. There is not a significant lateral movement of shallow groundwater containing VOCs in the site vicinity, as hydraulic gradients are strongly downward. (Dkt. 145 at 11; Dkt. 117 at 39-40)

505. Shallow groundwater containing PCE is not continuing to migrate or expand onto neighboring properties and the extent of PCE in shallow groundwater is essentially the same as that found in 1994 or before. (Dkt. 145 at 11)

506. Deeper groundwater containing PCE would have migrated no more than approximately 540 ft. in a northerly or southerly and downward direction since it was first discovered in 1994. (Dkt. 145 at 12)

507. Deeper groundwater containing PCE has had no impact on neighboring properties, as there is no use of that deeper groundwater at the site or in the immediate residential area surrounding Madison-Kipp, and VOC-impacted deeper groundwater is not a source of vapor intrusion. (Dkt. 145 at 12)

508. Multiple technologies and approaches are available to remediate PCE and other VOCs in subsurface soil and groundwater, including in-situ chemical oxidation (ISCO), in-situ bioremediation, thermal treatment, surfactant/co-solvent flushing, groundwater extraction and treatment, and natural attenuation. ("Dkt. 145 at 12; Bianchi Dec. ¶ 69, Ex. 67;

Bianchi Dec. ¶ 70, Ex. 68; Bianchi Dec. ¶ 73, Ex. 71; Bianchi Dec. ¶ 145, Ex. 143; Bianchi Dec. ¶ 69, Ex. 67; Bianchi Dec. ¶ 71, Ex. 69)

509. A comprehensive 2007 study of more than 100 PCE-contamination sites by the State Coalition for Remediation of Dry Cleaners indicated that soil vapor extraction was the most widely used remedial technology for soils, and that ISCO and in-situ bioremediation were the most widely used groundwater remedial technologies. (Dkt. 145 at 12; Bianchi Dec. ¶ 145, Ex. 143)

510. Further site investigations are not needed to make decisions about shallow groundwater remediation at the site. (Dkt. 145 at 13; Dkt. 117 at 76)

511. At the site ISCO was successful in reducing substantial quantities of VOC concentrations in soils at multiple locations, and the soil vapor extraction systems has effectively removed substantial quantities of VOCs from soil and shallow groundwater. (Dkt. 145 at 13; Dkt. 117 at 76)

512. In-situ treatment of groundwater contaminants using ISCO is a proven technology that is much more efficient and effective than groundwater extraction and treatment in remediating VOC-impacted groundwater. (Dkt. 145 at 13; Bianchi Dec. ¶ 69, Ex. 67; Bianchi Dec. ¶ 70, Ex. 68; Bianchi Dec. ¶ 72, Ex. 70)

513. Ongoing remedial actions at the site involving soil vapor extraction, ISCO, and ongoing natural attenuation will continue to reduce dissolved-phase VOC concentrations. (Dkt. 145 at 14)

514. Remedial actions at the site will continue until WDNR-approved remedial action objectives are achieved. (Dkt. 145 at 14)

515. Releases of PCE and other constituents from the Madison-Kipp facility do not present or threaten an imminent and substantial endangerment to health or the environment. (Dkt. 145 at 14-17)

516. The extent of contamination in soil, soil vapor, and shallow groundwater has been defined, is limited, and appropriate remedial actions have been or will be implemented to address this contamination. (Dkt. 145 at 15)

517. There is no groundwater use in the residential area and immediate site vicinity. (Dkt. 145 at 16)

518. The deep groundwater is not a source of sub-slab soil vapors. (Dkt. 145 at 16; Dkt. 117 at 102:6-13)

519. PCE has not been detected in City of Madison Unit Well 8, the closest water supply well, located approximately 1,500 ft. southeast of the site. (Dkt. 145 at 16; Bianchi Dec. ¶ 144, Ex. 142; Bianchi Dec. ¶ 142, Ex. 140)

520. Unit Well 8 is only used seasonally and has a protective casing an annular seal extending from the surface through the Eau Clair Aquitard. (Dkt. 145 at 16)

