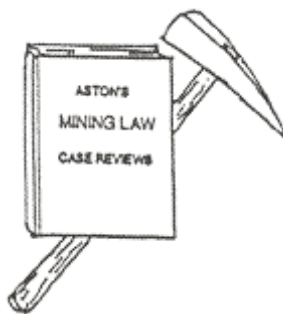


ASTON'S MINING LAW CASE REVIEWS™

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Complimentary **REVIEW CASE # 5-03-02**

Jurisdiction : United States

U.S. Appeals, 6th Cir.

BATTLE BETWEEN GEOSCIENTIFIC EXPERTS DECIDES A RESPONSE COST RECOVERY DECISION

The risk assessment process is intended to be an effective tool to assess the possibilities of success in varying degrees through the application of collected scientific data in particular environmental and technical subject matter areas. Its employment has generally met with success in litigated matters, but in some cases with unexpected opposition and failure due to the variability of the interpretive expertise of the scientific witnesses involved. The following case is illustrative of one in which the risk assessment procedure was ordered and used.

In *Kalamazoo River Study Group v. Rockwell Int'l Corp. et al, and Benteler Inds. Inc.*, No. 97-1964, United States Court of Appeals For The Sixth Circuit, 171 F.3d 1065 (1999), the federal Sixth Circuit heard the appeal of the Kalamazoo River Study Group, plaintiff, (hereafter, KRSG) of the district court's grant of summary judgement (dismissal) in favor of Benteler Industries (hereafter, "Benteler"), defendant, in a response cost recovery action brought pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Michigan Natural Resources and Environmental Protection Act (NREPA).

Case Background Facts

Shortly after the enactment of the National Environmental Policy Act 1969 (hereafter, NEPA), the Michigan Department of Natural Resources (hereafter, MDNR) began investigating the Kalamazoo River which was suspected of being contaminated with PCBs (polychlorinated biphenyls). After nearly two decades, the MDNR determined that a three-mile portion of Portage Creek (from Cork Street in Kalamazoo) to the Kalamazoo River, and a 35-mile length of the Kalamazoo River from the Portage Creek confluence downstream to the Allegan City Dam (hereafter, the Site) were heavily concentrated with PCBs. As a result, the MDNR listed the Site as an environmentally contaminated site under the Michigan Environmental Response Act. The U.S. Environmental Protection Agency (hereafter EPA) also listed the Site on the National Priority List (hereafter, NPL) as a Superfund Site pursuant to CERCLA. The EPA authorized MDNR to conduct an Endangerment Risk Assessment (E/RA) for the Site.

The E/RA enabled the MDNR after two decades to identify as potential responsible parties (PRPs) three paper mills, vis., Georgia-Pacific Corporation, HM Holdings, Inc.,

and Simpson Plainwell Paper Co., all, with plants located on or near the Kalamazoo River and as possible contributors of the PCB contamination. On being identified by MDNR as PRPs, the three paper companies entered into an Administrative Order by Consent (AOC) requiring them to perform a Remedial Investigation and Feasibility Study (RI/FS) at the Site. Soon afterward, the James River Company came forth and voluntarily agreed to pay part of the RI/FS costs. James River Company then joined the other three paper companies to form an association named the Kalamazoo River Study Group (KRSG).

The contaminated Site is located about “3200 feet North of the far southeastern boundary of Morrow Lake, which is an impoundment of the Kalamazoo River and located upstream from the Site.” (*KRSG v. Benteler*, 171F.3d 1065, 1066 (6th Cir.1999)). Benteler, the defendant in *Kalamazoo River Study Group* case, was the present owner and occupant of the Site, having purchased the Site in 1989. Benteler is an automotive parts manufacturer. Prior occupants and operators of the Site to Benteler were General Signal Corporation and ICM Acquisition.

Throughout the *Benteler* case defense, a 3200-foot long drainage ditch leading from the Site to Morrow Lake was much in focus and the center of sampling attention in trying to implicate Benteler as a responsible party contributing to the PCB-contamination. The drainage ditch ran North to South toward Morrow Lake. “At the North end of the ditch, next to the Benteler parking lot is a headwall with a drain that discharges stormwater run-off and floor drainage from the plant into the ditch.

