## Chapter 36

# Lawyers and scientists

It was lawyers and scientists who propelled the Anaconda Aluminum Co. air pollution matter to a conclusion. Politicians for the most part stayed out of the way – the nascent environmental movement lacked the influence it needed in Washington, D.C., but if push came to shove, and a threat to Glacier National Park constituted a shove, then they would act. In the beginning, the scientists who counted were teamed up with lawyers representing the damaged parties. By the end, the scientists who counted were the ones working for industry who implemented a fix to the AAC plant's air pollution problem. In the beginning, the successful lawyers waged a battle of nuisance suits against the powerful Anaconda Company. By the end, federal lawyers from Washington carrying a big hammer faced off with Anaconda in moot court – the huge conversion project at the smelter in Columbia Falls was winding down by then, installing 600 new reduction pots and two high-tech dry scrubber systems.

A lawyer who played a prominent role in the early years of AAC air pollution litigation was Dale McGarvey. His firm two decades later, under the leadership of his son Alan McGarvey, took on the aluminum plant in another historical lawsuit, one involving broken promises and greed. Dale McGarvey was born in Great Falls, attended Flathead County High School, graduated from Montana State University Law School in 1951 and received a master's of law degree from Harvard University in 1952. [1] He graduated at the top of his law school class in Montana and founded his law practice in Kalispell in 1955. Over time, he gained a reputation for representing the common man against large corporations. His father ran a gas station and vulcanizing business in Conrad, Montanal, and later a gas station and the McGarvey Shamrock Motel in Evergreen outside of Kalispell, Montana. [2] Growing up, McGarvey spent part of each summer camping in Glacier Park, and he attended school in Apgar at the south end of Lake McDonald. An active Democrat, McGarvey was elected to the Montana Legislature in 1957 and 1959 but was defeated in 1961. His wife Elsie was the chairperson of the Flathead Democratic Party for 20 years. [3]

As a legislator, McGarvey served as chairman of the workmen's compensation committee and the special investigating committee of the state purchasing department. He also served on committees for education, the judiciary, constitutional amendments, and ways and means, and was the attorney for the investigating committee of the state highway department. McGarvey introduced a right-to-know bill calling for more government meetings to be opened to the public, but the bill was killed in the state

Senate. McGarvey joined other Flathead delegates in helping kill a proposed severance tax on timber-cutting in Montana. He also supported the state's unemployment compensation program but believed it was being abused by able-bodied workers who refused to look for employment. According to a 1961 campaign story, McGarvey was critical of the state highway commission and how the state government controlled expenditures. [4] He also was involved in lawsuits to protect property owners impacted by the 1964 Flood and property owners impacted by construction of the Libby Dam and Lake Koocanusa. [5] In August 2001, McGarvey received the Career Achievement Award from the Montana Trial Lawyer Association for advocacy on behalf of Montana citizens over a span of 50 years. Specifically mentioned was his participation in several key lawsuits, including two filed against the Columbia Falls aluminum plant – one for air pollution in the 1970s and one for missing profit-sharing payouts to salaried personnel in the 1990s. [6]

McGarvey died on July 22, 2017. Whitefish attorney Sharon Morrison, whose husband Frank Morrison was a law partner with McGarvey, recalled McGarvey's "terrific moral rudder" and his quest to protect the environment from the harmful effects of the AAC fluoride pollution. Morrison told the Daily Inter Lake that McGarvey had seen the effects of emissions on the largely denuded Teakettle Mountain near the plant, and then heard reports of cattle and wildlife suffering ill effects. "He was courageous – he didn't flinch at all," she recalled of the air pollution litigation that many plant workers feared would put their jobs in jeopardy. It was the pollution McGarvey was after, not the plant, she said. Morrison recalled McGarvey's "incredible intellect," noting that "Dale always had an open mind about almost everything. It allowed him to explore so much. He looked anew at everything and didn't reject anything out of hand." [7]

## Causes and money

In an October 1999 interview, McGarvey presented his version of the historic class-action air pollution lawsuit brought against AAC by Columbia Falls dentist Loren Kreck in 1970. "Loren Kreck came into my office one day," McGarvey said. "He said he'd moved from Los Angeles to Columbia Falls to get away from air pollution. And now he felt like a rat in a trap." Kreck had studied the teeth of dead deer and small animals in Glacier Park and found them heavily fluoridated by emissions from the aluminum smelter. Fluoride emissions had also killed the trees on Teakettle Mountain. Kreck told McGarvey that he had assembled a group of people who wanted to do something about the matter and proposed a class-action lawsuit for compensatory damages. McGarvey said he had spent much of his boyhood in Glacier Park and he sympathized with Kreck's case, but lacking sufficient knowledge about class-action lawsuits, he turned to Whitefish attorney Frank Morrison for help. The Sierra Club at the time was considering an injunction against

AAC, McGarvey recalled, but Kreck didn't want to close the plant and put 1,000 people out of work – he just wanted to stop the pollution. [8]