521. Routine groundwater monitoring of Unit Well 8 conducted by the City of Madison provides the city an early warning of possible contamination impacts to that well by any contaminant, from any source. (Dkt. 145 at 16; Bianchi Dec. ¶ 144, Ex. 142; Bianchi Dec. ¶ 142, Ex. 140)

522. Even if PCE were to be detected in Unit Well 8, in my experience such detections (which would be at extremely low levels) would provide sufficient time (i.e., at least several years) in which appropriate remedial actions could be taken, if warranted, before actionable levels were present in the well. (Dkt. 145 at 16-17)

523. Even if the City of Madison detected PCE in Unit Well 8 tomorrow, there would be enough time for appropriate remedial actions to be taken, such that there would be no threat of an imminent and substantial endangerment to health or the environment. (Dkt. 145 at 17)

524. The 1949 article by Lyne and McLachlan cited by Dr. Everett received very little notice at the time, as the authors were conducting a very limited study for local authorities and, as such, it was unlikely that TCE would have become an emerging issue in the United Kingdom or elsewhere. (Dkt. 145 at 17; Bianchi Dec. ¶ 58, Ex. 56)

525. Thus, the 1949 article by Lyne and McLachlan did not trigger any general recognition of the problem of TCE or other chlorinated solvents in groundwater by the scientific, engineering, or regulatory community. (Dkt. 145 at 17-18; Bianchi Dec. ¶ 58, Ex. 56)

526. Regulatory agencies typically do not require sampling and definition to non-detect levels. (Dkt. 145 at 18)

527. There is no evidence that preferential pathways, such as utility corridors, sanitary sewers, and storm drains, have influenced contaminant migration in the site vicinity. (Dkt. 145 at 18)

528. There is no direct evidence of dense non-aqueous phase liquid in subsurface soil or groundwater at the site, as dense non-aqueous phase liquid has not been encountered from any of the more than 100 soil borings and monitoring wells at Madison-Kipp. (Dkt. 145 at 19-20)

529. The remediation program suggested by Dr. Everett is not supported by the facts and extensive date from the site area. (Dkt. 145 at 20-21)

530. Industrial facility managers and employees have generally been facilities specialists, not trained environmental engineers. (Dkt. 145 at 21)

531. The interactive process between WDNR and responsible parties involves submittal of work plans and reports by the responsible party, such as Madison-Kipp, for review and approval by the WDNR. (Dkt. 145 at 21)

532. The vapor intrusion pathway only recently became a required part of remedial activities. (Dkt. 146 at 2-9)

533. The WDNR vapor intrusion guidance identifies Vapor Action Levels and Vapor Risk Screening Levels. ("Dkt. 146 at 6; Bianchi Dec. ¶ 64, Ex. 62)

534. A Vapor Action Level is defined as the indoor air concentration that corresponds to a cancer risk of 1 x 10-5 or a noncancer hazard of 1. ("Dkt. 146 at 6; Bianchi Dec. ¶ 64, Ex. 62)

535. The Vapor Risk Screening Level is defined as the soil gas, sub-slab soil gas, or groundwater concentration that is protective of indoor air at the risk levels of cancer risk of 1 x 10-5 or a noncancer hazard of 1 . ("Dkt. 146 at 6; Bianchi Dec. ¶ 64, Ex. 62)

536. The Vapor Risk Screening Level is calculated using attenuation factors. ("Dkt. 146 at 6; Bianchi Dec. ¶ 64, Ex. 62)

537. The attenuation factor is the ratio of indoor air to soil gas or groundwater and describes the decrease in concentration moving from a subsurface concentration to indoor air. ("Dkt. 146 at 6; Bianchi Dec. ¶ 64, Ex. 62)

538. The WDNR guidance defines the following attenuation factors: 0.1 (sub-slab soil gas); 0.1 (shallow soil gas, less than 5 ft. below foundation); 0.01 (deep soil gas, greater than 5 ft. below foundation); and 0.001 (groundwater). ("Dkt. 146 at 6; Bianchi Dec. ¶ 64, Ex. 62)

539. For PCE, the Vapor Action Level prior to February 2012 was 0.6 parts per billion by volume (ppbv) for a residential exposure scenario (i.e., indoor air). (Dkt. 146 at 6)

