258 F.Supp.2d 736
United States District Court,
W.D. Michigan,
Southern Division.

KALAMAZOO RIVER STUDY GROUP, Plaintiff,
v.
EATON CORPORATION, Defendant.

No. 1:95–CV–838.
|
Aug. 29, 2002.
|
As amended, June 9, 2003.

Synopsis
Association of companies that released polychlorinated biphenyls (PCBs) to environmentally contaminated site filed action against eight potentially responsible parties (PRPs), alleging that they contributed to PCB contamination, and seeking to recover response costs under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Michigan Natural Resources and Environmental Protection Act (NREPA), and common law theories. The District Court, 3 F.Supp.2d 799, granted summary judgment for one PRP, granted partial summary judgment for second PRP, and, following bench trial, ruled in favor of second PRP on remaining claim. Association appealed. The Court of Appeals, 228 F.3d 648, reversed and remanded. On remand, the District Court, 142 F.Supp.2d 831, made determination of liability. Following trial as to allocation, the District Court, Bell, Chief Judge, held that: (1) evidence was insufficient to single out PRP as significant source of specific PCB Aroclor 1254; (2) costs for cleanup of lake would be considered in making allocation; and (3) although PRP could not equitably be required to remediate site, PRP was required to pay 10% of investigation costs.

Ordered accordingly.

Attorneys and Law Firms

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OPINION

BELL, Chief Judge.

This is a contribution action brought by Plaintiff Kalamazoo River Study Group ("KRSG") under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA"), 42 U.S.C. § 9601, *et seq.* In a previous opinion this Court determined that Defendant Eaton Corporation ("Eaton") was liable for the release of some PCBs to the Kalamazoo River Superfund Site from both its Battle Creek and its Kalamazoo facilities. (May 9, 2001 Opinion at 28 and 53). This action is currently before the Court on the allocation phase of KRSG's contribution action against Eaton.[1]

I.

The trial on the issue of allocation was held before the Court on February 4–6, 2002. At trial the Court heard the testimony of Plaintiff's experts, Michael W. McLaughlin and Dr. Mark P. Brown, and the testimony of Defendant's experts, Dr. John P. Connolly, and Robert C. Barrick.[2] The parties also introduced into evidence numerous new exhibits and additional depositions.

This opinion contains the Court's findings of fact and conclusions of law, in accordance with Fed.R.Civ.P. 52(a). This Court has considered the testimony of the witnesses at this and the previous trials, the evidence introduced at this and the previous trials, the deposition testimony that the parties have stipulated may come into evidence, the parties' stipulations, and the parties' proposed findings of fact and conclusions of law.

With regard to the history of this National Priorities List Site ("NPL Site"), the nature of PCBs, and specific findings regarding the Eaton facilities, the KRSG

members' activities and the results of PCB testing, this Court incorporates by reference its previous opinions and the Sixth Circuit's opinions regarding this Site.[3] This Court will not revisit the factual findings made in its earlier opinions except to the extent they are affected by new evidence introduced at the Phase IV allocation trial.

***740** The Court recognizes that this case presents the not uncommon situation where companies have disposed of waste without knowing its contents. *See B.F. Goodrich v. Betkoski*, 99 F.3d 505, 526 (2d Cir.1996). This is true of the KRSG members as well as Defendant Eaton. Because there is a lack of direct evidence as to the nature or quantity of the hazardous wastes that were disposed of, the Court must rely on circumstantial evidence in order to accomplish the broad, remedial purpose of CERCLA. *Id.* Courts are not required to make meticulous findings as to the precise causative contribution each of the parties have made to a hazardous site, as in many cases such a finding would be literally impossible. *United States v. R.W. Meyer, Inc.*, 932 F.2d 568, 573–74 (6th Cir.1991). Similarly, the plaintiff in a contribution action may seek reimbursement even though it cannot make a meticulous factual showing as to the causal contribution of each defendant. *Id.* at 573–74. Nevertheless, although Plaintiff is not required to prove its case with direct evidence, mathematical precision, or scientific certainty, it still has the burden of proving its equitable right to contribution by a preponderance of the evidence. *Id.See also B.F. Goodrich,* 99 F.3d at 526.

II.

The NPL Site at issue in this case consists of a 35 mile stretch of the Kalamazoo River from the confluence of Portage Creek with the Kalamazoo River downstream to the Allegan City Dam west of the City of Kalamazoo, plus three miles of Portage Creek upstream of the confluence. (Revised Joint Final Pretrial Order of 2/1/02, Exh. D, Uncontroverted Facts ¶ 2; Exh. 8803; December 7, 1998 Order and Opinion at 3.)

Plaintiff's Allied, Fort James and Plainwell facilities were or are located within the NPL Site, while Plaintiff's Georgia–Pacific facility is located just upstream of the NPL Site. Plaintiff's responsibilities include work at four Operable Units ("OUs"), which are former landfills and lagoons where Plaintiff's members disposed of papermaking residuals. Plaintiff is not seeking contribution from Eaton for work at the OUs.

Morrow Lake is upstream of the NPL Site. Morrow Lake is approximately three miles long from its inlet to the dam. The Morrow Lake Dam is approximately 5 miles upstream of the start of the NPL site. (Exh. 2111–K; Brown, 2/5/02, at 337).

Eaton's Battle Creek facility, prior to its demolition in 1984, was located approximately 15 miles upstream of the Morrow Lake Dam, and approximately 20 miles upstream of the NPL Site. (Exh. 2111–K). Eaton's Kalamazoo facility was located approximately 3 miles downstream of the start of the NPL Site and was downstream of KRSG members Georgia–Pacific, Allied and James River, but upstream of KRSG member Simpson–Plainwell. (Exh. 2111–K).

Although the NPL Site investigation focuses on the current Kalamazoo River channel, there are three areas of now-exposed river sediments associated with the former Plainwell, Otsego and Trowbridge impoundments that are included in the NPL Site study area. These sediments became exposed when the Plainwell, Otsego and Trowbridge dams were removed in the early 1970s.

It has been previously established in this case that the PCBs found in the NPL Site consist primarily of Aroclors 1242, 1248, 1254, and 1260. Plaintiff does not deny that its members are responsible for the majority of Aroclor 1242 found at the NPL Site. (McLaughlin, 2/4/02, at 129). Plaintiff hired Blasland Bouck & Lee ("BBL") to perform the Remedial Investigation/Feasibility Study ("RI/FS") activities ***741** at the Site. (Exh. 8803). Plaintiff's sampling reflects that Aroclors 1254 and 1260 make up only 2 to3% of the PCBs in the KRSG members' operable units or landfills. (Exh. 2111–M). Aroclors 1254 and 1260 make up approximately 90% of the PCBs in Morrow Lake, and approximately 25% of the sediments in the Kalamazoo River between Morrow Lake and Allegan Dam and in the former impoundment areas. Plaintiff contends that because of the differential between the Aroclors 1254 and 1260 in the River and the Aroclors 1254 and 1260 in the OUs, its members cannot be responsible for the majority of the Aroclors 1254 and 1260 at the NPL Site. Plaintiff contends the evidence demonstrates that most of those PCBs more likely than not came from Eaton. Eaton, on the other hand, contends that the amounts of PCBs contributed by Eaton to the Kalamazoo River, if any, are of such a small quantity as to be negligible.

III.

This Court previously determined that the primary Aroclors found at Eaton's Battle Creek facility were Aroclors 1248 and 1254. This Court concluded that the PCB contamination at Eaton's Battle Creek facility was not attributable to the use of PCBs in Eaton's process oils. Rather, the PCBs at the plant were attributable to leaking transformers, capacitors and hydraulic systems, all of which are closed or nominally closed systems. (Opinion, 5/9/01, at 27). This Court concluded that even if the bulk of the spills of PCB-containing di-electric or hydraulic oils was absorbed by the floors or swept up and discarded, it was more likely than not that some of the PCBs from the Eaton Battle Creek facility would probably have mixed with the process oils and found their way into the effluent from the facility. Although organics in the slow-moving ditch would have acted as a magnet and a trap for PCBs, this Court determined that some, albeit a small quantity, of PCBs would have found their way to the River. (Opinion, 5/9/01, at 29).

This Court's determination of liability with regard to the Eaton Battle Creek facility was based, in part, upon what is now known to be erroneous testimony by Thomas Mattson, Public Works Director for the City of Springfield. Mr. Mattson testified at the Phase III liability trial that Clark Equipment Company ("Clark") did not discharge effluent to the Eaton/Clark ditch except from two non-manufacturing related buildings located on the east side of 24th Street. (Opinion, 5/9/01, at 12). The erroneous testimony, in part, led to the Court's conclusion that the PCBs detected in the Eaton/Clark ditch were more likely than not attributable to Eaton as opposed to any other source. (Opinion, 5/9/01, at 13). Based on uncontroverted documentary evidence and the admissions of Plaintiff's expert, Mr. McLaughlin, it is now known that Clark discharged effluent from its manufacturing facilities located west of 24th Street to the Eaton/Clark ditch from the beginning of its operations up until 1978. (Exh. 6490–6497; McLaughlin, 2/4/02 at 170). Clark was involved in the manufacture of industrial trucks, tractors, trailers and stackers, with plant processes including forging, machining, and hard chrome plating. (Exh. 6494). Based upon this new evidence, Mr. MacLaughlin conceded that the PCBs found in the Eaton/Clark ditch could have originated from Clark if Clark's effluent contained PCBs. (McLaughlin 2/4/02 at 177).