Many of the plant's workers were frightened about what could happen, McGarvey recalled. "We took an awful lot of flak when we filed that suit," McGarvey said. "People were really afraid we would take too heavy-handed an action." Before filing the lawsuit in the summer of 1970, McGarvey said, he tried to contact the Anaconda Company's attorney in New York City but without success. Concerned about the statute of limitations running out, McGarvey filed the lawsuit and "that got their attention." Six weeks of negotiations followed, McGarvey recalled, and AAC agreed to drastically cut fluoride emissions while asking for time to conduct a worldwide search for the best pollution control technology. "We gave them the time, and they spent several millions on pollution control," McGarvey recalled. "We had what we wanted." As for his earnings in the case, McGarvey said, "It was a labor of love. We just did it." [9] McGarvey promoted the class-action lawsuit in an effort to boost his plaintiff numbers. In June 1970, during a meeting of the Flathead County Chapter of Gals Against Smog and Pollution, an announcement was made that anyone interested in filing a group lawsuit against the AAC plant in Columbia Falls could contact McGarvey. He advised GASP members that the only expense would be court costs. [10]

In a 2014 interview, McGarvey once again presented his version of the AAC air pollution lawsuits. He recalled looking up at Teakettle Mountain and wondering why the green hill had turned barren and brown. He said he had heard reports of deer, squirrels and wildlife showing signs of malformed bones and teeth, while researchers were tracking impacts to animal and plant life along Glacier Park's southern boundary. The suspected cause was fluoride emissions from the AAC plant. McGarvey recalled how Kreck came to him in 1970 with scientific evidence of the impacts to plants and wildlife by the 10,000 pounds of fluoride emitted by the aluminum plant each day. "It was a serious situation," he recalled. McGarvey said he contacted AAC's head legal counsel with the goal of stopping the pollution, not going after the plant, but he was rebuffed. He and Kreck then set to work filing a class action lawsuit seeking $24 million in damages. "That got their attention," McGarvey recalled. "A class action lawsuit is a powerful thing. Scientifically, the proof was undeniable." [11]

Within a week of filing the lawsuit, McGarvey recalled, an attorney from the Anaconda Company came to see him in Kalispell. Tests conducted by AAC and released during the lawsuit's discovery phase revealed the plant was emitting 10,000 pounds of fluoride a day and damaging 24 square miles between Columbia Falls and Glacier Park, and that AAC knew about the scope of the pollution. "They knew exactly what they were doing," McGarvey recalled. Within a month, McGarvey and Morrison met with AAC officials who

talked about plans to use wet scrubbers and other environmental controls to minimize the emissions. In return for reducing emissions, the AAC officials asked McGarvey to drop the lawsuit. McGarvey recalled telling them he would consider dropping the lawsuit once he saw results. In the meantime, local residents were angry at Kreck, who lost dental patients. McGarvey recalled that his law firm also lost clients and received threats. “They were after my hide,” he recalled. “The men thought I was ruining jobs.” McGarvey claimed the lawsuit forced AAC to act to control the emissions, especially with the Sierra Club watching the case. McGarvey recalled that an agreement was reached, fluoride emissions were reduced to the state standard, and the class action case was dismissed without prejudice in 1973. McGarvey recalled that prevailing with a compromise that was in the best interest of the community was his proudest accomplishment. “When you see all those trees dying and you have proof of this air pollution, it’s really not a question of what to do,” he recalled. “You do what’s right.” [12]

The Kreck case was not the only lawsuit against AAC handled by McGarvey and Morrison. The first air pollution lawsuit against the Anaconda Aluminum Co. was filed in Flathead County District Court by McGarvey and Morrison on behalf of Harold R. and Mabel Dehlbom on April 16, 1970. The Dehlboms asked for $2,380,000. [13] Harold Dehlbom, a retired Great Northern Railroad cashier and accountant, had purchased the 160-acre property in 1941. The property measured half a mile on each side and was located about half a mile from the AAC plant. The north half of the Dehlbom property was timbered with conifers and birch trees, and the south half was partially meadows. Cedar Creek traversed the property along the east boundary, and the city of Columbia Falls had an easement for its 18-inch water main near the creek. Harold and Mable owned a home and five rental cabins on the property. Their son Charles Dehlbom, who was an outfitter and guide in the Bob Marshall Wilderness, maintained a trailer home and his outfitter business headquarters on a leased portion of the Dehlbom property. Part of the property had been cleared with a bulldozer to create pasture land for Charles Dehlbom’s stock. [14]

Harold had made plans to subdivide the property as early as May 1964 after seeing the rapid increase in employment at the AAC plant and other businesses in Columbia Falls, and he advertised lots on his property in the Hungry Horse News. Harold figured on subdividing 55 acres of his land and began to make more detailed plans. He had watched sales of lots at Tracey’s Aluminum Acres south of his property and had noticed that land prices in the area were increasing. Tracey’s Aluminum Acres was platted with 126 lots in 1953, and by 1968 a total of 42 lots had been improved with homes, mobile homes and garages, and 85 lots were unimproved. Harold’s plans were thwarted when the Bonneville Power Administration ran a high-voltage transmission line across the Dehlbom property to provide additional power to the AAC plant for the two new

potlines. On Dec. 1, 1968, a commission appointed by U.S. Judge Russell E. Smith issued its ruling in U.S. v Forrest R. Manicke, which determined the value of Dehlbom property after the transmission line was built. Jack McLeod, a real estate broker from Butte, testified that the Dehlbom property was an "industrial buffer zone property" because it was in an industrial area, and he believed the Anaconda Company might acquire the land at market value or higher. McLeod said the highest and best use for the Dehlbom property was not to subdivide it, especially since the transmission line made home construction on the property nearly impossible. In conclusion, the commission ruled that the BPA power line did not reduce the value of the Dehlboms' property because it could be sold at market value as "industrial buffer zone property." [15]