540. USEPA completed a final Toxicological Assessment for Tetrachloroethylene (Perchloroethylene) in February 2012. ("Dkt. 146 at 6; Bianchi Dec. ¶ 57, Ex. 55)

541. The PCE Vapor Action Level changed in February 2012 to 6.2 ppbv for a residential exposure scenario (i.e., indoor air) based on the final toxicological assessment. ("Dkt. 146 at 6; Bianchi Dec. ¶ 57, Ex. 55)

542. Using the attenuation factors defined by the WDNR yields PCE Vapor Risk Screening Levels sub-slab soil gas of 6 ppbv prior to February 2012 and 62 ppbv after February 2012. (Dkt. 146 at 6; Bianchi Dec. ¶ 141, Ex. 139)

543. The calculation of PCE Vapor Risk Screening Level for sub-slab soil gas is based on using a conservative attenuation factor of 0.1, which means that the sub-slab soil gas concentration can be 10 times greater than the indoor air Action Level. (Dkt. 146 at 6)

544. The USEPA recently provided a more robust analysis of attenuation factor data for sub-slab to indoor air and determined that a value of 0.03 was representative and protective of 95% of homes. (Dkt. 146 at 6; Bianchi Dec. ¶ 57, Ex. 55)

545. If an attenuation factor of 0.03 were used, the PCE Vapor Risk Screening Level would be 207 ppbv for sub-slab soil gas. (Dkt. 146 at 6)

546. The conservative calculations used for both Action Levels (indoor air) and Vapor Risk Screening Levels (sub-slab soil gas) for PCE confirm that any detection of PCE in sub-slab soil gas or indoor air above "non-detect" is not sufficient grounds to require on-going monitoring or to determine that the vapor intrusion pathway is complete. (Dkt. 146 at 7)

547. If the Vapor Risk Screening Level is not exceeded, then there is no risk to human health from vapor intrusion. (Dkt. 146 at 7)

548. Madison-Kipp followed the applicable standard of care for obtaining and evaluating data related to the vapor intrusion pathway because it has followed standard and accepted practices for investing and evaluating the vapor intrusion pathway. (Dkt. 146 at 9-11)

549. Throughout the investigation of the vapor intrusion pathway, Madison-Kipp followed a standard and recommended approach for investigating the vapor intrusion pathway. (Dkt. 146 at 9; Bianchi Dec. ¶ 66, Ex. 64)

550. After initiating a vapor intrusion investigation, Madison Kipp appropriately conducted a step-wise sampling program following standard sampling and analytical procedures for that period. (Dkt. 146 at 10)

551. Madison-Kipp's step-wise sampling program was carried out under the direction and oversight of the WDNR, despite the lack of any regulatory guidance or standard protocols to guide the investigation and evaluation process throughout much of the sampling and data analysis. (Dkt. 146 at 10)

552. The vapor intrusion pathway from Madison-Kipp to off-site properties, including the Class Members' properties, in incomplete. (Dkt. 146 at 11-16)

553. WDNR guidance for vapor intrusion states that "measured vapor concentrations in the sub-slab that are less than the applicable screening levels (considering the appropriate risk exposure and [attenuation factor]) indicate there is no a risk to human health due to vapor intrusion. In this scenario, the vapor intrusion pathway will be considered adequately addressed." (Dkt. 146 at 11; Bianchi Dec. ¶ 64, Ex. 62 at 15)

554. The WDNR Vapor Risk Screening Level for PCE in sub-slab soil gas is 62 ppbv. (Dkt. 146 at 11; Bianchi Dec. ¶ 139, Ex. 137)

555. With the exception of the 2011 samples taken at 162, 154, and 150 South Marquette Street, all sub-slab soil gas concentrations for PCE are well below the Vapor Risk Screening Levels. (Dkt. 146 at 11; Figure 1)

556. At 162, 154 and 150 South Marquette sub-slab soil gas concentrations exceeded 60 ppbv in sampling conducted in 2011 and sub-slab depressurization systems were installed by Madison Kipp. (Dkt. 146 at 11-16)