There is no direct evidence that Clark's effluent contained PCBs. However, it is undisputed that Clark's facility contained a number of PCB-containing transformers and capacitors. (Exh. 6487–6488). In 1985 Clark was using approximately 30 hydraulic systems, primarily on machining ***742** equipment. (Exh. 6487). Clark also manufactured forklifts, which could have used PCB-containing hydraulic fluids. (May 9, 2001, Opinion at 13).

At the Phase IV allocation trial the Court also received new evidence on PCB testing in the vicinity of the Eaton Battle Creek facility. Subsequent to the Phase III trial on liability, Mr. McLaughlin returned to the Eaton Battle Creek facility to take additional samples in the Eaton/Clark ditch between Sample B–3 and the intervening one-third mile to the Kalamazoo River (samples B–5 and B–6), in the River immediately adjacent to the outfall of the ditch to the current river channel, (samples B–7 and B–8), and in what was apparently the former river channel prior to the Army Corps of Engineers river-straightening project in 1957 (samples B–9, B–11, BOT1, B–4, BOT2, and B–10). (Exh. 2144–B; McLaughlin, 2/4/02 at 32–42).

Sample B–6 contained between 50,000 and 68,000 ppb (50–68 ppm) PCB Aroclor 1254 and 8,300 ppb (8.3 ppm) PCB Aroclor 1260. Sample B–5, which was closer to the Kalamazoo River, contained 16,000 ppb (16 ppm) PCB Aroclor 1254. (Exh. 2144–B.) Sample B–8, taken near the outfall of the ditch to the River, contained 6800 ppb Aroclor 1254. Sample B–7, slightly downstream, contained 6300 ppb Aroclor 1254. (Exh. 2144–B). Sample B–9 was taken from what Mr. McLaughlin then believed to be the old channel of the Eaton/Clark drainage ditch which led to the oxbows. Sample B–9 contained 22 ppb (.022 ppm) Aroclor 1254. Mr. McLaughlin testified that he is now unsure whether he found the correct location within the channel to the oxbow. (McLaughlin, 2/4/02 at 33, 42). Sample B–9 is also within the vicinity of the outfall from the middle Clark ditch which is located just west of the Eaton/Clark ditch. (McLaughlin 2/4/02 at 42). Sample B–11, the next sample in the oxbow downstream of the Eaton/Clark ditch, contained 5600 ppb (5.6 ppm) Aroclor 1254 and 1300 ppb (1.3 ppm) Aroclor 1260. (Exh. 2144–B; McLaughlin 2/4/02 at 42–43).

The four samples in BOT1 were taken in a transect across the width of the oxbow. These samples showed lower levels of total PCBs ranging from 79 ppb (.079 ppm) to 570 ppb (.57 ppm) of Aroclors 1254 and 1260. (McLaughlin, 2/4/02 at 44). The next downstream location, B–4, which was sampled twice, contained 1000 ppb (1 ppm) and 560 ppb (.56ppm) Aroclor 1254. (McLaughlin, 2/4/02 at 43). Further downstream at another transect across the oxbow, BOT2, all four samples were non-detect for PCBs. (*Id.* at 44–45). The final sample, B–10, was taken just downstream of where Clark's Helmer Road ditch outfall intersects the oxbow. (*Id.* at 174). B–10 contained 170 ppb (.17 ppm) Aroclor 1254 and 46 ppb (.046 ppm) Aroclor 1242. (*Id.* at 44).

Mr. McLaughlin testified that the most comparable PCB data with which to compare the Eaton Battle Creek ditch samples for relative significance are focused samples of suspected point sources in the NPL site that BBL collected at the request of the Michigan Department of Environmental Quality ("MDEQ"). Mr. McLaughlin considered this an appropriate comparison because his Eaton samples and the MDEQ's samples both had a similar purpose—they were biased samples focusing on suspected source areas. (McLaughlin, 2/4/02, at 96). According to Mr. McLaughlin, this particular comparison—looking at total PCB levels—provides the best "apples-to-apples" comparison of relative significance because the MDEQ chose those locations because it suspected they were likely to have higher concentrations of PCBs. (McLaughlin, 2/4/02, at 92–94, 111–14). On a total PCB basis, the average ***743** levels of PCBs in the Eaton–Battle Creek ditch were higher than in any of the suspected point source samples in the NPL Site. (Exh.2091–I). Mr. McLaughlin also compared the Eaton ditch samples to the focused point source samples on an Aroclor-specific basis. In that comparison, the average Aroclor 1254 levels in the ditch samples exceeded the average Aroclor 1254 PCB levels in all of the focused point source samples by a substantial margin. (Exh.2091–J; McLaughlin, 2/4/02, at 114–15). The same is true comparing the average Aroclor 1260 PCB detections between the Eaton Battle Creek ditch samples and the focused point source samples. (Exh.2091–K; McLaughlin, 2/4/02, at 115–16). Mr. McLaughlin ranked the samples he took from the vicinity of the Eaton Battle Creek and Kalamazoo Sites and against the point source and waste disposal sample locations selected by the MDEQ. (Exh.2091–F). Mr. McLaughlin testified that the Eaton results were "obviously significant" because they tended to bunch up near the top of the table. He noted that eight of the top ten entries are Eaton results. (McLaughlin, 2/4/02, at 96).

This Court does not agree with Plaintiff's assertion that the focused point source samples are the most appropriate samples to compare to the Eaton Battle Creek ditch and immediate outfall samples for significance. The MDEQ samples come from the Hawthorne Mill (FF–1, FF–2, FF–3), the James River outfall (FF–18, FF–19), the Kalamazoo Water Reclamation Plant (FF–20), the outfall of the Parchment Waste Water Treatment Plant (FF–24), and a sample from downstream of Parchment (FF–25). (McLaughlin, 2/4/02, at 93). A comparison between Mr. McLaughlin's samples from the vicinity of the two Eaton plants and selected samples from several potential point sources within the NPL Site identified by the MDEQ is not a comparison between Eaton and Plaintiff. None of the focused point sources are associated with any of the potentially responsible parties ("PRPs") identified by the MDEQ. There is no data shown on this exhibit regarding samples from Allied, Georgia–Pacific or Simpson. There is data from only one of Plaintiff's members on this exhibit, and that data is from James River, the one member that has not been identified as a PRP by the MDEQ. (Opinion, 5/9/01, at 3–4). Although Exhibit 2091–F reveals that the results from James River are near the top of the list, Exhibit 2091–F tells the Court nothing about the relative responsibility of Eaton vis-a-vis Plaintiff's members as a whole. Moreover, because the number of samples taken from the two Eaton plants far exceeds the number of samples taken from any one other location, the number of Eaton entries at the top of the list is of little significance. This exhibit, viewed in its best light, shows nothing more than that Eaton's Battle Creek facility, 15 miles upstream of the NPL Site, may have released more PCBs than some other non-PRPs who discharged directly to the River within the NPL Site. Although the focused point samples are significant comparisons for sources of PCBs, they tell nothing about quantity. For the same reasons the Court accords little significance to Plaintiff's Exhibits 2091–G–2091–K.

Mr. McLaughlin also compared the PCB levels in the Eaton Battle Creek ditch with the PCB levels in the OUs where Plaintiff's members disposed of papermaking sludges and residuals. (McLaughlin, 2/4/02, at 48–50). The 50,000 ppb to 68,000 ppb Aroclor 1254 detection in sample B–6 in the Eaton Battle Creek ditch is higher than any Aroclor 1254 detection in all of Plaintiff's OUs. The other three ditch samples, B–1, B–3, and B–5 are higher than all Aroclor 1254 detections in the OUs except the 19,000 ppb sample from Willow Boulevard ***744** /A–Site. (McLaughlin, 2/4/02, at 48–50, Exh. 2144–B).

Mr. McLaughlin testified that the total PCB level in Eaton Battle Creek ditch Sample B–6—50,000 ppb to 76,000 ppb—ranks between the 13th and 26th highest total PCB level compared to all of BBL's sediment samples throughout the NPL Site. (McLaughlin, 2/4/02, at 60). Mr. Mc Laughlin also testified that when the 24 PCB detections he found that he relates to Eaton's Battle Creek and Kalamazoo facilities are combined, more than one-third of all of those PCB detections fall into the upper 2% of all of BBL's samples taken throughout the River and the OUs. (McLaughlin, 2/4/02 at 59). Almost all of his samples would fall in the top 10% of all of BBL's samples taken throughout the River and the OUs. (McLaughlin, 2/4/02 at 59).

Mr. McLaughlin opined that on a comparative basis, the PCB data relating to the Eaton Battle Creeki ditch coupled with the PCB data in the River at and downstream of Eaton's outfall, demonstrate that Eaton's

Battle Creek facility is among the most contaminated throughout the Kalamazoo River system, and caused significant PCB contamination to the River, including downstream to Morrow Lake and through the NPL Site. Based upon Mr. McLaughlin's sediment samples Plaintiff contends the Court should review the findings it made at the liability phase and conclude that PCB-containing oils were used in large quantities in the process oils at Eaton's Battle Creek facility. Plaintiff contends that because its PCB releases caused PCB contamination predominantly at the zero to 1000 ppb level in areas reaching more than 50 miles downstream of its facilities, then, given the significant contamination seen in Eaton Battle Creek's ditch and in the adjacent River, it is reasonable to conclude that Eaton caused PCB contamination of a similar magnitude over a similar distance.

This Court does not find Mr. McLaughlin's conclusions to be well supported. First, because both Eaton and Clark discharged industrial effluents to the Eaton/Clark ditch, it is impossible to know if the PCBs in the ditch originated from Eaton or from Clark. (Connolly, 2/5/02 at 442; McLaughlin, 2/4/02, at 177).