The Dehlbom's 1970 air pollution lawsuit involved four claims: 1) $30,000 for timber trespass, alleging that AAC cut a strip of trees on plant property which the Dehlboms believed protected their property from pollution emitted by the plant; 2) $1,350,000 for damage to trees on land the Dehlboms were developing for a subdivision, allegedly resulting from hydrocarbons and fluoride emissions emitted by the plant, for hazards to human health, for impairment to clean air and views from the property, and for injury to livestock; 3) $100,000 for tension and anxiety resulting from the continuing trespass by the plant and worry over the loss of value to their properties; and 4) $900,000 for punitive damages based on the continuing "willful, wrongful, deliberate, oppressive and malicious" trespasses made by the plant on their property. Treble damages were included for damage to trees, as allowed by state law. A jury trial was requested. [16]

On Dec. 17, 1971, Flathead County District Court Judge Robert Sykes ordered the deposition of University of Montana Botany Professor Clancy Gordon be conducted by written interrogatories in the Dehlbom air pollution lawsuit. [17] On Aug. 23, 1972, Charles E. Taylor, AAC's assistant division manager, was deposed by Morrison in the Dehlbom case. Taylor provided a detailed description of the air pollution control equipment at the AAC plant. He explained that when the crust on reduction pots was broken, fluoride gas could escape the primary collection system and instead enter the pot rooms and draft upwards through the rooftop clamshell vents. He said each potman was responsible for sealing the crusts on 20 pots, and training potmen to keep pots sealed was "a perpetual problem," especially after 1970. He said the company didn't change its policy about sealing pots, but there was more training by foremen and management "pushed harder" since 1969. Taylor said about 10% of total fluoride particulates and about 80% of total fluoride gas left the potlines through the rooftop vents. [18]

When Morrison asked if any type of scrubbing system could be installed in the rooftop vents to stop fluoride emissions, Taylor said no. Taylor noted that AAC management had discussed ways to control secondary emissions from the pot rooms, and AAC staff had

visited aluminum plants in Europe to get ideas. He said that in 1965 or 1967 he visited a Pechiney plant at Nogueres in France which had a rooftop scrubber system, but he was there for other reasons and never discussed the rooftop scrubber with staff there. Taylor said he visited the aluminum smelter at The Dalles, Oregon, which had a wet scrubber system installed in the rooftop vent. He said wastewater from the rooftop scrubber at The Dalles ran down into the Columbia River. Taylor said installing a rooftop wet scrubber at the AAC plant would not help the plant meet the state's new fluoride emission limit of 864 pounds per day. He noted that AAC had never researched rooftop scrubbers or sought bids for installation, but the company had consulted with a Swedish company about the matter. Taylor said he knew of no other way to further reduce fluoride emissions at the AAC plant other than by installing a rooftop scrubber, but when he noted that a major consideration for installing a rooftop scrubber would be the high cost, Morrison noted that the cost would be the same for The Dalles, a regional competitor. [19]

When Morrison asked Taylor about the differences between Soderberg and prebake reduction pots, Taylor was reluctant to express an opinion on the advantages of one over the other. He noted that in the early 1950s, the Anaconda Company chose a Pechiney design for the new plant using Soderberg-type pots because the Pechiney design had the best pot gas collection system available at the time. AAC added a second burner unit to each pot within a year or so of the plant's start-up to more completely convert carbon monoxide to carbon dioxide and to burn off hydrocarbons emitted by the anode. A Venturi scrubber and a packed-suction system were added to the primary collection system in the early 1970s, which increased fluoride removal efficiency from the low 90% level to the high 90% level. Taylor said AAC was the first aluminum company to install the Venturi system. He estimated that fluoride emissions at the AAC plant in 1968 and 1969 were about 5,000 pounds per day. Installation of the Venturi and packed-suction systems had helped reduce fluoride emissions from a high point of about 7,500 pounds per day. Fluoride emissions were cut in half to about 2,500 pounds per day around 1970 after employees discovered a leak in the anode casing and plugged it with asbestos tape. The fluoride was leaking into the pot rooms and drafting out through the rooftop vent. "That was the biggest single thing in my opinion," Taylor said about plugging the leak. [20]

Taylor explained that AAC had kept records of fluoride emissions since the plant began operating. The company also maintained test plots for vegetation, tested samples in its laboratory and issued quarterly reports to the company's top management. Through questioning, Morrison established that AAC management was aware of how much fluoride it was emitting with just two potlines and that therefore the company must have known that it would increase fluoride emissions by 50% with a third potline, by