557. All indoor air concentrations for PCE were below the Action Level of 6.2 ppbv. (Dkt. 146 at 11, Figure 2)

558. The WDNR Vapor Risk Screening Level for TCE is 3.8 ppbv using an attenuation factor of 0.1 to convert from indoor air Action Level of 0.38 ppbv. (Dkt. 146 at 12)

559. TCE was not detected in sub-slab soil gas above the Vapor Risk Screening Level from any homes sampled. (Dkt. 146 at 12)

560. TCE was also not detected above the Action Level 0.38 ppbv in any indoor air sample. (Dkt. 146 at 12)

561. PCE and TCE are not present in sub-slab soil gas at levels that could be of concern for vapor intrusion. (Dkt. 146 at 12)

562. In total, 27 homes were sampled in the Class Area and most homes were sampled two or more times, yielding over 100 data points by which vapor intrusion may be valued. (Dkt. 146 at 12)

563. Not only is the vapor intrusion pathway incomplete but the extent of PCE in soil gas has been defined. (Dkt. 146 at 12)

564. Not only are the data below Vapor Risk Screening Levels, but sufficient data points are available both temporally and spatially to allow for a full assessment. (Dkt. 146 at 13)

565. Often far less data than that collected on and off-site at Madison-Kipp are collected at sites to evaluate the vapor intrusion risk potential. (Dkt. 146 at 13)

566. The extensive data collection from Madison-Kipp's site clearly demonstrate that the PCE is not currently migrating off of the Madison-Kipp property and under residential homes at unacceptable levels. (Dkt. 146 at 13
)

567. Sufficient data have been collected over time and at all homes to allow for a complete determination of the vapor intrusion pathway. (Dkt. 146 at 13)

568. There were no detections in the Class Members homes above the 6.2 ppbv Action Levels for indoor air. (Dkt. 146 at 14)

569. At 249 Waubesa, PCE was detected in indoor air in one out of four samples, with the one detection being less than the Action Level, but greater than 0.6 ppbv. (Dkt. 146 at 14)

570. The single detection of PCE in the indoor air at 249 Waubesa is not representative of indoor air concentrations at 249 Waubesa given other data results including recent sampling conducted on January 11, 2013. (Dkt. 146 at 14)

571. The concentrations detected in all but one of the Class Members' homes were less than the average concentration detected in the homes included in the many studies evaluated as part of the USEPA's indoor background study. (Dkt. 146 at 14)

572. Indoor air data collected from all homes within the Class Area are consistent with typical background levels for PCE. ("Dkt. 146 at 15; Bianchi Dec. ¶ 68, Ex. 66)

573. In a 2011 USEPA evaluation of 13 studies with background data on PCE, PCE is identified in this study as having common indoor and ambient sources. (Dkt. 146 at 15)

574. Under the Frequently Asked Questions for USEPA 2012a, a sub-slab to indoor air attenuation factor of 0.1 as a conservative screen for vapor intrusion. ("Dkt. 146 at 16; Bianchi Dec. ¶ 68, Ex. 66)

575. The data indicate that sub-slab concentrations should be 10 times to 33 times greater than indoor air for sub-slab vapors to be the likely source for the indoor air detections. (Dkt. 146 at 16)

576. Concentrations of VOCs in sub-slab soil gas and indoor air do not present or threaten an imminent or substantial endangerment to health or the environment. (Dkt. 146 at 17)

577. Existing mitigation systems, although unnecessary, ensure that VOCs cannot migrate. (Dkt. 146 at 17-19)

578. If installed properly, a sub-slab depressurization system or radon system (mitigation system) will be effective in preventing VOCs in sub-slab soil gas from entering residential home. (Dkt. 146 at 17)

579. Within the Class Area mitigation systems were installed by WDNR in residential homes if sub-slab PCE concentrations were 10 times below the sub-slab Vapor Risk Screening Level. (Dkt. 146 at 18)

580. The WDNR's overly conservative approach to providing mitigation systems is not only technically unjustified but is unprecedented in my experience. (Dkt. 146 at 18)

581. These mitigation systems will prevent the movement of PCE in sub-slab soil gas. (Dkt. 146 at 18)

582. As installed and operating, the soil vapor extraction system prevents VOCs from migrating off the site into residential yards. (Dkt. 146 at 19)