Second, the PCBs in the ditch and the River do not match the PCBs found at the Eaton Battle Creek facility. After the Phase III liability trial this Court found that the PCBs in the Eaton Battle Creek plant were primarily Aroclor 1248 with significant amounts of 1254. (5/9/01 Opinion at 14). Mr. McLaughlin detected no Aroclor 1248 in any of the samples in the ditch, the river, or the oxbow. Mr. McLaughlin admitted that the Aroclors found (primarily Aroclor 1254 with some 1260) do not match the pattern or combination of Aroclors found in the Eaton Battle Creek plant floor blocks. (McLaughlin, 2/4/02, at 161–64). Because all Aroclors have the same tendency to sorb or stick to particles, whatever PCBs were released to the ditch would have left their signature in the sediments of that ditch. (Connolly, 2/5/02, at 444).

Third, there is no evidence that PCBs from Eaton's Pydraul A–200 hydraulic oil was discharged to the ditch or the River. Pydraul A–200 is the only PCB-containing hydraulic oil known to have been purchased by Eaton. (McLaughlin, 2/4/02, at 163). Pydraul A–200 consists of 1/3 Aroclor 1242 and 2/3 Aroclor 1248. (Exh. 6472; Exh. 6473; McLaughlin, 2/4/02, at 157). Neither of these Aroclors have been found in the Eaton/Clark ditch. (McLaughlin, 2/4/02, at 163).

Fourth, Plaintiff's claim regarding the Eaton Battle Creek facility ignores other potential sources of PCBs located upstream ***745** of Eaton's Battle Creek facility that could have contributed to the PCBs found in the former channel and current channel of the Kalamazoo River near the Eaton/Clark ditch. Twenty five percent of the Kalamazoo River watershed is upstream of Eaton's Battle Creek facility. (Brown, 8/10/98, at 80–81; Opinion 5/9/01, at 19). The only Aroclors Mr. McLaughlin found in the vicinity of the Eaton Battle Creek facility are Aroclor 1254 and 1260, which are consistent with the primary types of Aroclors found in di-electric fluids. (McLaughlin, 2/4/02, at 164). PCB-containing transformers and capacitors were widely used in a variety of industries. There is evidence of record that in 1972 Aroclor 1254 was found in the effluent of two Battle Creek companies, the Michigan Carton Company at a level of 160 ppb, and in the effluent of the Grand Trunk Railroad facility at a level of 320 ppb. (Exh. 6534).

The 1971 Hesse study of the Kalamazoo River, undertaken by John Hesse for the MDNR, found that, based upon levels of PCBs in settleable solids, the most significant source of PCBs to the Kalamazoo River upstream of Battle Creek was from the Battle Creek River which enters the Kalamazoo River upstream of the Eaton facility. (von Gunten dep. at 199–201; Exh. 2111K). "The sample from the Battle Creek River had the highest concentration [of PCBs] (0.422 mg/kg) [422 ppb] detected in the watershed. This concentration indicates that a source or sources of PCB contamination exists upstream from the sampling site which would be contributing to the total problem in the mainstream." (Exh.2096 & 6411 at 77). Despite the historical data that tends to show upstream sources of PCBs, Mr. McLaughlin did no testing upstream of Eaton.

Finally, the Court ascribes little significance to Mr. McLaughlin's comparisons of the ditch samples to the BBL sediment samples from the River. The ditch samples are naturally more concentrated than the River sediments because they are taken from discharge routes and have not yet been subject to dilution caused by the effect of higher flows in the River and additional clean sediment.

This Court found the testimony of Dr. Connolly to be more persuasive than the testimony of Mr. McLaughlin. Dr. Connolly has the most expertise of any of the witnesses in the area of hydrogeology and the transport of PCBs in the river environment. In addition to the training and background to which he testified in past trials, Dr. Connolly has recently been called to testify before and advise a Congressional subcommittee investigating contaminated sediment issues and providing oversight to the U.S. EPA. (Connolly, 2/5/02 at 389).

Dr. Connolly testified that although it appears that relatively low amounts of Aroclors 1254 and 1260 were transported to the former river channel oxbows through the Eaton/Clark ditch, after exiting the oxbow and

entering the main former river channel the PCBs would have quickly attached themselves to organic matter in the former channel and settled out of the water column. (Connolly, 2/5/02 at 452–53, 470, 472). This phenomenon is evidenced by the rapid drop off of PCB concentrations between sample location B–11 (6.9 ppm total PCBs found in the natural oxbow close to the ditch discharge) and sample location BOT1 (up to .570 ppm), B–4 (up to 1 ppm) and BOT2 (non-detect), all in the main former river channel. (Connolly, 2/5/02 at 452–53, 470, 472).

The PCBs found at Sample locations B–7 and B–8 are located directly adjacent to the outfall of the Eaton/Clark ditch to the current river channel. According to Dr. Connolly, they are not characteristic of what is found in the intervening 13 miles ***746** from Eaton down to Morrow Lake. Dr. Connolly testified that because these samples were taken just outside the outfall, the samples were taken within the influence of the outfall plume prior to mixing with the rest of the river flow, and are more characteristic of what is in the ditch than what would be found in the River just downstream of the outfall plume of the ditch. (Connolly, 2/5/02 at 453–54).

Dr. Connolly testified persuasively on one of the fundamental principles of PCB transport and fate—i.e., that PCBs will normally be deposited in highest concentration near the source, with a gradient going down in concentration downstream from the source. Using examples from the Grasse River in New York State (Exh. 6569), the Hudson River in New York State (Exh. 6570), and the Housatonic River in Massachusetts, (Exh. 6571), Dr. Connolly demonstrated that the typical pattern of contamination downstream from a single-source PCB site is that of a PCB gradient. PCB concentrations tend to be highest closest to the source of the PCBs. A gradient occurs when the PCB concentrations increasingly diminish as one moves away from that source. (Connolly, 2/5/02, at 392–94). PCB concentrations in the water column and in the sediments decrease as one moves away from a source because PCBs will preferentially attach to sediments close to the source, especially organic-rich sediments, and fall to the bottom of the river, and because those sediments with attached PCBs that do move downstream become diluted due to the addition of water from tributaries and runoff and the influx of clean sediments. (Connolly, 2/5/02, at 394–95; Exh. 6562).

Plaintiff contends that Dr. Connolly's testimony regarding other PCB sites—the Hudson, Housatonic and Grasse Rivers—actually supports the downstream migration of PCBs. As Dr. Connolly testified, PCBs in the Hudson River traveled more than 80 miles from the source. (Connolly 2/6/02, at 511). His data on the other sites also demonstrate the tremendous variability in PCB concentrations one sees in river systems, whether on a raw PCB data basis or a "carbon-normalized" PCB basis. (Exh. Nos. 6569–6574; 2148; Connolly, 2/6/02, at 496–98). According to Plaintiff, Dr. Connolly's comparison to those other sites does not support a conclusion that significant amounts of PCBs discharged from Eaton's ditch did not migrate far from the source.

Neither Dr. Connolly nor this Court would disagree with Plaintiff's assertion that PCBs migrate a great distance in rivers or that one can expect to see a great variability in PCB concentrations throughout a river environment. (Connolly, 2/6/02, at 511; Connolly, 2/5/02, at 397). Plaintiff's contentions do not, however, address the central point of Dr. Connolly's testimony, that as PCBs migrate in a river environment they tend to leave a trace, in a rough gradient, particularly in areas with a high organic content. (Connolly, 2/5/02, at 394–95).

If there are multiple sources of PCBs to a river, the concentrations of PCBs will "spike up" as new sources enter the river, and concentrations will drop down or diminish with distance downstream. (Connolly, 2/5/02 at 395–96). This up and down PCB concentration pattern typical of multiple PCB sources is exemplified by the NPL Site portion of the Kalamazoo River, downstream of the KRSG members. (Connolly 2/5/02 at 434–36).

Dr. Connolly's theory that concentrations of PCBs will "spike up" as new sources enter the river is not contested. Mr. McLaughlin made the same point using Exhibit 2111–N which purports to show increases in PCBs downstream from known PCB sources. (McLaughlin 2/4/02 at 85–92).

***747** Dr. Connolly testified that the highest levels of organic material in the River are present in the stretch of River from Battle Creek to Morrow Lake Dam. The organic-carbon levels in the sediments upstream of Morrow Lake range from 9 to 20%, which are "extremely high levels." (Exh. 6566; Connolly, 2/5/02 at 412). Dr. Connolly testified that there are two reasons why the organic-carbon levels are so high in this area. First, this section of the River received fairly high organic loading from such sources as the Battle Creek Waste Water Treatment Plant. Second, the high number of meanders indicates an increased number of depositional environments and isolated quiescent areas where fine organic particles may settle out. (Connolly, 2/5/02 at 411–12). Dr. Brown agrees that as a general rule, meanders will pick up and trap more PCBs than straight stretches of a river. (Brown, 2/5/02, at 345). Given its high organic content, this segment of the River from Battle Creek to Morrow Lake Dam would be relatively efficient in capturing PCBs. (Connolly, 2/5/02 at 416).

Downstream of Morrow Lake, within the NPL Site, organic-carbon levels are generally lower due to sandier sediments in the channels and a faster flow. The Kalamazoo River drops at a rate of two feet per mile in the section from Battle Creek to Morrow Lake, while the stretch within the NPL Site drops at a rate of nine feet per mile. (Brown, 2/5/02, at 290). There are, however, relatively higher organic carbon levels within the NPL Site in the impoundment areas at Plainwell, Otsego, and Trowbridge. (Connolly, 2/5/02 at 408–09; Exh. 6566).