33% by adding a fourth potline, and by 25% by adding a fifth potline. This expansion explained how emissions peaked at 7,500 pounds per day by 1969, Morrison established. When Morrison asked Taylor if he recalled talking to Clancy Gordon about fluoride emissions before the fourth and fifth potlines were built, Taylor said he couldn't recall. Taylor acknowledged that AAC "placed a greater emphasis" on reducing fluoride emissions in 1969 after the fifth potline went into production, but he noted that the company had put additional thought into air pollution control while designing the fourth and fifth potlines. Taylor said he was not aware if any design proposals by plant staff had been sent to Anaconda Company offices in New York. He recalled that early talk had been about sealing pot crusts, not installing new pollution control equipment. Taylor also described maintenance problems with the primary collection system, including plugged drain lines from the wet scrubber towers, worn-out fan bearings and failed pumps. Taylor estimated that the company had about $200 million invested in the AAC plant by 1972, and that high investment justified keeping the plant running despite various obstacles. [21]

Taylor said trees between the AAC plant and the Dehlbom property had been cut down because they had become a fire hazard. Additional trees were cut within half a mile of the potlines building. The trees had not been cleared when the plant was first built, he noted. When Morrison suggested that the trees were killed by fluoride emissions, and the company wanted to cut them down to hide that fact, Taylor disagreed, repeating that the trees had become a fire hazard. Morrison also asked Taylor if the Anaconda Company had a policy of buying up land that the company knew would be poisoned by fluoride emissions. Taylor said he wasn't aware of such a policy. Taylor acknowledged that the company had bought land owned by Cliff Sedivy, a cattle rancher with land north of the plant, because of potential fluoride damage to vegetation and cattle, but Taylor noted that he had not been part of the discussion. The matter was handled by the company's "Legal Department," including Bernard Kostelnik. [22]

Flathead Community College professor Michael Britton was deposed by Morrison for the Dehlbom air pollution case on Feb. 20, 1973. Britton, who had grown up in the Flathead Valley, completed a master's degree in plant ecology at Montana State University. He worked as a soil conservationist in Dillon, Mont., from 1952 to 1953, and taught plant pathology at Purdue University from 1955 to 1958 and at the University of Illinois from 1958 to 1969. He returned to the Flathead and went to work for the Flathead Valley Community College in September 1969, where he became the chairman of the natural science division and was a professor in plant pathology. Britton had worked as a consultant for Intalco in an air pollution case involving the aluminum smelter in Ferndale, Wash., but his findings were not published, he was not deposed, and he had not testified in the case. Britton said AAC first contacted him in May or June

1970 and offered him $100 per day to study vegetation near the AAC smelter. He said he first went to the Dehlbom property in August 1970, accompanied by Delbert McCune and Leonard Weinstein of the Boyce Thompson Institute, Michael Treshow of the University of Utah, and A.W. Hook, the AAC environmental manager. Britton said they spent six hours going over most of the property looking for signs of injury. [23]

During his first inspection of the Dehlbom property, Britton said he focused on Oregon grape, which was a sensitive species, while McCune collected samples and took photographs. Britton said he found evidence of injury by fluoride, insects and fungus. The fluoride injury was to lodgepole pine, Douglas fir, grand fir, ponderosa pine, western larch and Oregon grape. Insect injury found on lodgepole pine trees was caused by sugar pine tortrix bark beetles, he said. All of the trees on the property had insect damage. When Morrison asked Britton if he knew of a causal relationship between fluoride injury and insect injury, Britton said he had never seen any evidence in the scientific literature that fluoride was essential for outbreaks of those diseases. He said he had searched the Anaconda Company's and University of Montana's libraries. He also noted that he could visually distinguish between injuries by fluoride and insects. Anaconda Company attorney Frederic Yerke at one point protested Morrison's level of questioning, noting that if Morrison wanted to learn more about the matter then he should be willing to pay a fee for Britton's expert services. Britton said he returned to the Dehlbom property in 1971 and 1972, but his contract with AAC was not litigation-specific and not tied to the Dehlbom case. [24]

Pre-trial motions for the Dehlbom air pollution case were scheduled to begin in August 1973. [25] The case was settled by August 1975. The terms of the settlement were not disclosed, but it was known that AAC would purchase the Dehlboms' 160 acres with a provision that the couple and their son could enjoy lifetime occupancy of the property that adjoined the AAC plant. [26] The Dehlbom case cropped up again in October 1982 when the City of Columbia Falls sued AAC in an effort to clear up its claim to water rights on Cedar Creek. The creek upstream of the plant provided the city's water supply, and the city had long sought to establish its water rights to Cedar Creek. A portion of the stream flowed past the Dehlbom property, and by 1981 the city had just about cleared up its claims with the Dehlboms when the property was taken over by AAC as part of the settlement in the pollution case. [27]

Early air pollution lawsuits against the AAC smelter were not confined to the Flathead Valley. Property owners in Coram, on the opposite side of Teakettle Mountain from the plant, also claimed damages. A former whistle-stop on the Great Northern Railway's mainline through the narrow Middle Fork canyon, Coram for a while was on the short list of possible plant sites in 1950. [28] On Sept. 3, 1970, the McGarvey, Morrison, White &