“The ditch was built in the 1950s. Approximately 430 feet South of the headwall there is an oil skimmer and a 4-foot concrete dam that was built in 1971. At the 2700-foot point south of the headwall, there is an earthen mound barrier used by farmers for crossing the ditch. Beyond the barrier, the ditch loses its distinctive features. The land surface slopes downward toward Morrow Lake and the ditch flattens out and blends into the wet wooded area along the shore of the lake.” (Id at 1067.)

After purchasing the plant in 1989, Benteler readied it for use. The plant contained transformers and capacitors which contained PCBs. Benteler employees discovered one of the transformers in the plant was damaged and leaking PCBs. In Benteler’s remedial action to contend with the leaking transformer, Benteler discovered the presence of PCBs throughout the plant, finding it in the drain lines leading toward the ditch and in the ditch below the headwall. Benteler undertook testing through environmental consultants to determine the extent of the PCBs in the plant and in the ditch.

Benteler carried out a Remedial Action Work Plan approved by MDNR in 1993 to remove PCBs from the ditch. The work included excavating some 800 cubic yards of soil from the first 600 linear feet of the ditch and remediation of the storm sewer lines that emptied into the ditch. Remediation was completed in October 1993. Verification samples taken from the work area in 1994 and 1996 gave rise to the issuance of a clean closure letter by MDNR in October 1996, three years after completing the remedial work on the ditch .

The Complaint Against Benteler

The underlying action against Benteler and seven other corporations who had facilities “on or near the Kalamazoo River. was filed in 1995 by KRSG. The filed complaints alleged that the eight defendants had contributed to the PCB contamination and should be responsible for part of the clean-up costs. With regard to Benteler, KRSG specifically alleged that it’s facility “discharged oil-containing waste water, storm water and cooling water from its plant, through the plant’s drainage pipes and into this drainage ditch. The discharged water, according to KRSG, then transported PCB-

contaminated soil and sediment from the ditch and released it to Morrow Lake, then to the Kalamazoo River and, thus, downstream to the site. “ (Id. at 1067.) KRSG’s allegations were supported by a geo-scientific expert’s opinions and conclusions, that Benteler “had, in fact, discharged water and PCBs into the drainage ditch, into the Kalamazoo River and downstream to the Site. “ (Op. cit.)

The District court found for Benteler and granted summary judgement , that is, dismissal of the charges by KRSG as no genuine issues of material fact (as alleged) were proven by them against Benteler. KRSG then appealed to the 6th Circuit Court of Appeal alleging error by the District Court.

The Appeal Court’s Analysis

The Circuit Court noted that “In order to establish a prima facie case of CERCLA liability against Benteler, KRSG must establish that :

- (1) there was release, or a threatened release, of hazardous substance;
- (2) the site of the release, or threatened release, is a facility as that term is defined by the statute;
- (3) the release, or threatened release, has caused KRSG to incur response costs; and
- (4) Benteler is among a statutorily-defined group of persons, which includes the owner or operator of an owner of a facility. “

In its response to KRSG, Benteler had only challenged KRSG to prove the third element , causation, i.e., that Benteler had caused KRSG’s response costs. Thus, as here, where hazardous substances were known to have been released at one site, the allegation that the hazardous substances travelled to a second site, (by way of the drainage ditch) KRSG must show that there is a causal connection between Benteler’s release of the substance and to the response costs of KRSG.

Benteler’s Evidence and Burden of Proof to Exonerate

Benteler did not deny that there had been PCBs present in its facility under its ownership, or in its drainage ditch. Benteler did contend and argue that PCBs could not have migrated all the way down the drainage ditch to Morrow Lake and into the Kalamazoo River during its ownership of the facility and under the conditions of the ditch.