Through this litigation this Court has become very familiar with the tendency of PCBs to accumulate in higher concentration in areas where there is a high organic carbon content. Because of this tendency, dry weight PCB levels tend to be higher in areas of high organic carbon content. In the Phase IV trial Dr. Connolly introduced the Court to the concept of carbon normalization, a method used to take out the total organic carbon variable.

Dr. Connolly testified that due to the high organic content and the slower flow of the River between Battle Creek and Morrow Lake, if the Eaton Battle Creek facility were a source of PCBs to the River in the 1950s, 1960s and 1970s, he would expect to see detectible PCB concentrations in the 13–mile stretch of River between the Eaton Battle Creek facility and Morrow Lake. He also would expect to see a gradient with the highest concentrations of PCBs in the vicinity of Eaton and declining concentrations as one moved downstream throughout this 13–mile stretch of River. (Connolly, 2/5/02 at 417). However, this is not what the evidence shows.

The 1976 Wuycheck study found no Aroclor 1254 or any other Aroclor in sediment between the Eaton Battle Creek facility and the next 13–mile stretch of the River extending to Morrow Lake. (Connolly, 2/5/02 at 414–16; 5/9/01 Opinion at 20). The 1976 Wuycheck suspended solids data similarly reveals no measurable or otherwise significant source of Aroclor 1254 upstream of Morrow Lake. (Connolly, 2/5/02 at 414–16). Dr. Connolly has charted the Aroclor 1254 concentrations on a dry weight basis from the sediment samples and settleable solids collected by the MDNR in the 1976 Wuycheck study. (Connolly, 2/5/02 at 416; Exh. 6567; Exh. 6572).

Dr. Connolly also charted the Aroclor 1254 data from sediment cores taken by BBL from 1993 through 2000 on an organic-carbon normalized basis from Battle Creek through the NPL Site to Lake Allegan. (Connolly, 2/5/02, at 418; Exh. 6565). This exhibit also shows no gradient of PCB concentrations originating from the Eaton ***748** Battle Creek facility downstream. (Connolly, 2/5/02 at 420).

Based upon the detections and concentrations of Aroclor 1254 in the River, Dr. Connolly testified that the data appeared to indicate a multiple source pattern for 1254. (Connolly, 2/5/02 at 421). The data was not consistent with a single or primary source originating from Eaton Battle Creek.

Plaintiff has argued that in a portion of the River known to contain PCBs in sediment, the fact that some samples are non-detect for PCBs is not significant. In support of this statement Plaintiff notes that testing downstream of KRSG member paper mills has also yielded many non-detects. Thus, according to Plaintiff, the non-detects in the 1988 MDNR sampling downstream of Eaton and upstream of Morrow Lake are meaningless.

The Court agrees that a single non-detect is not significant in and of itself. The difference is that the non-detects downstream of the KRSG members are peppered among numerous and consistently high detections of PCBs. The samples taken downstream of the Eaton facility, on the other hand, are predominantly non-detects, and the few PCB detections are relatively low in concentration. Accordingly, the non-detects in the stretch of river between Eaton and Morrow Lake are not insignificant.

Plaintiff places great significance on the presence of Aroclor 1254 in Morrow Lake. To the extent Morrow Lake may be a source of Aroclor 1254 to the NPL Site, Dr. Connolly testified that the evidence strongly supports the conclusion that the PCBs found in Morrow Lake originated from a source close to Morrow Lake as opposed to a source 15 miles upstream of Morrow Lake. (Connolly, 2/5/02 at 438). This conclusion is supported by the findings in the River upstream from Morrow Lake as well as samples taken within Morrow Lake. Samples from the most upstream portion of Morrow Lake had low PCB levels. Three of the four stations along the most upstream transect had PCB levels low enough to be ascribable to background. (Connolly, 2/5/02, at 438). The entrance of Morrow Lake is a sediment depositional area. Accordingly, if the PCBs in Morrow Lake originated from an upstream source, one would expect to see elevated PCB levels in these first transect samples. As one proceeds downstream into the lake, the PCB levels increase and begin to spread out as indicated by the detection of PCBs at multiples stations across the lake transects. The highest levels are found at the most downstream end of the lake. According to Dr. Connolly this pattern within Morrow Lake suggests that the principal source of the PCBs to Morrow Lake had to be in the vicinity of Morrow Lake and not upstream. (Connolly,

2/5/02 at 438).

Results from a 1971 fish study conducted by John Hesse for the Michigan Water Resources Commission also tend to support Dr. Connolly's conclusion that there is a PCB source close to Morrow Lake. (Exh.2096 & 6411). In the 1971 sampling program fish were taken from a reach extending from just above the Battle Creek Waste Water Treatment Plant downstream to Augusta, and from a reach extending from Augusta downstream to Morrow Lake Dam. The average PCB concentrations in the fish collected in the region between Augusta and Morrow Lake Dam had an average PCB concentration more than five times higher than the fish collected in the upstream region between the Battle Creek Waste Water Treatment Plant and Augusta. (Connolly, 2/5/02, at 439). According to Dr. Connolly, this study shows that while there may have been some PCBs in the region upstream of Augusta, there were certainly higher PCB levels in the region downstream of ***749** Augusta. (Connolly, 2/5/02, at 440). Dr. Connolly testified that it was possible, but highly unlikely, that fish that had been contaminated from an upstream high PCB source would have been found in a downstream region. He has never seen a case where the gradient in the fish is opposite to the gradient in the sediment. (Connolly, 2/5/02, at 440–41).

Dr. Connolly identified two industries that he could not rule out as potential sources of PCBs to Morrow Lake: Benteler Industries, Inc. and Consumers Power B.E. Morrow Power Plant. (Connolly 2/5/02 at 439).

There is a ditch leading from Benteler Industries to a point one-half mile west of the upstream end of Morrow Lake. Following Benteler's release from this litigation in 1997, BBL took additional sediment samples in the ditch leading from Benteler to the upstream end of Morrow Lake. BBL found PCBs (primarily 1254 with some Aroclor 1260) in every sample taken in the ditch to within 50 feet of the entrance to Morrow Lake. (Exh. 6515; Brown, 2/5/02 at 337). Dr. Brown submitted these test results to the MDEQ because he believed that the test results were significant enough to warrant the MDEQ's further investigation of Benteler as an additional PRP at the Site. (Exh. 6515; Brown, 2/5/02 at 338–39). At trial Dr. Brown testified that Mr. McLaughlin's data had caused him to rethink his position with respect to Benteler and its role in the contamination of Morrow Lake. (Brown, 2/5/02, at 372). Dr. Brown has not, however, written to the EPA or to the MDEQ to withdraw his earlier letter which implied that Benteler was a significant source of PCBs. (Brown, 2/5/02, at 372). His testimony that he no longer considers Benteler a significant source is not credible.

Consumers Power Company historically discharged its effluent through an outfall at the downstream end of Morrow Lake near Morrow Lake Dam. (Connolly, 2/5/02 at 436–37). Although the effluent was never tested for PCBs, an oil skimmer had been installed to treat oily wastewater coming from various "metal cleaning operations" within the power plant. (Exh. 6500–6514) Consumers Power had PCB containing transformers and capacitors. Although Dr. Connolly was aware of no known leaks from those transformers and capacitors or any actual measurements of PCB discharges from either of these facilities to Morrow Lake, Dr. Connolly would not rule out Consumers Power or Benteler as a potential source of PCBs to Morrow Lake. (Connolly, 2/5/02, at 436, 513–14).

Mr. von Gunten, the current MDEQ project manager of the NPL Site, has identified air deposition as another potential source of PCBs in Morrow Lake. (von Gunten dep. at 138). Heavier Aroclors move by wind more selectively than other Aroclors. (von Gunten dep. at 194). The prevailing winds around the area move from west to east, which is upstream. (von Gunten dep. at 195–96). Thus, he suggested that Plaintiff's members' landfills themselves may be potential sources of windborne PCBs to Morrow Lake. (von Gunten dep. at 215).

Dr. Brown has admitted that there are industries on the River and in the watershed upstream of Battle Creek that he expects would have used capacitor and transformers with PCB Aroclors 1254 and 1260, and he expects that some of them would have leaked PCBs to the Kalamazoo River. (Brown, 2/5/02, at 334–35). The water treatment plants along the River would also have discharged PCBs to the River, at one time or another. (Brown, 2/5/02, at 335). Dr. Brown also agrees that atmospheric pollution, PCBs borne in the atmosphere, would to some extent reside in Morrow Lake. (Brown, 2/5/02, at 340).

***750** Plaintiff disagrees with Dr. Connolly's theory regarding a local source of PCBs to Morrow Lake. Plaintiff contends the theory cuts against the Court's finding regarding the significant transport of PCBs in the Kalamazoo River system. Plaintiff also notes that the first transect in Morrow Lake shows PCB detections up to 3,200 ppb, a significant amount anywhere at the Site, including within the NPL Site. (Exh. 2111–A). Plaintiff has presented evidence that there are a number of transects in the NPL Site where low detections are side by side with higher detections. Even further downstream in Morrow Lake, low PCB levels are found next to higher levels. (Exh. 2111–A). Plaintiff contends that this phenomenon is simply representative of the natural scatter that has occurred at this Site. (Exh. 2111–BB; Brown, 2/5/02, at 305). Thus, according to Plaintiff, contrary to

Dr. Connolly's theory, the PCB detections in Morrow Lake are consistent with a contribution from upstream sources, and specifically a PCB contribution from Eaton's Battle Creek facility.

This Court would not feel confident about making any findings regarding PCB sources based on the evidence from Morrow Lake alone. However, given the lack of evidence of a PCB gradient in the River upstream of Morrow Lake in sediments or in fish, the Court is convinced that there must be some other local sources of PCBs that would account for the significant PCBs in Morrow Lake. The Court finds no basis for finding a significant PCB contribution to Morrow Lake from Eaton's Battle Creek facility.