583. The regulatory community was not rapidly moving towards a realization of vapor intrusion in the 1990s. (Dkt. 146 at 19)

584. In the 2003 Folkes and Arell paper Dr. Everett cited, the writers noted that the science of vapor intrusion was still in its infancy ("Dkt. 146 at 19; Bianchi Dec. ¶ 59, Ex. 57)

585. Dr. Everett's own paper appears to support the finding that investigation of the vapor intrusion pathway is a relatively new phenomenon. (Dkt. 146 at 19-20; Bianchi Dec. ¶ 67, Ex. 65 at 60)

586. Dr. Everett's recent paper "Dynamic Subsurface Explosive Vapor Concentrations: Observations and Implications" focused on soil gas data, which is known to have greater variability than sub-slab data) and not sub-slab soil gas data. (Dkt. 146 at 20)

587. Intensive continuous monitoring is highly unlikely to identify different conditions than those that have already been thoroughly demonstrated on and off-site at Madison-Kipp. (Dkt. 146 at 20)

588. Variability in soil gas does not provide similar predications for variability in sub-slab soil gas data. (Dkt. 146 at 21)

589. The data covering the on-site and off-site soil gas concentrations shows a significant decreasing trend moving from on-site to off-site. (Dkt. 146 at 21)

590. The data confirm that PCE has not migrated beyond the Class Area. (Dkt. 146 at 22)

591. Exposure to PCE, TCE, PAHs and PCBs in soil via incidental ingestion at the plaintiff properties does not present an imminent and substantial endangerment to health or the environment. (Dkt. 144 at 3)

592. Exposure to PAHs and PCBs in soil via dermal contact at the plaintiff properties does not present an imminent and substantial endangerment to health or the environment. (Dkt. 144 at 3)

593. Exposure to PCE, TCE and VC via inhalation of indoor air at the plaintiff properties does not present an imminent and substantial endangerment to health or the environment. (Dkt. 144 at 3)

594. Health-based regulatory criteria and guidelines may provide useful context for evaluating the potential toxicological significance of such an exposure, that is, exposures below appropriate health-based criteria can be considered to not present a toxicological concern. However, exceedance of such criteria is not evidence of adverse health effects. (Dkt. 144 at 3)

595. Screening levels are conservative by design for several reasons, e.g., screening levels are based on toxicity criteria that are well below health effect levels and exposure factors that tend to represent high-end exposure, like exposure for 23 hours/ day for 30 years. (Dkt. 144 at 3-4)

596. In here assessment of the risks posed Class Members by an alleged contamination. Dr. Barbara Beck performed a quantitative risk assessment for an adult and a child resident at each plaintiff property to evaluate exposures to PCE, TCE and VC in indoor air via inhalation and exposes to PCE, TCE, VC, PAHs, and PCBs in soil via incidental ingestion and dermal contact. (Dkt. 144 at 4)

597. The site-specific risk assessment, conducted using USEPA methodology and site-specific data, shows that the total hypothetical cancer risks are within the acceptable limits from US EPA. (Dkt. 144 at 4)

598. Dr. Ozonoff's conclusion that an increased and unacceptable risk of cancer exists to Class Area residents is scientifically invalid absent any risk evaluation. (Dkt. 144 at 5)

599. The aim of the USEPA and other public health agencies is not to precisely define which effects are expected to occur, but to defined the level at which health effects are unlikely to occur (i.e., effects may in fact occur only at a much higher concentration, but it is uncertain how to describe where the "safe" level begins). Thus, regulatory criteria are designed to 'protect the health of everyone in general and no one in particular.' Screening levels are conservative by design for several reasons. For example, screening levels are based on toxicity criteria that are well below health effect levels and exposure factors that tend to represent high-end exposures (e.g., exposure for 24 hours/day for 30 years). Thus, exceedance of a screening level is not an indication that an adverse health effect will occur. (Dkt. 144 at 11-12)

600. All PCE and TCE concentrations were below their respective US EPA RSLs. VC was not detected in the soil sample. (Dkt. 144 at 33)

601. Carcinogenic risk represents the incremental hypothetical probability that an individual will develop cancer during his or her lifetime. (Dkt. 144 at 37)