Noting from the trial court record, “Benteler presented evidence that the PCBs in the ditch were confined to the northern part of the ditch near the headwall. In conjunction with the Remedial Action Work Plan prepared by Benteler’s environmental consultants in 1993, the MDNR only required remediation activities in the ditch to a distance of 600-feet from (below) the headwall. MDNR did not require Benteler to remediate the remaining 2600 feet of the ditch because there either no PCBs detected or no PCBs detected in excess of Michigan’s most stringent clean-up criteria. The soil studies from 1989, 1990, 1991 and 1993 reveal that the highest concentrations of PCBs were within the first 325 feet of the ditch (ranging from 120 mg/kg to 6.18 mg/kg). Between 325-600 feet, the highest concentration was 6.6 mg/kg. Beyond 600 feet, the concentration of PCBs declined significantly. At 625 feet the concentration was 0.9 mg/kg. From 720 to 1250 feet the highest concentration was 0.112 mg/kg. At 1400, 1425, 1450, and 1596 feet, there was no detection of PCBs.” (see fn5) “ To put the PCB levels in perspective, MDNR’s cleanup criteria developed pursuant to Michigan NREPA, M.C.L.A. § 324.20120a, is 21 mg/kg for the industrial category and 2.3 mg/kg for the residential category, the most stringent category. “ (Id. at 1069.)

“Benteler conducted further testing in August 1996. In addition to samples taken at 500 and 1000 feet, samples were taken further down the ditch at 1500, 2000, 2500 and

2700 feet from the headwall. No PCBs were detected at any of these locations with the exception of the 1500-foot point where there was a PCB reading of 0.43 mg/kg. When the same sample from the 1500-foot point was re-tested, it produced a non-detectable result consistent with the other samples. On the basis of this information, Benteler claims that the ditch contains no scientifically detectable PCB levels beyond 1500 feet, or stated another way, the remaining 1700 feet of the ditch do not contain any PCBs.

“Additionally, Benteler has provided hydrogeological evidence that demonstrates that the ditch could not have acted as a conduit of PCBs to the Kalamazoo River. Due to the depth of the water table and the permeability of soil in this area, Benteler's experts contend that any water discharged to the ditch during Benteler's ownership would have been absorbed within 600-800 feet of the headwall. Specifically, in August 1996, one of Benteler's experts, Lawrence M. Austin, a Certified Professional Geologist (CPG), performed an analysis of whether, during Benteler's ownership of the facility, a sufficient amount of water was or could be discharged to allow PCBs to be carried down the ditch to Morrow Lake. The analysis of stream flow was completed using an approximation of 100-400 gallons per day of non-contact cooling water discharged by Benteler into the ditch since 1989, and a 3.5-inch rainfall event in a 24-hour period over the entire parking lot and building area. Assuming all of the water runs off of the paved and roofed surfaces, this would generate, according to Austin, a 200,000 cubic feet flow in a 24-hour period. The results of Austin's modeling show the stream flow in the ditch declines to a no-flow condition within 600 to 800 feet of the north headwall due to absorption into the soil. [see fn6 –“ Austin also analyzed the stream flow by doubling the rainfall amount to 7 inches in a 24-hour period (which has not occurred in Michigan in the last 40 years). This led to a no-flow condition within 1300 feet from the headwall, far short of flowing into Morrow Lake. Consequently, Austin concluded that the ditch lacked sufficient water flow to carry PCBs the length of the ditch and into Morrow Lake.”]

“To further demonstrate that the ditch did not act as a passageway for PCBs, Benteler

has presented evidence through the affidavit of Dr. Lawrence Halfen, that the soil and vegetation in the ditch is not consistent with a continuous flowing stream, an intermittent stream, or even with occasional discharges of sufficient magnitude to carry water down the ditch to Morrow Lake. On the basis of this evidence, Benteler has adequately demonstrated that any PCBs from its property could not have migrated down the ditch to Lake Morrow and the Kalamazoo River.

“Therefore, the burden shifts to KRSB to come forward with sufficient facts that would allow a reasonable jury to find that Benteler caused PCB contamination at the Site.” (Id., at 1069-1070).

KRSB's Evidence and Burden of Proof

“As previously stated, KRSB relies, in large part, on the affidavit of its expert, Dr. Brown, who opines that “[a] logical interpretation of the facts leads to the conclusion that the ditch has discharged water and PCBs to the Kalamazoo River and, therefore, PCBs from Benteler's facility are within the borders of the National Priorities List site. His conclusion is based upon four categories of information: a U.S. Geological Society Survey (“USGS”) map, soil samples showing detectable PCB levels at 18 feet and 3 feet from Morrow Lake, stormwater and wastewater discharge documents prepared by Benteler's own environmental consultants showing Morrow Lake as the discharge point for the ditch, and challenges to the conclusions of Benteler's experts.