Dr. Connolly admitted that some amount of PCBs from Eaton may have entered the Eaton/Clark ditch, may have traveled to Morrow Lake, and then may have traveled over the Morrow Lake Dam to the NPL Site. However, he opined that Eaton's Battle Creek facility did not release any measurable quantities of PCBs to Morrow Lake or the NPL Site. (Connolly, 2/5/02 at 391, 455).

In an attempt to quantify the highest release that one could argue may have occurred from Eaton, Dr. Connolly performed a calculation using the results from the 1972 MWRC test showing .12 ppb and .24 ppb PCBs in the effluent that was discharged to the Clark/Eaton ditch. Assuming the PCBs came from Eaton as opposed to Clark, and using the higher .24 ppb value, and a flow of one million gallons per day, Dr. Connolly calculated a maximum discharge of approximately .7 pounds of PCBs discharged to the Kalamazoo River in one year, or a total of 20 pounds over a 30 year period. (Connolly, 2/5/02 at 445–59).

As this Court noted in its opinion in Phase II of this case, a single measurement of a discharge, taken at a single location and point in time, should not be the basis for extrapolation to a multi-year time period, at least not without sufficient corroborative evidence that the single point was representative. (6/3/00 Opinion at 19). Moreover, Plaintiff correctly notes that the 1972 test was not necessarily representative of Eaton's highest releases because it was done after Eaton reduced its oil discharges by nearly a ton of oil per day. (Exh.2018). The Court accordingly places little value on Dr. Connolly's quantification.

Rejection of Dr. Connolly's quantification, however, does not require this Court to reject his conclusion that the quantity of PCBs discharged by Eaton to the Site is of a de micromis nature. This conclusion is supported by this Court's previous finding that the only PCB containing oils used by Eaton were in closed or nominally closed systems, and the lack of a gradient in the River that would indicate a significant contribution of PCBs.

***751** Based on the comparative significance of the PCB data in the ditch and River at Eaton's Battle Creek facility, and consistent with the Court's finding that the PCBs throughout the Kalamazoo River system have migrated great distances, Plaintiff would like this Court to find that Eaton discharged significant amounts of PCBs to the River, and that Eaton's PCB discharges caused most of the PCB contamination in Morrow Lake as well as a significant portion of the PCB Aroclor 1254 and 1260 contamination downstream of Morrow Lake.

Plaintiff has provided no persuasive, credible, or reliable new evidence which would undermine this Court's previous determination that any releases of PCBs from Eaton's Battle Creek facility were minimal and in the form of di-electric and hydraulic fluids only. In fact, in light of the new evidence that Clark discharged industrial effluent to the Eaton/Clark ditch prior to 1978, the likelihood that the PCBs in the Eaton/Clark ditch are attributable to Eaton rather than to Clark is less now than it was at the conclusion of the liability portion of the trial.

Based upon all the evidence, and particularly the lack of evidence of a PCB source gradient upstream of Morrow Lake, the Court agrees with Dr. Connolly's opinion that there were other sources of PCBs to Morrow Lake. The Court also agrees with his opinion that Eaton discharged only a small volume of PCBs to the Eaton/Clark ditch, that due to the high organic content of the River, its slow speed and its meanderings, only a fraction of this volume would have reached Morrow Lake, and that only a fraction of that volume would have gone over the dam to the NPL Site. (Connolly, 2/5/02, at 455). The total amount of PCBs contributed by Eaton's Battle Creek facility to the NPL Site would not be measurable above normal background levels of PCBs.

The evidence from the River upstream of the NPL Site supports the conclusion that Eaton's Battle Creek facility was not a significant source of PCBs to the NPL Site.

IV.

At the conclusion of the Phase III liability trial, this Court found that Eaton was liable for the release of PCBs to the Kalamazoo River from its Kalamazoo facility. (5/9/01

Opinion at 53). This Court also found that it was unlikely that the PCBs found at Eaton's Kalamazoo facility were part of the open process systems. (5/9/01 Opinion at 45).

At the Phase IV allocation trial Plaintiff presented evidence of MDEQ sampling at the Eaton Kalamazoo facility in 2001. The MDEQ took a sample from a "product" dispenser that tested positive for the presence of PCBs at 3.2 ppb Aroclor 1248 and 2.1 ppb Aroclor 1260. (Exh.2097–A). Mr. McLaughlin testified that this data is significant because it shows the presence of PCBs in a process oil 30 years after PCBs were banned from use in such applications. (McLaughlin, 2/4/02, at 67).

Mr. Barrick testified that Mr. McLaughlin overstated the significance of the 2001 finding from the product dispenser. According to Mr. Barrick, the PCB concentration levels were so low as to not even be indicative of residual concentration. (Barrick, 2/6/02, at 549). He also testified that it cannot be inferred from this one trace level finding of PCBs that pure PCBs or even oils with high concentrations of PCBs were used in product dispensers. According to Mr. Barrick, this single detection supports the conclusion that the detection is related to isolated incidental contamination. (Barrick, 2/6/02 at 548–49).

At the Phase IV liability trial Plaintiff also presented, for the first time, evidence that in 1983 Environmental Data, Inc. tested ***752** five samples from five separate presser pits at the Eaton Kalamazoo facility for PCBs. One pit was non-detect. The four remaining pits had total PCB levels of 12,000 ppb, 57,000 ppb, 94,000 ppb and 880,000 ppb. (Exh. 2114). The Aroclors found included 1242, 1248, 1254, and 1260. Plaintiff contends this evidence confirms Eaton's use of PCB-containing process oils.

Contrary to Plaintiff's assertions, neither the evidence from the MDEQ nor the evidence from the presser pits requires this Court to conclude that PCBs were widely used in the Kalamazoo facility's process oils. The highest PCB level found by the MDEQ is not significantly higher than the levels found in the wood block flooring, which ranged from non-detect to 743 ppm. (5/9/01 Opinion at 39). Moreover, the new evidence does not address this Court's previous findings that the plant had no particular need for PCB-containing oils, that there was an absence of any evidence of PCBs in the chip storage area where process oils would have drained off the metal chips into the soils, and that there was an absence of PCBs in soil samples taken from the vicinity of the outdoor quench oil storage tanks. (5/9/01 Opinion at 43–44). Evidence of PCBs in the plant is not significant if those PCBs did not find their way to the River.

The focus of the Court's analysis must accordingly turn to the Zantman Drain and the River.

Mr. McLaughlin offered evidence of additional testing he conducted in August 2001 in the Zantman Drain between Eaton's Kalamazoo facility and the Kalamazoo River, as well as in the Kalamazoo River itself at the discharge point of the Drain. Drain samples from K–5A and K–5B were non-detect for PCBs. Drain sediment samples K–6 and K–8 were positive for Aroclor 1260 at 50 ppb and 320 ppb. Sample K–9, taken near the outfall of the Zantman Drain to the River, showed PCB Aroclors 1242, 1254 and 1260 at 140 ppb, 85 ppb and 120 ppb, respectively. (Exh. 2144–C; Exh.2091F; McLaughlin, 2/4/02, at 54). Sample K–7, which was taken fifty feet downstream from the Zantman Drain outfall showed PCB Aroclor 1254 at 42 ppb. (Exh. 2144–C; McLaughlin, 2/4/02, at 54, 56).

Mr. McLaughlin testified that the Aroclor 1260 detections of 120 ppb in sample K–9 is in the top 2% of all 1260 detections throughout the Site. (McLaughlin, 2/4/02, at 57). Mr. McLaughlin testified that because there is a jump in average total PCB concentrations between river transects 24 and 25, the Zantman Drain leading from the Eaton Kalamazoo facility must be a significant source of PCBs to the River. (McLaughlin, 2/4/02 at 85–92; Exh. 2111–N). According to Mr. McLaughlin, this data supports a significant PCB contribution from Eaton's Kalamazoo facility because this facility was the only known PCB contributor to the Zantman Drain. (McLaughlin, 2/4/02, at 92). Although there was some mention of other companies located in the general vicinity of the Eaton Kalamazoo facility, Mr. Barrick admitted that he had no evidence that Checker Motors, Plate Craft, Mall City Containers, or any other company discharged PCBs to Zantman Drain. (Barrick, 2/6/02, at 636–38).

The Zantman Drain has historically been a stagnant, slow moving, organically rich ditch. This was so even after the improvement of the Zantman Drain in 1973. (Barrick, 2/6/02 at 580–82, 593–95). The Drain would have been an excellent environment for capturing PCBs that came down the Drain. If an assortment of PCB Aroclors came down the Drain, that assortment should be reflected in the Drain sediments. What this Court finds to be most significant about Mr. McLaughlin's ***753** data is that the only PCB Aroclor found in the ditch was Aroclor 1260. Because 1260 was the only PCB found in the ditch, Exhibit 2111–N is not as significant as Mr. McLaughlin would make it. Mr. McLaughlin fails to note that Exhibit 2111–N shows data for total PCBs, including Aroclors 1242, 1248, 1254 and 1260. There is no evidence to support the inference that the Zantman Drain is a significant source of Aroclors 1242, 1248, or 1254 to the

River because none of these Aroclors are found in the slow-moving drain sediments. There is some evidence that the Drain may be a slight source of Aroclor 1260, but an increase in average Aroclor 1260 concentrations between transects 24 and 25 is not shown in Exhibit 2111–N. Moreover, Dr. Brown testified that he could not distinguish the Zantman Drain as a point source of PCB contamination to the River. (Brown, 2/5/02, at 372–73).