Hedman law firm filed air pollution lawsuits against AAC on behalf of 10 Coram residents: Charles W. and Amanda Tustin for $102,000; Carrol A. and Myrna Wright for $127,353; Richard T., Cecelia and Leif Ove for $118,884; and John H. and Lillian Bras and Charles R. Rosenbaum for $207,720. In an editorial, the Hungry Horse News noted that "property values have spiraled in the area (since) 1951-52 when Anaconda purchased the original 700 acres from different owners for the plant site (at) $25 an acre." [29]

On Sept. 15, 1970, Loren Kreck and his wife Mary filed a class-action lawsuit against AAC seeking $21 million for damages caused by fluoride emissions from the local smelter plant. [30] The largest civil damage lawsuit in northwestern Montana history grouped 6,000 residents within a 24-square-mile area in and around Columbia Falls. Almost immediately after McGarvey, Morrison, White & Hedman filed the lawsuit in Kalispell, the clerk of court began to receive phone calls from people who wished to be disassociated from the lawsuit, but the process had just begun and there was much uncertainty about how such a lawsuit would proceed. [31] In early October, Judge Sykes discussed the lawsuit with the media. Sykes believed the lawsuit might be the third class-action lawsuit involving environmental trespass in U.S. history. He said he knew of a previous case in Arizona and felt the case was making history. "I hope it's a good history for Montana and the whole country," he said. "This isn't a case for a popularity contest. I'm glad it is being brought to a head, and I welcome the opportunity to handle it." Sykes also worried that if too many people joined the lawsuit it might become necessary to change the venue. He also commented on the numerous letters in local newspapers that took a position on the case. [32] The Krecks had a tough time standing up alone in the community after taking their stance against the company. According to environmentalist Steve Thompson's telling in a Dec. 9, 1999, opinion piece, it was alleged that AAC had egged on the residents of Columbia Falls to fight the Krecks on the grounds that the lawsuit threatened jobs at the smelter. A popular slogan printed on bumper stickers read "To Heck with Kreck." Kreck's dental business shrank, and there were threats of violence, Thompson said. At one point a local judge went on the radio to appeal for calm, he added. [33]

On Sept. 24, 1970, six more air pollution lawsuits were filed by McGarvey, Morrison, White & Hedman on behalf of claimants against AAC. They included Josephine Hamilton, Georgia Hamilton, Allen Wagner, Sandra Wagner and John Lutz for $344,000; Joseph and Marguerite Hauber for $105,000; William G. and Mary Ann Armstrong for $49,505; Orley B. and Rose M. Huffman for $43,994; George and Betty A. Zingleman for $43,403; and Frank and Dorothy Sedivy for $39,500. There were signs that additional suits would be filed before Oct. 1, two years from when the fifth potline was put in operation at the Columbia Falls smelter, which could be considered the cut-off point for the two-year statute of limitations for trespass. A possible legal defense argument held that the AAC

plant had been reducing fluoride emissions since Oct. 1, 1968, while a legal counterargument alleged continuing damage. Meanwhile, the class-action lawsuit brought by the Krecks was in its earliest stages. Flathead County District Court Judge Robert S. Keller would need to determine whether a class action was merited, and all the landholders would need to be notified. In Columbia Falls, the Chamber of Commerce passed a resolution stating that the class-action lawsuit was "not representative of the community." The chamber placed a high value on the economic aspects of the AAC plant and called for continued improvement of pollution control. [34]

On Sept. 30, 1970, McGarvey, Morrison, White & Hedman filed nine more air pollution civil suits against the AAC plant. Most of the plaintiffs were residents of Tracey's Aluminum City, a subdivision located between the smelter and Columbia Falls. The new plaintiffs included Gordon R. and Edna M. Trimmer for $72,000; Frank E. and Francis Webster for $44,510; Clifford R. and Lynda Greenland for $39,500; Lloyd and Patricia Blood for $35,900; Clifford R. and James M. Bolles and Martha Sloan for $30,000; Charlotte Chittim for $27,320; William D. and Geraldine Emmert for $20,100; Elmer Ellingson for $20,100; and Floyd and Mary Lou Grigg for $17,001. [35] McGarvey, Morrison, Hedman & White filed seven more air pollution civil suits against AAC on Oct. 7, 1970. All seven plaintiffs were residents of Tracey's Aluminum City and included Nathan and Florence Hill for $70,600; Marjorie B. Kollenborn for $52,700; Marla Lou Forrest for $21,000; Frances Maurice Tracey for $15,000; Robert B. and Darlene Tracey for $51,000; Richard A. and Betty J. Bras for $21,000; and Clyde E. and Mildred L. Hill for $10,002. [36] In December 1970, Waylon C. Collins and Jean L. Collins, owners of three lots in Tracey's Aluminum City, sued AAC in Silver Bow County using a Butte law firm. The Collins sought $17,000 in damages, and it was expected that AAC's attorneys would request a change of venue. [37]