“The USGS map shows a solid blue line running from Benteler's facility through the drainage ditch to Morrow Lake. The line, according to Dr. Brown, indicates the ditch has

been a continuously running waterway flowing to Morrow Lake. He opined that the USGS map established that water from Benteler's facility flowed to Morrow Lake via the ditch. fn7 [fn7- "The map was originally created in 1961 with a photo revised date of 1985. Benteler alleges that it is outdated, that there is no evidence to show that the map accurately reflects the conditions of the waterway since Benteler purchased the property in 1989, and that, therefore, the map was an unreliable factual basis for Brown's opinion. The district court agreed.]

" Dr. Brown also relies heavily on analytical test results to support his opinion that PCBs were discharged from Benteler's facility to Morrow Lake. He points to two soil samples taken by KRSG's consultants in 1994 which identified PCBs in the ditch eighteen feet and three feet from the shore of Morrow Lake, with concentration levels of 0.93 mg/kg and 0.43 mg/kg, respectively. Dr. Brown opined that the higher concentration of PCBs detected at 18 feet and the lower PCB concentration at 3 feet, coupled with the detection of PCB levels at 1700 feet from Morrow Lake, [fn8 - "KRSG did not take any other samples except those at the 3- and 18-foot points. Dr. Brown relies on the soil sample taken by Benteler's consultants in August 1996 to support his assertion that PCBs have been detected at 1700 feet from Morrow Lake, i.e., 1500 feet from the north headwall. But according to Benteler's experts, this 1996 sample was re-tested and produced a non-detectable result. See supra. Further, it should be noted that the 1500-foot sample relied upon by Dr. Brown had a PCB-concentration of 0.43 mg/kg, a lower concentration than that found at 18 feet, seemingly thwarting Dr. Brown's implication that there should be higher concentrations toward the top of the ditch and lower concentrations at the bottom end of the ditch. "] supported his conclusion that the ditch was the source of PCBs in Morrow Lake. [fn9 - "Benteler's experts, Dr. Halfen and Mr. Austin, contend that these two samples were taken from an area that is subject to periodic flooding from Morrow Lake. In fact, they claim that the entire area 200 feet in from the shore of Morrow Lake is what is known as a "riverine wetland" and has been and continues to be periodically inundated with waters from Morrow Lake. Thus, they concluded that the PCB levels found at 3 feet and 18 feet "more likely" could be attributed to flooding of Morrow Lake. The district court agreed, stating that "because there is no evidence of PCBs between the 1500-foot mark and 18 feet from the lake, a distance of approximately 1700 feet, the lake is more probably the source of the PCBs."] (Id. at 1070.)

Dr. Brown also relied on documents used by Benteler's consultants stating that "wastewater and stormwater runoff from Benteler's facility discharges to the drainage ditch and flows into Morrow Lake." In one 1989 report prepared by an environmental consultant at Benteler's request the report states that the drainage ditch "ultimately discharges into the Kalamazoo River." Of notable importance, according to Dr. Brown, was the 1993 draft of Benteler's Stormwater Discharge Permit Application prepared by an environmental consulting firm for Benteler. In the Application, the consultant stated that "Morrow Lake (part of the Kalamazoo River) is the discharge point for the drainage ditch leaving Benteler property." Moreover, the same consulting firm that prepared the 1993 Application stated in a 1995 report that "the drainage ditch during periods of high flow can discharge to Morrow Lake . . ." (fn 10- "In this same 1995 report, the consultant stated that "the drainage ditch beyond 600 feet is normally dry. Only during periods of extremely high flow, the water will flow all the way to Morrow Lake. During normal flow conditions, water in the drainage ditch infiltrates to the groundwater on Benteler Industries property . . ."] (Id. at 1071.)

It should be noted that KRSG's expert, Dr. Brown, also placed reliance on a 1990 letter from MDNR to Benteler demanding that "all discharges to the ditch, including stormwater, must be ceased due to the possibility that large stormwater flows could transport PCBs in the ditch to the Kalamazoo River." Another, follow-up letter from the MDNR, dated June 1991, demanded that Benteler "cease discharges to the ditch due

to the possibility that contaminants could spread to the Kalamazoo River" KRSBG claimed that Dr. Brown reasonably relied on these two letters to justify his opinion that wastewater discharged to Morrow Lake and the Kalamazoo River via the drainage ditch.