The Court concludes that the Eaton's Kalamazoo facility was not a significant source of PCBs to the Kalamazoo River.

V.

In resolving Plaintiff's contribution claim against Eaton, the Court may allocate response costs among the liable parties using such equitable factors as the Court determines are appropriate. 42 U.S.C. § 9613(f). Thus, under § 113(f) the Court may consider any factor it deems in the interest of justice in allocating contribution recovery. A nonexhaustive list of such factors, commonly referred to as the "Gore Factors," includes:

> (1) the ability of the parties to demonstrate that their contribution to a discharge, release or disposal of a hazardous waste can be distinguished; (2) the amount of the hazardous waste involved; (3) the degree of toxicity of the hazardous waste involved; (4) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste; (5) the degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such hazardous waste; and (6) the degree of cooperation by the parties with the Federal, State or local officials to prevent any harm to the public health or environment.

Centerior Service Co. v. Acme Scrap Iron & Metal Corp., 153 F.3d 344, 354 (6th Cir.1998) (citing *United States v. Colorado & Eastern Railroad*, 50 F.3d 1530, 1536 n. 5 (10th Cir.1995)). *See also, United States v. R.W. Meyer, Inc.*, 932 F.2d 568, 571 (6th Cir.1991). The Gore Factors enable the Court to take into account more varying circumstances than does the common law contribution. *R.W. Meyer*, 932 F.2d at 573.

Because one of the primary goals of CERCLA is to encourage timely cleanup of hazardous waste sites, and because CERCLA seeks to place the cost of that response on those responsible for creating or maintaining the hazardous condition, the most important factors to consider in the allocation phase are harm to the environment and care on the part of the parties. *Control Data Corp. v. S.C.S.C. Corp.*, 53 F.3d 930, 935–36 (8th Cir.1995). Harm to the environment is a product of volume and toxicity. The Court finds that the Gore Factors with the most potential relevance in this allocation phase are volume of discharge, toxicity, and cooperation with governmental authorities.

Plaintiff contends that based on the three Gore Factors of volume of discharge, toxicity, and cooperation with governmental authorities, Eaton should be allocated 40% of the River investigation and remediation costs Plaintiff has incurred and will incur in the future at the Site.

Plaintiff contends that the evidence of Eaton's historical dealings with the MWRC, MDNR and MDEQ, and the characteristics ***754** of the wastes discharged by Eaton (industrial oils), show that Eaton did not exercise the degree of care it should have in dealing historically with its oily wastes.

This Court does not find that the equities with regard to cooperation with governmental authorities works in favor of either KRSG or Eaton. There is ample evidence that historically neither Plaintiff nor Defendant was careful regarding the release of wastes into the River. There is no evidence, however, that either the MDEQ or the EPA considers Eaton to be a PRP at this Site, and there is no evidence that Eaton has failed to cooperate with governmental authorities with respect to the cleanup of PCBs in the Kalamazoo River. The Court will accordingly give no weight to the cooperation factor.

On the issue of toxicity, Plaintiff contends that PCBs in fish are driving the sediment clean-up levels at the Site because fish ingest PCBs from sediments. Plaintiff also contends that fish take up three to four times more Aroclor 1254 than the Aroclor 1242. Plaintiff accordingly contends that because Aroclor 1254 is more toxic than Aroclor 1242, a smaller contribution of Aroclor 1254 should be weighted more heavily than an equal

contribution of Aroclor 1242.

This same argument was made and rejected by this Court in Phase II of this case. This Court determined in Phase II that the regulatory agencies are setting PCB clean-up levels on a total PCB basis and not an Aroclor-specific basis due to the presence of toxic congeners in all Aroclors. (6/3/00, Opinion at 43–44). On appeal the Sixth Circuit found no error in this Court's following the approach of the MDEQ and treating all PCBs on an equal basis. *KRSG v. Rockwell*, 274 F.3d at 1051. New testimony from Brian von Gunten, MDEQ project manager of the Kalamazoo River NPL Site, substantiates this Court's decision to treat all Aroclors the same. Mr. von Gunten testified that the MDEQ is only concerned with total PCBs rather than Aroclor-specific analyses because it regulates on the total PCB number. In selecting a remedy for the Site, the MDEQ is not concerned with specific Aroclors. Mr. von Gunten was not aware of any occasion where they would have specific clean-up levels for different Aroclors. (von Gunten dep. at 23–24).

Because it does not appear that cooperation or toxicity are relevant to the issue of equitable allocation in this case, the most relevant Gore Factor with regard to this allocation is the volume of PCBs released to the Site by each party.

On the issue of volume, Plaintiff requests this Court to find that Eaton is responsible for most of the PCB contamination downstream of its Battle Creek facility to Morrow Lake Dam, and a significant portion of the PCB Aroclor 1254 and 1260 contamination downstream of Morrow Lake Dam.

For purposes of the RI/FS, BBL has estimated that approximately 53,266 kilograms, or 117,452 pounds, of PCBs exist in the Kalamazoo River from the inlet of Morrow Lake downstream to Lake Allegan Dam, including in the now-exposed sediments in the impoundments at the former Plainwell, Trowbridge and Otsego Dams. (Exh. 2111–J; Brown, 2/5/02, at 285–91). This figure does not include the mass of PCBs in the OUs, which continue to contribute PCBs to the River. (Cornelius dep., 10/12/99, at 27–28). BBL has estimated that 1,905 kilograms (4,200 pounds) of PCBs are in Morrow Lake. (Brown, 2/5/02, at 282).

Although the MDEQ previously had estimated the total PCB mass in the Kalamazoo River NPL Site to be 350,000 pounds, the MDEQ's consultant, John Kern, performed an independent estimate ***755** of total PCB mass, and his estimates are within 10% of BBL's estimates. (von Gunten Dep. at 169–70, 217).

Ninety percent of the PCB mass in sediment in Morrow Lake is comprised of PCB Aroclor 1254. (Brown, 2/5/02, at 282, 288; Exh. 2111–J; Exh. 2111–K). Between Morrow Lake Dam and Lake Allegan Dam, on average approximately 25% of the PCB mass in sediment in the River and the former impoundments is Aroclor 1254. (Brown, 8/10/98, at 25–26; Brown, 11/9/99, at 34; Exh. 2111–M).

The PCB composition of Plaintiff's discharges to the River is generally discernible by looking at the PCB composition in the residual wastes Plaintiff's members contributed to the OUs. (Brown, 2/5/02, at 295–99, 368; Exh. 2111–M). Mr. von Gunten noted that a leak of di-electric fluid could have gone directly to the River, and not be reflected in paper sludges that went to the landfill. (von Gunten dep. at 196–98). However, because BBL's PCB sampling at the OUs has included many samples taken over a broad horizon, the MDEQ agrees that the sampling gives a good indication of what the KRSG's members' historical PCB discharges would have been. (von Gunten dep. at 109–10, 223). The percentage of Aroclors 1254 and 1260 in the OUs range from 2% to 4.7% of the total PCBs, with an average of 2 to 3%. (Brown, 2/5/02 at 295, 368–69; Exh. 2111–M).

The Court concludes that it is more likely than not that 2 to 5% is representative of the KRSG's discharges of Aroclors 1254 and 1260 to the River. Thus, most of the Aroclors 1254 and 1260 in the Kalamazoo River and former impoundments between Morrow Lake and Lake Allegan had to have come from sources other than Plaintiff. The Court agrees with Plaintiff that because Aroclors 1254 and 1260 are not associated with paper wastes and because they are not found in the OUs in any significant ratio, much of the PCB Aroclors 1254 and 1260 now present in sediments between Morrow Lake Dam and Lake Allegan Dam is attributable to sources other than Plaintiff's members' papermaking operations. (Brown, 2/5/02, at 295–99, 368).

Dr. Brown compared the PCB mixtures, levels and chromatograms from Mr. McLaughlin's samples at and around Eaton's Battle Creek facility with the same type of data from BBL's Morrow Lake samples, and concluded based on that comparison as well as the fact of significant PCB transport in the Kalamazoo River system that Eaton was responsible for 80 to 85% of the PCBs in Morrow Lake and for a significant portion of the PCB contamination downstream. (Dr. Brown, 2/5/02 at 282–92,295–99, 368; Exh. 2111–M).

Plaintiff relied on Mr. McLaughlin to quantify the mass of PCBs that Eaton released to the River. Mr, McLaughlin testified that as an environmental engineer, from time to

time he estimates the volumes that have been released for a variety of purposes into different media. (McLaughlin, 2/4/02, at 125). Mr. McLaughlin admitted that he was unable to do his normal computation using the flow of the waste water and the concentration of the contaminant of interest because the data was unavailable. (McLaughlin, 2/4/02, at 125). Instead, he estimated on an Aroclor by Aroclor basis how much mass must have come from where, and then back-checked that number against the few facts he did know about Eaton's waste water flows and concentrations. (McLaughlin, 2/4/02, at 126). Mr. McLaughlin allocated the mass of PCBs in Morrow Lake predominantly to Eaton. (McLaughlin, 2/4/02, at 127). Mr. McLaughlin gave his opinion that based on the differences between the Aroclor types discharged by Plaintiff and Eaton, and in ***756** order to account for and to allocate an orphan's share for other less significant PCB sources to the Site, Eaton should be held responsible for 18 to 20% of the PCB mass in the River. (McLaughlin at 125–34; Exh. 2146). However, based upon the greater biochemical impact of the Eaton-type PCBs at the Site, Plaintiff contends that Eaton's allocation should be increased to 40%.