Tracey's Aluminum City was created in September 1953 when Fredricksen Real Estate began selling lots in the project. The 12-block neighborhood on the North Fork Road about a mile from the aluminum potlines included 144 lots measuring 50-by-125 feet and offered electricity, telephone service, lower taxes, paved roads within a year and prices beginning at $375 per lot. [38] By September 1954, Flathead Valley real estate promoter Tom Taylor announced plans to build a shopping center at Tracey's Aluminum City. The shopping center would include seven shops, a service station and a parking lot. Taylor, however, was linked to a 1946 proposal to build a pulp mill in the valley. The pulp mill was never built, and some investors lost their investment capital. As a result, Hungry Horse News publisher Mel Ruder advised caution to those wishing to invest in the new shopping center. [39]

By the end of 1970, twenty-nine air pollution lawsuits had been filed against the AAC smelter in Columbia Falls totaling $25,126,092, including the $21 million class-action lawsuit brought by the Krecks. In 2016 money, that came to more than $156 million in total, including more than $25 million that was not part of the class-action lawsuit – suggesting a hefty sum for successful plaintiffs and attorneys alike. Public reaction to the lawsuits came swift, including the notion that people could file a lawsuit on behalf of people they had never met. On Sept. 25, 1970, letters to the editor began to appear in the Hungry Horse News taking sides on the class-action lawsuit. Janet Rosenberry, a high school student, accused AAC of "destroying our valley and none too slowly." James R. Wolfe, a newcomer to the area, called attention to jobs provided by AAC and asked that the company be given time to develop the appropriate technology to deal with the pollution problem. Allen Jacobsen, a long-time resident, objected to being included in the class-action lawsuit and cautioned the public about hysteria sweeping the valley. [40]

In his letter to the editor, Clarence Clapper suggested that Kreck's actions selfishly promoted conservation to the demise of the economy. Clapper also accused the McGarvey law firm of being motivated by money. Jack Holterman believed that local residents were victims of both AAC and the Bonneville Power Administration. An anonymous housewife reminded readers of the poverty that existed in the valley before AAC built the smelter and called for people to "do something to stop this unusual suit against this wonderful plant that has done so much for the poorer people of this valley and county." [41] In an Oct. 2 letter, Mrs. Fred Boss wondered if the people suing the AAC plant smoked cigarettes, hinting at hypocrisy. [42] In an Oct. 9 letter, Mrs. H. Vahl said she was opposed to the class-action lawsuit. "When I want to sue someone, I'll do it on my own," she wrote. "I don't need someone else to tell me what to do. Since when does Dr. Kreck have the authority to involve people without their consent? I thought we were Americans. I did not know that Russia has stepped in." [43] On June 23, 1971, McGarvey wrote to Mr. and Mrs. Orley Huffman and Charlotte Chittin to inform them that he had received word that AAC was willing to discuss a settlement in their air pollution lawsuit. [44]

## Fees and strong language

Dale McGarvey turned to Clancy Gordon and his lab at the University of Montana for evidence that could be used in the air pollution lawsuits. On Dec. 10, 1970, McGarvey wrote to Gordon with a list naming 28 claimants in cases against AAC. Twenty-one of them were from what he called "Aluminum Acres," including William and Mary Armstrong, Lloyd and Patricia Blood, Clifford and Jane Boles with Martha Sloan, Charlotte Chittin, Waylon and Jean Collins, Elmer Ellingson, William and Geraldine Emmert, Marla Lou Forrest, Clifford and Lynda Greenland, Floyd and Mary Lou Grigg,

Josephine Hamilton with Georgia Hamilton and Allen Wagner and Sandra Wagner and John Lewitz, Nathan and Florence Hill, Orley and Rose Huffman, Marjorie Kollenborn, Frank and Dorothy Sedivy, Francis Tracey, Robert and Darlene Tracey, Gordon and Edna Trimmer, Frank and Frances Webster, and George and Betty Zingleman. Seven cases were from the Canyon side of Teakettle Mountain, including John and Lillian Bras, Charles Rosenbaum, Richard and Betty Bras, Joseph and Marguerite Hauber, Richard and Celia Ove with Leif Ove, Charles and Amanda Tustin, and Carroll Wright. [45]

On Jan. 18, 1971, Gordon wrote to McGarvey to tell him he was starting to put together research costs for the AAC cases. Gordon said he had collected more than 100 samples which were being tested in his lab, and he expected the total cost to run about $4,000. He said 300 to 400 fluoride analyses should provide sufficient data for the court cases. Those analyses could be augmented with data he was collecting in a Glacier Park study for the Environmental Protection Agency, he added. Gordon also noted that he was donating a lot of his own time. [46] On May 24, McGarvey wrote a check to Environmental Degradation Grant Account No. 838-6 for the sum of $2,193 with a notation at the bottom saying "Advance on costs for testing for AAC cases." The check was sent to Gordon, who used the money to support his lab. [47] On Sept. 25, 1972, Gordon wrote to McGarvey with an update on work he had conducted at the 160-acre Dehlbom property near the AAC plant over the past 2 1/2 years. Gordon said he had conducted fluoride analysis on 247 vegetation samples and 45 animal samples and noted that McGarvey had asked for "scientific assistance for legal action prior to our 1970 EPA study." His bill for the work at the Dehlbom property came to $4,235. Gordon said he was also owed $600 for deposition work but was willing to take court transcripts instead, with the rest of the money going to a Missoula attorney who had helped in the case. Gordon noted that in the future he wanted to have a contract with McGarvey for work. [48]