602. The hypothetical total cancer risk for all the properties were within US EPA's acceptable equity. (Dkt. 144 at 39)

603. With the exception of 249 Waubesa, the total hazard index for a child was less than 1 and the index ranged from 0.0001 – 0.6, and thus, residents at these properties do not have an unacceptable non-cancer risk. (Dkt. 144 at 40)

604. The data collected by the WDNR on June 7, 2012 for property at 249 Waubesa showed concentrations of PCE and TCE, but the finding was anomalous as no PCE or TCE was

found in a split sample collected by ARCADIS on the same day nor by WDNR in a basement indoor air sample collected on April 25, 2012. (Dkt. 144 at 40)

605. The indoor air at 249 Waubesa was resampled on January 11, 2013, and PCE and TCE were not detected in the indoor air. (Dkt. 144 at 41)

606. Residents' hypothetical exposures to PCE via incidental ingestion of soil are well below the level that US EPA has associated with an increased risk of liver cancer in laboratory animals. (Dkt. 144 at 42)

607. Residents' hypothetical exposures to TCE via incidental ingestion of soil are well below the level of US EPA has associated with an increased cancer risk in humans. (Dkt. 144 at 42)

608. Plaintiffs' hypothetical exposures to Aroclor 1248 via incidental ingestion or dermal contact with soil are well below the level that US EPA has associated with an increased risk of liver tumors in laboratory animals. (Dkt. 144 at 43)

609. Residents exposed to BaP in soil via incidental ingestion and dermal contact, the highest estimated ADD is 4.9 x 10-6 mg/kg-day and such an exposure dose is more than 60,000 times lower than the dose (0.3mg/kg-day) associated with an increased risk of forestomach tumors in mice. (Dkt. 144 at 43)

610. Residents' hypothetical exposures to PCE vial inhalation of indoor air are well below the concentration associated with an increased risk of liver cancer in laboratory. (Dkt. 144 at 43)

611. Residents' hypothetical exposures to TCE via inhalation of indoor air are well below the concentration associated with an increased cancer risk in humans. (Dkt. 144 at 43-44)

612. Residents' exposures to PCE via ingestion of soil are well below the concentrations that USEPA has estimated as the HED for decreased thymus weights and cardiac malformations in laboratory animals, and below the concentration associated with developmental immunotoxicity laboratory animals. (Dkt. 144 at 44)

613. Residents' exposures to PCE via inhalation of indoor air are below the concentration that US EPA has associated with health effects in humans. (Dkt. 144 at 45)

614. Residents' exposure to TCE via inhalation of indoor air are below the concentrations that US EPA has estimated as the human equivalent concentrations for health effects in laboratory animals. (Dkt. 144 at 45)

615. With an excess cancer risk of 1 x 104 the risk of cancer increases from a background risk of about 0.4000 to a risk of 0.4001 as a result of the Site exposures. (Dkt. 144 at 45)

616. The PCE concentrations in all but one of the homes in the Class, using data from 2011 and 2012, were within or below the range of 95th percentile concentrations measured in various studies of residential indoor air in the US (4.1-9.5 µg/m3) as reported by US EPA. (Dkt. 144 at 45-46; Bianchi Dec. ¶ 65, Ex. 63)

617. Even if one accepts the premise that PCE is a human carcinogen, there still exists a level of exposure below which there would not be any appreciable human cancer concern because background levels of PCE are nearly ubiquitous in various media. (Dkt. 144 at 47)

618. It is scientifically invalid for Dr. Ozonoff to reach a conclusion that an increased and unacceptable risk of cancer exists to Class Area residents without performing any kind of site-specific risk evaluation. (Dkt. 144 at 47)

619. Based on the widespread belief that PCE had low toxicity under conditions of normal use as a liquid solvent PCE was widely used in medicine, industry, and consumer products. (Dkt. 144 at 53; Bianchi Dec. ¶ 74, Ex. 72; Bianchi Dec. ¶ 75, Ex. 73; Bianchi Dec. ¶ 82, Ex. 80)