It appears to this Court that Mr. McLaughlin's estimate lacks an articulated scientific basis. He has not indicated that he has any special expertise in estimating masses of PCBs in the river environment. Moreover, he gave no reasonable basis for ascribing 90% of the responsibility for the PCBs in Morrow Lake to Eaton, or for ascribing 80% of the Aroclor 1254 and 90% of the Aroclor 1260 in the NPL Site to Eaton. These estimates lack evidentiary support. Because the PCBs in the ditches do not mirror the mix of Aroclors found in the Eaton facilities, it is not reasonable to assert that they all came from Eaton. Moreover, neither Dr. Brown nor Mr. McLaughlin did any testing upstream of Eaton. The lack of evidence from upstream prevents them from showing, by a preponderance of the evidence, that the PCBs in Morrow Lake and at the NPL Site originated at Eaton's Battle Creek Site as opposed to upstream sources. In addition, if Plaintiff were correct in its assertion that Eaton is responsible for the majority of the 1254 in the River, there should be a gradient going down in concentration from Eaton's facilities downstream. The data from the sediment cores taken from the River shows the opposite of a gradient.

There is also a lack of evidence to support Plaintiff's theory that Morrow Lake was a major contributor of 1254 to the River. Dr. Connolly estimated that 78% of the particles that entered Morrow Lake between 1950 and 1990, including those that contained PCBs, passed over Morrow Lake Dam, and only 22% remain in Morrow Lake sediments. He further testified that only 26% of the PCBs that passed over Morrow Lake Dam during that same period, whether attached to particles/sediments or in a dissolved phase, are currently somewhere in the NPL Site, and 65% of those PCBs traveled more than 45 miles, through six impoundments and over six dams, past the Lake Allegan Dam. (Connolly, 2/6/02, at 516–23; Exh. 2111–K).

Using Dr. Connolly's estimates on the fate and transport of PCBs through Morrow Lake and the NPL Site and BBL's estimate of PCB mass currently in Morrow Lake, Dr. Brown estimated that approximately 15,000 pounds of PCBs passed over Morrow Lake Dam between 1950 and 1990 in connection with particle transport. (Brown, 2/5/02, at 293–294). Using Dr. Connolly's estimate that 26% of the PCBs that passed over Morrow Lake Dam are currently residing in the NPL site, the Court is left with an estimate of 3,870 pounds of PCBs from Morrow Lake remaining in the NPL Site. However, Dr. Brown testified that he has actually measured the amount of solids entering and leaving Morrow Lake, and his studies show that the lake retains about 40 % of the solids that come into it. Accordingly, Dr. Brown estimates that only 6000 pounds of PCBs went over the Morrow Lake Dam and into the NPL Site. (Brown, 2/5/02, at 294). Applying Dr. Connolly's unchallenged estimate that 26% of the PCBs that went over the Morrow Lake Dam remain in the Site, the Court is left with a figure of 1560 pounds of PCBs in the NPL Site originating from Morrow Lake. In other words, of the 117,452 pounds of PCBs in the NPL Site, only 1.3% of the PCBs in the NPL Site would have come from Morrow Lake.

***757** Based upon these calculations the Court concludes that Morrow Lake was not a significant source of PCBs to the Site. This conclusion is bolstered by Dr. Connolly's charting of the 1254 data on an organic-carbon ("OC") normalized basis in the River from Battle Creek through the NPL Site to Lake Allegan. (Exh. 6565). When the data for 1254 is examined on an OC normalized basis for the area extending from the upstream portion of Morrow Lake through Lake Allegan, the levels of Aroclor 1254 found in Morrow Lake are, in fact, lower than the Aroclor 1254 levels found downstream in the NPL Site. The 1254 concentrations in BBL's sediment cores range from non-detect to 50 ppm OC upstream of Morrow Lake Dam. Concentrations of 1254 rise above 50 ppm OC only in the NPL Site. This reverse gradient pattern is the opposite of the gradient found in the vicinity of PCB sources, and indicates that Morrow Lake is neither a primary source, nor even a significant source, of Aroclor 1254 to the NPL Site. (Connolly, 2/5/02 at 420, 434; Exh. 6574).

Exhibit 6565 reflects numerous cores with concentrations above 50 ppm OC downstream of the Willow

Boulevard/A–Site OU, the King Highway Landfill OU, King Mill, Fort James Paper, the 12th Street Landfill OU, and in the former Otsego impoundment, the former Trowbridge impoundment, Lake Allegan, and Portage Creek downstream of the Allied Paper Mill. The exhibit tends to indicate local sources of 1254 within the NPL Site rather than the contribution of 1254 from sources upstream of the NPL Site. (Exh. 6565).

As indicated by the carbon normalized data, the most significant source of Aroclor 1254 to the NPL Site appears to enter the River at mile 7, in the vicinity of the Georgia–Pacific's Willow Boulevard and Allied's A–Site landfills. (Connolly, 5/2/02, at 434; Exh. 6574). Evidence indicating that the Willow Boulevard landfill is a significant source of Aroclor 1254 to the River is consistent with other evidence indicating that the Willow Boulevard landfill contained relatively high levels of Aroclor 1254, and that the Willow Boulevard landfill was created by placing paper sludge directly into the River. (von Gunten dep. at 61–65; Cornelius dep. 10/12/99, at 26–31). Because there was no berm or stormwater collection system at the Willow Boulevard landfill, PCB-contaminated residuals eroded directly into the River and are present in the River adjacent to the landfill. (Cornelius dep, 9/8/97, at 26–29, 102–114; Cornelius dep., 10/12/99 at 26–31). The carbon normalized Aroclor 1254 in the vicinity of the Willow Boulevard/A–Site are higher than those found in Morrow Lake by almost a factor of 10. (Connolly, 2/5/02 at 435). Downstream of the Willow Boulevard/A–Site landfill, the carbon-normalized Aroclor 1254 concentrations show an up-and-down pattern indicating multiple sources of Aroclor 1254 to the Kalamazoo River within the NPL Site. (Connolly, 2/5/02 at 436). Mr. von Gunten testified that he is aware of a probable release of di-electric fluids at Allied Paper. He also testified that there is a possibility that any mill that was operating PCB transformers would have a release at one point or another. (von Gunten dep. at 220–21).

If Morrow Lake were a primary or significant source of PCBs to the NPL Site, one would expect to see Aroclor 1254 levels in Morrow Lake as the highest levels found, with concentrations getting progressively lower as you move down through the NPL Site. (Connolly, 2/5/02 at 420). Instead, Exhibit 6565 shows that the NPL Site has a multiple source pattern for Aroclor 1254 indicating various Aroclor 1254 sources within the NPL Site. (Connolly, 2/5/02 at 420–21).

***758** Based upon this data, the Court concludes that Morrow Lake was not and is not a significant contributor of PCBs to the NPL Site. This conclusion is supported by the MDEQ's determination that Morrow Lake is not a significant enough issue to pursue as far as source identification. (von Gunten dep. at 139). The MDEQ has expressed no interest in remediating Morrow Lake or the areas upstream of Morrow Lake. (Brown, 2/5/02, at 353).

Because this Court finds that Eaton's Battle Creek facility was not a significant source of PCBs to Morrow Lake, and because this Court now concludes that Morrow Lake was not a significant source of PCBs to the NPL Site, Eaton Battle Creek's facility, which is upstream of Morrow Lake, is an even less significant contributor of PCBs to the NPL Site.

Based upon the findings contained in this opinion and in all of the previous opinions in this case, this Court concludes that the 1254 in the NPL Site came from multiple sources. Eaton was one of those many sources. So were Plaintiff's members.

Eaton was not a significant source of Aroclor 1254. Because Aroclor 1254 was widely associated with di-electric equipment which would have been found in most if not all of the industrial plants along the Kalamazoo River, and because that equipment has been known to leak, the Court assumes that every industry along the River, including Eaton, was a possible source of some small amount of Aroclor 1254 to the NPL Site. The Court finds insufficient evidence, however, for singling out Eaton as a significant source of the Aroclor 1254 in the NPL Site. The Court finds that Eaton's contribution of PCBs to the Site is very minimal.

VI.

"In actions seeking contribution, ... the burden is placed on the plaintiff to establish the defendant's equitable share of response costs." *Centerior*, 153 F.3d at 348. While a party seeking contribution under § 113(f) may not recover under joint and several liability, it is clear that under a plain reading of the statute, the party is seeking to recover its "necessary costs of response" as referred to in § 107(a). *Centerior*, 153 F.3d at 350. Plaintiff KRSG is not required to show the precise causative contribution of Eaton to the Site. In this case, as in others of a historical nature, such a showing would be literally impossible. *R.W. Meyer*, 932 F.2d at 573–74; *see also Betkoski*, 99 F.3d at 524–26. Recoverable response costs include costs associated with monitoring and investigation. *Rockwell Int'l Corp. v. IU Int'l Corp.,* 702 F.Supp. 1384, 1387 (N.D.Ill.1988). The law does not require prior agency

approval in order to recover response costs. *Id.* at 1386–88.

"The district court has broad discretion to allocate the costs associated with the RI/FS." *KRSG v. Rockwell*, 274 F.3d at 1049 (citing *Franklin County Convention Facilities Auth. v. Am. Premier Underwriters, Inc.*, 240 F.3d 534, 549 (6th Cir.2001)). In an appropriate set of circumstances, a tortfeasor's fair share of the response costs may be zero. *KRSG v. Rockwell*, 274 F.3d 1043, 1047 (6th Cir.2001). *See also Acushnet Co. v. Mohasco Corp.*, 191 F.3d 69, 78 (1st Cir.1999). For example, in *PMC, Inc. v. Sherwin–Williams Co.*, 151 F.3d 610, 616 (7th Cir.1998), the Seventh Circuit held that even though PMC conceded that it had dumped toxic wastes at the site, it was not unreasonable for the district court to find that a zero allocation to PMC would be appropriate where PMC's spills were "too inconsequential to affect the cost of cleaning up significantly." 151 F.3d at 616. As the First Circuit observed, "there is nothing to suggest that Congress intended to impose ***759** far-reaching liability on every party who is responsible for only trace levels of waste." *Acushnet*, 191 F.3d at 78.