On Sept. 14, 1973, Gordon wrote to McGarvey about his fees in the Dehlbom case. He calculated that his time spent on oral testimony, depositions, time spent in the university laboratory with McGarvey and attorney Frank Morrison, and answering interrogatories was worth $1,050. Gordon said he was willing to swap money for copies of the court transcripts and money for a research grant. [49] On Nov. 9, 1976, McGarvey wrote to Gordon with an update on the Kreck lawsuit. "In the light of the recent election, I think that now the people of Montana will certainly get an even chance in the Montana Supreme Court," McGarvey said. Judge Sykes will see the evidence their way, McGarvey said, but he expected the AAC attorneys would appeal. What McGarvey wanted to know was, should the court allow treble damages for timber damaged by fluoride, and "Should Anaconda be excused from paying damages when they pollute their neighbors, simply because they are a large outfit and employ a lot of men and contribute toward the tax base of Flathead County?" [50]

Gordon's reputation for strong language and pointed criticism was no secret – it was common knowledge among his friends and co-workers, and he didn't hold back in public speaking. And his involvement in air pollution lawsuits around the world as a professional consultant or expert witness didn't seem to change his ways. When the matter of Gordon using foul language was raised by Anaconda Company attorneys, Gordon received advice on the matter from Portland, Ore. attorney Lamar Tooze. On Sept. 17, 1971, Tooze wrote to Gordon about allegations of misconduct during Gordon's July 27, 1971, deposition in the Dehlbom case. Tooze said he was attaching "my affidavit in reply to Anaconda's stupid motion." Tooze advised Gordon that if the attorney in the case, Dale McGarvey, would not protect Gordon from the charges, then Gordon should hire his own attorney and bill McGarvey accordingly. Tooze, however, expressed concern about how information from the Dehlbom case could affect air pollution cases he was involved with against Harvey Aluminum at The Dalles, Ore., and Intalco at Ferndale, Wash. [51]

In his affidavit to Judge Sykes, Tooze wrote, "I have known Dr. Clancy Gordon for a considerable time and regard him as the most outstanding environmentalist in the western United States." Gordon had asked Tooze to represent him during the July 27 Dehlbom deposition in order to protect Gordon's confidential work for Tooze's clients in the Harvey Aluminum, Intalco and other aluminum plant air pollution cases. Tooze said Gordon had been asked in the deposition to present an unfinished report he was making for the U.S. government in a matter related to the Dehlbom case, and the U.S. government had pledged Gordon to maintain his confidentiality. Tooze pointed out that the Anaconda Company attorneys had no right to invade Gordon's work in the Intalco case because Gordon was an expert witness working for Tooze. "It is a basic principle of evidence that a witness may not be subject, without cause, to embarrassment, harassment or annoyance," Tooze said in his affidavit. "Whether or not Dr. Gordon has referred to others as 'biowhores' is wholly and absolutely foreign to any legitimate issue, and the question was obviously aimed at badgering him." [52] Tooze wrote to Gordon again on Sept. 22 about allegations of "misconduct" and inappropriate language during Gordon's deposition in the Dehlbom case. "The obvious and natural champion of your rights would be Dale McGarvey," Tooze wrote. "If you think he can, and will, protect you, let him do so. If you have any doubts, tell McGarvey that his failure to protect you during the deposition has greatly increased your costs as his expert witness." [53]

Anaconda attorney Merritt Warden filed a legal motion in the Dehlbom case on Oct. 26, 1971, alleging misconduct by Gordon during his deposition. First, Warden claimed, Gordon had refused to provide AAC with information he had from an EPA study of Glacier Park, claiming it was not finished and privileged and not related to the Dehlbom

case. Tooze had backed Gordon up. Second, when asked about Gordon's work in a case involving Intalco, Tooze had objected and said it was "work product." Third, when an AAC attorney at the deposition asked, "Incidentally, have you ever used the term 'biowhore'?" Gordon replied, yes. Tooze advised Gordon to remain silent. The AAC attorney deposing Gordon then asked if the reference to "biowhore" was used to describe botanists or plant pathologists, and then asked if Gordon looks at the same microscopic specimens as these other scientists, why would they come up with different conclusions? Gordon asked if the AAC attorney could read back the lengthy question. "Just the last part," Gordon said. "I can't stand the whole question." Tooze objected, saying, "I must interject, that is the shittiest question I heard in all my life." [54]