620. PCE was first used in dry cleaning in the late 1930s and gradually replaced carbon tetrachloride and petroleum solvents due to its relative lack of flammability. (Dkt. 144 at 53; Bianchi Dec. ¶ 77, Ex. 75)

621. PCE's low flammability, and lower toxicity compared to chloroform, led to research on its potential use as an anesthetic. (Dkt. 144 at 53; Bianchi Dec. ¶ 78, Ex. 76; Bianchi Dec. ¶ 81, Ex. 79)

622. PCE was ultimately rejected for this use after investigators reported that it took too long to deepen narcosis and good surgical relaxation was not obtained. (Dkt. 144 at 53)

623. In these anesthetic trials in humans, however, no complications were reported and recovery was good. (Dkt. 144 at 53; Bianchi Dec. ¶ 76, Ex. 74)

624. Beginning in the early 1930s, hookworms and nematode infestations in humans were treated with PCE, but, after the late 1960s, PCE was replaced by other drugs. (Dkt. 144 at 53; Bianchi Dec. ¶ 81, Ex. 79)

625. Prior to the 1960s, PCE was the most effective available treatment for hookworm, and many investigators reported that no deaths or "untoward" symptoms arose from its use. (Dkt. 144 at 53; Bianchi Dec. ¶ 79, Ex. 77)

626. While it is no longer used in medicine, PCE is still used in a number of consumer products. PCE has been used in paint removers, printing inks, aerosol automotive cleaners, solvent soaps, water repellants, adhesives, paper coatings, leather treatments, and as a carrier solvent for silicones. (Dkt. 144 at 53; Bianchi Dec. ¶ 84, Ex. 82)

627. Rug and upholstery cleaners and stain, spot, and rust removers often contain PCE. ("Dkt. 144 at 53; Bianchi Dec. ¶ 83, Ex. 81)

628. The National Library of Medicine publishes a consumer database that currently lists 30 different products that contain PCE with concentrations in these products ranging from < 1 to over 90% and include automobile products, arts and crafts materials, and home maintenance products. (Dkt. 144 at 53)

629. PCE continues to be a common cleaning solvent in the dry cleaning industry. (Dkt. 144 at 53; Bianchi Dec. ¶ 80, Ex. 78)

630. Sub-slab depressurization systems have been installed in 17 of the Class Members' residences. (Dkt. 144 at Figure 2)

631. Polynuclear aromatic hydrocarbons (PAHs) found in the yards surrounding the Madison-Kipp facility are part of the normal background concentration of PAHs found in Madison, Wisconsin and other urban areas in the United States. (Dkt. 143 at vi-41)

632. The source of PAHs found in the yards surrounding Madison-Kipp's facility are not from Madison-Kipp. (Dkt. 143 at vi-41)

633. The known potential sources of PAHs that were historically used at Madison-Kipp's facility were petroleum-based products, and the only PAHs associated with such products were lower molecular weight PAHs. (Dkt. 143 at viii, 10-25)

634. While evidence of lower molecular weight PAHS was indicated in the on-site samples, there was no evidence of these compounds in the off-site samples. (Dkt. 143 at viii, 10-25)

635. Forensic analysis showed that the PAHs found off-site on the Class Members' properties were background PAHs. ("Dkt. 143 at 26-35, 41)

636. The last recorded purchase of hydraulic oils containing PCBs was in 1971. (Bianchi Dec. ¶ 146, Ex. 144)

637. PCE was used to clean metal parts in the manufacturing process and, on occasion, to clean grease from some of the die cast machines. (Dkt. 148 ¶ 5; Dkt. 149 ¶ 6)

638. PCE was used in vapor degreasing operations. (Dkt. 148 ¶ 6; Dkt. 149 ¶ 7)

639. The vapor degreaser included a cooling system that produced the vapor cloud that the degreaser used to clean the metal parts. (Dkt. 148 ¶ 7; Dkt. 149 ¶ 9)

640. Liquid PCE was recovered from the vapor degreaser and recycled for reuse through the use of a still. (Dkt. 148 ¶ 8)

641. The still was located in the oil shed. (Dkt. 148 ¶ 8)

642. The still was used to routinely recycle and recover PCE for reuse in the degreasers. (Dkt. 148 ¶ 8)

643. Neither Schluter nor Jellings saw PCE, solvent or any waste tossed or dumped outside of the facility. (Dkt. 148 ¶ 10; Dkt. 149 ¶ 20)