The parties have stipulated that subject to one exception, noted below, through December 1, 2001, the work performed by Plaintiff, through BBL in the Study Area of the Kalamazoo River and Portage Creek (including investigation and some response activities), as well as the oversight work done by the MDEQ (formerly the MDNR) has been performed in substantial compliance with the NCP. (Stipulation Concerning Compliance with National Contingency Plan, Docket # 1043, at ¶ 1).

Through December, 2001, Plaintiff has incurred $26,180,589.41 in response costs associated with the River investigation and $3,046,275.68 in MDEQ oversight costs attributable to the River investigation. (Exh. 2108; Exh. 2109).

The parties have stipulated that the costs reflected in Exhibits 2108 and 2109 are necessary costs of response incurred consistent with the NCP within the meaning of CERCLA Section 107(a), except that Eaton contends that a portion of the costs reflected in Trial Exhibit 2108 relating to certain work performed in 1999, 2000 and 2001 by BBL upstream of the Morrow Lake Dam are not necessary costs of response incurred consistent with the NCP within the meaning of CERCLA Section 107(a). Defendant challenges the reasonableness, necessity and NCP consistency of this work above Morrow Lake Dam. That work consists of certain sediment sampling, water column sampling, and biota sampling performed upstream of Morrow Lake Dam which MDEQ claims was not authorized. By this exception, Eaton is not challenging work performed by BBL upstream of Morrow Lake Dam that was specifically directed to be performed by the MDEQ. (Revised Joint Final Pretrial Order of 2/1/02, Exh. D(1), Stipulation Concerning Compliance with NCP at ¶ 3).

The MDEQ refused to consider and approve Plaintiff's work plans for its sampling in and above Morrow Lake on the basis that the work upstream of Morrow Lake Dam was outside of its current definition of the "Site." (Brown, 2/5/02, at 321; von Gunten dep. at 18–20, 150–52; Exh.2086–I at Section 1 Introduction through p. 1–4 and pp. 2–6 through 2–7).

Plaintiff disagrees with the MDEQ's refusal to approve its work above Morrow Lake Dam. The AOC clearly provides that Plaintiff has an obligation to "determine the full nature and extent of contamination that exists at or near the Site." (Exh. 8803, at 4). Moreover, in 1993 the MDEQ stated that "under the Administrative Order by Consent the RI must determine the nature and extent of the contamination which includes all upstream potential sources and the downstream migration of contaminants." (Exh.2098 at KB10603653). In response to public requests for clarification between the site listed on the NPL and the area to be investigated during the RI, the MDEQ advised:

> The purpose of the National Priorities List is merely to identify releases of hazardous substances that are priorities for further evaluation. The NPL does not describe releases in precise geographical terms. The precise geographical boundaries can only be determined after the information from the Remedial Investigation/Feasibility Study (RI/FS) becomes available. However, the MDNRs' working site boundaries are the perimeter of the extent of the contamination. Consequently, at this time all areas of known or potential contamination being investigated during the RI/FS are considered to be within the boundaries of the Site. During the ***760** RI/FS process, the release may be found to be larger or smaller than was originally known and the boundaries of the Site will change

> accordingly, as more is learned about the source and the migration of the contamination.

(Exh.2098 at KB10603653.)

MDEQ as early as 1991 also objected to BBL's reference to Morrow Lake as an example of "background" PCB contamination in the RI/FS documents, and stated in public documents that Morrow Lake is contaminated with PCBs. MDEQ directed BBL, on this issue, to "Delete 'Morrow Lake' where it appears throughout the text [of the RI/FS documents] as a background or reference sampling location. This lake is contaminated and therefore would be unacceptable for background or reference data." (Exh.2099 at KB10605090).

After the Phase III liability trial this Court found that the MDEQ "has required the PRPs, as part of the RI/FS, to extend their investigation upstream and downstream of the NPL site to include a ninety-five mile stretch of the Kalamazoo River from upstream of the Eaton Battle Creek facility to Lake Michigan." (Opinion, 5/9/01, at 4). This Court agrees with Plaintiff that the work BBL conducted upstream of the Morrow Lake Dam was reasonably necessary to Plaintiff's understanding of the River and the continuing sources of PCBs to the NPL Site, and was within the contemplation of the AOC. (Brown, 2/5/02, at 328). Accordingly, in performing the allocation in this case, the Court will consider all of the costs incurred by Plaintiff as reflected in Exhibits 2108, 2108–A, 2108–B, and 2109, and not only those costs approved by the MDEQ.

Plaintiff requests a declaration that Eaton is liable for 40% of the $29,226,865.09 River investigation costs already incurred as well as 40% for future River investigation and remediation costs.

This Court concludes that the results of the investigation show that Eaton was not a significant source of the Aroclor 1254 to the NPL Site. Because small quantities of Aroclor 1254 were contributed by a large number of industries, and because the total amount of Aroclor 1254 would not have required remediation but for the large amount of Aroclor 1242 routinely and systematically discharged into the River by Plaintiff's members, this Court concludes that Eaton should not be required to participate in the high cost of remediation of the NPL Site. The Court finds that the PCBs contributed by Eaton to the Site have not affected the necessity for the clean-up or the scope of the clean-up. The Court concludes that it would not be equitable to require Eaton to share in the remediation of the NPL Site. Accordingly, Eaton will not be held responsible for any of the remediation costs.

On the other hand, the Court finds that Eaton should be required to bear some of the costs of the investigation upstream of Morrow Lake. Based upon the discovery of PCBs at Eaton's Battle Creek facility, the presence of substantial PCBs in Morrow Lake, the presence of Aroclor 1254 in the NPL Site beyond what could be attributed to Plaintiff's members, and the lack of historical records from Eaton, there was sufficient evidence to indicate that Eaton might be a source of PCBs to the NPL Site. Both Plaintiff and Eaton had reason to be interested in ascertaining the amount of PCBs contributed by Eaton to the River and to the NPL Site. Plaintiff conducted that investigation. Eaton has reaped the benefits of that investigation. Accordingly, this Court concludes that it is equitable to require Eaton to bear 10% of the costs of investigating the River upstream of Morrow Lake and in the vicinity of the Eaton Battle Creek plant. The Court further concludes that with respect to the segments of the River downstream of Morrow ***761** Lake, the KRSG would have incurred all the costs for the River investigation, even without the issue of Eaton as a potential source. The Court accordingly will not require Eaton to bear any of the costs of investigation within the NPL Site.

In conclusion, the Court will hold Eaton responsible for 10% of the costs of investigating Segment 3 which covers the River upstream of Benteler (Exh. 2108–A) and part of Segment 5, which covers the River from Benteler downstream to the A–Site. (Exh. 2108–B). The total cost associated with Segment 3 is $115,818.09. (Exh. 2108–A). The total cost associated with Segment 5 from Benteler to A–Site is $506,797.70. The aggregate of Segment 3 and the relevant portion of segment 5 is $ 622,615.79. Ten percent of this amount is $62,261.58. The Court accordingly allocates $62,261.58 as the portion of the RI/FS costs that Eaton shall pay to Plaintiff plus prejudgment interest as provided by CERCLA Section 107(a), 42 U.S.C. § 9607(a).

An order and judgment consistent with this opinion will be entered.

ORDER

In accordance with the opinion entered this date,

IT IS HEREBY ORDERED that Plaintiff Kalamazoo River Study Group is awarded **DAMAGES** against Defendant Eaton Corporation in the amount of **$62,261.58.**

All Citations

258 F.Supp.2d 736, 56 ERC 1078

Footnotes

[1] This is the fourth phase of the trial in this matter. The Phase I trial held in August 1998 resulted in a judgment as to liability only in favor of Plaintiff Kalamazoo River Study Group ("KRSG") and against Defendant Rockwell International ("Rockwell"). (Opinion and Order, 12/8/98, Docket # 's 849 & 850). The Phase II trial held in November 1999 addressed the allocation of costs between Plaintiff KRSG and Defendant Rockwell and resulted in a determination not to allocate any response costs to Rockwell. (Opinion and Order, 6/5/00, Docket # 's 942 & 943). The Phase III trial held in January 2001 addressed the liability of Eaton Corporation for PCB discharges from its Battle Creek and Kalamazoo facilities and resulted in a finding that Eaton was liable for PCB releases to the Site from its Battle Creek and Kalamazoo facilities. (Opinion and Order, 5/9/01, Docket # 's 1006 & 1007).

[2] The testimony will be reference in this opinion by name, date of testimony, and transcript page number.

[3] *See* this Court's opinions referenced in footnote 1 and *Kalamazoo River Study Group v. Rockwell International Corp.,* 171 F.3d 1065 (6th Cir.1999) (affirming entry of summary judgment in favor of Benteler Industries, Inc.); *Kalamazoo River Study Group v. Menasha Corp.,* 228 F.3d 648, 654 (6th Cir.2000) (affirming entry of summary judgment in favor of Eaton with respect to its Marshall facility, and reversing entry of summary judgment and judgment after trial in favor of Eaton with respect to its Kalamazoo and Battle Creek facilities); *Kalamazoo River Study Group v. Rockwell Intern. Corp.,* 274 F.3d 1043 (6th Cir.2001) (affirming decision not to allocate any response costs to Rockwell).