Benteler counter-argued that KRSBG had "grossly mischaracterized" the two letters and the District Court agreed saying that MDNR spoke only in terms of the possibility, or risk of discharges into the ditch reaching Morrow Lake, and not of actually having reached the lake.

Lastly, KRSBG's expert witness Brown argued that Benteler's expert Dr. Austin was in error in stating that "any water flow in the ditch would be absorbed into the soil within 600-800 feet of the headwall." Brown challenged Austin's non-storm water discharge volumes as being incorrect and greater than declared for Benteler. Brown identified two additional sources of non-storm water discharging into the ditch, visually, 110 gpm of non-contact cooling waters from a two unit man coolers during the cooling months, and 50 gpm daily and year-round from an air compressor. Those two additional sources contributed between 72,000 and 210,000 gallons per day of non-storm waters into the ditch daily. Brown found his calculations of daily non-storm waters discharged in marked contrast to Austin's lesser discharge of between 100 and 400 gallons per day.

The Circuit Appeal Court's Decision

Regarding KRSBG's charge that the District Court in arriving at its decision against KRSBG had "overstepped its discretionary bounds" by resolving credibility judgements in favor of Benteler's experts. The Appeals Court conceded that KRSBG was correct in arguing that "credibility determinations, the weighing of evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of the judge." However, the Appeals Court added, "Contrary to KRSBG's contention, the district court did not 'choose sides' to resolve a battle of the experts. Instead, the district court focused on the underpinnings of Dr. Brown's conclusions. Citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), 'the court may, indeed must, look beyond the conclusions [of the experts] to determine whether the expert testimony rests on a reliable foundation.' When the court did so, it found that Dr. Brown's conclusion was based on 'speculation, conjecture, and possibility' and that 'the inadequate factual basis makes Dr. Brown's affidavit scientifically unreliable.'

"Therefore, the district court held: 'KRSBG has created, at most, a question of fact as to whether or not there was a possibility that water flowed all the way down the ditch to Morrow Lake. . . . KRSBG's entire theory of liability on behalf of Benteler is based upon the assumption that water flowed down the ditch to Morrow Lake. This assumption, however, is based solely on speculation and possibility. The existence of a possibility does not create a material issue of fact for trial because KRSBG bears the burden of proof to show that Benteler did contribute to PCBs in the Kalamazoo River, not that it is possible that it might have contributed to the PCBs.' The Court of Appeals stated, "**We agree.**" (Id. at 1072.) and affirmed the decision of the district court, thereby affirming summary judgement for Benteler (dismissal of KRSBG's complaint).

Conclusions

The *Kalamazoo River Study Group* case is an excellent example illustrating environmental litigation involving data from a risk assessment and of the interpretations, opinions, conclusions and prepared evidence presented in the subsequent battle between geo-scientific expert witnesses.

Illustrative of an expert witness that has rebutted the evidence of an opposing expert, but failed to carry forward the meaning and effect of such rebuttal information to refute an opposing expert's arguments is demonstrated by KRSB's expert, Dr. Brown, e.g. : Dr. Brown affirmatively rebutted Dr. Austin's daily stream flow figures for the drainage ditch with the addition of a large daily quantity of cooling waters, yet he failed to carry the point of increased daily flow volume figures in his rebuttal to positively show that it was sufficient to carry the PCBs down the ditch and into the lake.

Geo-scientific expert witnesses are again cautioned against extrapolation of data. As the court pointed out, there was nearly a 1700-foot gap in the sampling of the drainage ditch where no PCBs had been detected. Yet KRSB's expert persisted in arguing that the two samples beyond that "gap" at 18-feet and 3-feet from the lake's shoreline contained PCBs were carried down the drainage ditch from Benteler's facility. Yet, as the court pointed out, the far more feasible reasoning for the presence of PCBs so near the lake's shoreline was from the lake's periodic flooding and that the lake already was contaminated with PCBs. The extrapolation over a 1700-foot interval showing an absence of detectable PCBs to two near-shoreline samples with minor amounts of PCBs is simply too wide an analytical gap between the evidence presented and the inferences to be drawn, and would cause only speculation for a jury.