644. Neither Schluter nor Jellings ever threw or poured buckets of PCE, solvent or any waste onto the parking lot or driveway. (Dkt. 148 ¶ 9; Dkt. 149 ¶ 19)

645. Neither Schluter nor Jellings heard of anyone disposing of PCE, solvent or any waste by having it tossed or dumped outside of the facility. (Dkt. 148 ¶ 10; Dkt. 149 ¶ 20)

646. Spilled liquids, including those containing PCE, were collected using either an industrial vacuum or swept up with "oil-dri" and transferred into a 500-gallon container or a dumpster for off-site disposal. (Dkt. 148 ¶ 11; Dkt. 149 ¶ 21)

647. Hydraulic oils used by Madison-Kipp were delivered by tanker truck and transferred into aboveground storage tanks located in the oil shed through a hose that connected to a coupling outside the shed. (Dkt. 148 ¶ 12; Dkt. 149 ¶ 23)

648. Spills that occurred on the Madison-Kipp plant floor were suctioned into an industrial vacuum (Seacor machine), transferred to a container, and removed off-site for disposal. (Dkt. 148 ¶ 13)

649. Spent hydraulic oils were recycled by using filters and a centrifuge, so that the oils could be reused many times over in the facility again. (Dkt. 148 ¶ 14; Dkt. 149 ¶ 24)

650. A vapor degreaser was located along the northern portion of the eastern wall of the Atwood building. This vapor degreaser had a vent that discharged to the outside along the northern portion of the eastern exterior wall of the Atwood building. (Dkt. 149 ¶ 8)

651. PCE was stored in an approximately 250-gallon aboveground storage tank located in the storage shed in the parking lot referred to as the oil shed. (Dkt. 149 ¶ 10)

652. To fill the vapor degreaser with PCE, the PCE was manually transferred from this aboveground storage tank utilizing pails that were wheeled on a metal cart from the oil shed into the Atwood building. PCE was then poured into the degreaser by the vapor degreaser operator. (Dkt. 149 ¶ 11)

653. The oil shed, which had a concrete floor, was located adjacent to the east side of the Atwood Building, to the north. (Dkt. 149 ¶ 12)

654. Employees transferred PCE from the aboveground storage tank in the oil shed by using approximately 5-gallon pails placed on a rolling cart. (Dkt. 149 ¶ 13)

655. PCE was delivered to Madison-Kipp by a tanker truck that would use a hose system to fill the aboveground storage tank. (Dkt. 149 ¶ 14)

656. When the vapor degreaser was in the Waubesa building, it would have vented to the outside, in an area adjacent to the parking lot. (Dkt. 149 ¶ 15)

657. I do not recall any floor drains in the vicinity of where the vapor degreaser was located in the Waubesa building. (Dkt. 149 ¶ 16)

658. The vapor degreaser would periodically have to be cleaned to remove accumulated degreasing sludge. The machine operators were in charge of cleaning the vapor degreaser. (Dkt. 149 ¶ 17)

659. Machine operators shoveled sludge material out of the vapor degreaser into shallow trays or a rolling dumpster for the sludge to be sent off-site for treatment or disposal. (Dkt. 149 ¶ 18)

660. There were no floor drains in the area of the die cast machines. (Dkt. 149 ¶ 22)

661. From at least 1971 until the parking lots were paved in 1976 or 1977, spent oils were applied to the parking areas for dust suppression using an industrial vacuum (Seacor machine). (Dkt. 149 ¶ 25)

662. The material used for dust suppression came from facility spills of hydraulic oils, PCE, water, or other liquids. (Dkt. 149 ¶ 25)

663. Use of spent oils for dust suppression was very common in the area in the 1960s and 1970s. In fact, Schluter applied spent oils to local roads for dust suppression when he worked for a gas station a few miles from Madison-Kipp in the City of Monona from about 1966 or 1967 to 1970. (Dkt. 149 ¶ 26)

Dated this 19th day of February, 2013.

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