On Nov. 19, 1971, Tooze wrote to Missoula attorney Karl Karlberg about allegations of misconduct during Gordon's deposition in the Dehlbom case. "You saved me and Clancy from the rack and thumbscrew," Tooze wrote. "You and I are obviously executives in the Gordon Guardian Society, and if you enjoy tidying up his battlefields as much as I do, you can't really claim any medals. The fact that all of us breathers depend on Quixotes like Clancy is reward enough." [55] In a Dec. 1, 1971, letter to Tooze, Gordon noted that Judge Sykes had expressed concern about "misconduct" by Tooze and Gordon in how they treated the AAC attorneys during the deposition. "As you can see, the judge is not too concerned about such terminology as 'biowhore,'" Gordon wrote. "However, I believe he is sort of a country philosopher who may be over his legal head in this case." In a side note, Gordon added that Tooze might be interested that "our movie on ecocatastrophy in Montana is completed." [56] On Dec. 6, 1971, Tooze wrote to Gordon about a sanctions hearing ordered in the Dehlbom case. Tooze noted that Sykes never made one firm ruling about how the deposition went, but he was concerned how the Dehlbom case might affect other pollution cases he and Gordon were involved in. "If and when they take your deposition again, give me some advance notice so that we can protect the Bellingham group against the intrigues of the aluminum industry," Tooze wrote, referring to the Intalco aluminum plant case. [57]

## The class action case

The size, complexity and uniqueness of the Krecks' class-action lawsuit and the legal strengths of the Anaconda Company inevitably drove the case to the Montana Supreme Court. By Oct. 29, 1971, when the Supreme Court heard arguments in the case, damages had been reduced from $21.5 million filed on behalf of 6,000 residents inside a 24-square-mile area to $10 million on behalf of 3,000 residents inside a smaller area closer to the AAC plant. The Supreme Court heard arguments on whether Judge Sykes had ruled correctly in establishing a class action for the case. Attorneys for the Anaconda Company argued that a class-action lawsuit was not the appropriate response for the

case. In a compromise, Judge Sykes had deleted references to personal injuries "because that would have to be on specific instances." The question of AAC's liability for damages had not yet been determined and would be argued in district court. [58] Attorneys pointed out that 27 additional suits had been filed against AAC for air pollution damages, of which 22 were by owners of property within the area designated in the class action. Anaconda attorneys argued that the class action should be broken up into individual suits because the "facts are so diverse that common issues of fact and law, if any, do not predominate over questions affecting only individual owners." Attorneys for the plaintiffs argued that if "liability is established within the whole area, it is established for the whole class." Once liability was established, the merits of each individual suit would determine damages, they said. Anaconda attorneys also served notice that they would not accept Clancy Gordon as an expert witness. The plaintiffs had planned on proving their case using Gordon as their only witness. [59]

On Nov. 9, 1971, the Montana Supreme Court announced it would not intervene in the Krecks' class-action air pollution lawsuit and sent the case back to Judge Sykes. The Anaconda Company and the Anaconda Wire and Cable Co. had requested that the Supreme Court handle the case. Justice Wesley Castles dissented. In the 4 to 1 majority decision, the Supreme Court ruled that the district court could handle the case as a class action, but "if, as the matter progresses in that court, it appears otherwise… the order may be altered or amended before a decision on the merits." Sykes had already ruled out $7.5 million in alleged personal injury damages leaving $14 million. The next step for the district court was to issue notices to the people or property owners in the affected area to see if they wanted to be included in the lawsuit. Those who chose to stay in the lawsuit could either share in the award if they won or share in the cost of the lawsuit if they lost. The next step for the plaintiffs was to separate the liability phase of the case from the damage phase. The defendants' attorneys said the district court was "sinking into a quagmire for a prolonged period." [60]

The Krecks' class-action lawsuit initially requested $21 million for damages caused by the plant's fluoride emissions when it was filed on Sept. 15, 1970, but the district court did not sustain the personal injury portion of the suit. An amended suit asking for $14 million was presented at a hearing before Judge Sykes on July 14, 1972. [61] On July 28, the Hungry Horse News reported that property owners in specified parts of Columbia Falls would be given until Sept. 15 to decide whether they wanted to join the lawsuit. About 1,500 property owners would receive notices from the court by Aug. 15, and any owners who did not respond by Sept. 15 would be included in the case as plaintiffs automatically. The Krecks' lawsuit alleged that the AAC plant discharged "atmospheric chloride, coal tar pitch, other hydrocarbon and particulates" that killed trees and shrubbery. The boundaries of the 24-square-mile area in the lawsuit ran one-half mile

west of the Woodlawn Cemetery, about three miles south and about three miles north of Columbia Falls, and east to near Bad Rock Canyon. Judge Sykes' instructions to potential parties of the case were published in the Hungry Horse News on July 28, where he explained that rules for class action lawsuits were set by Montana law. [62]

The Hungry Horse News kept the public informed weekly on the evolving case. The newspaper urged owners of property inside the area designated in the class-action lawsuit to exercise their legal rights in an Aug. 4, 1972 editorial. Any property owners who did not mail notices back to the court by Sept. 15 would automatically be included in the case, and any person attached to the lawsuit would be responsible for court costs but not attorney fees, the newspaper explained. If the plaintiffs won, their lawyers would receive about 20% of the total award. Any property owners wishing to join the lawsuit could either hire their own attorneys or use the law firm of McGarvey, Morrison and Hedman, which represented the Krecks. [63] Notices were mailed out by the Flathead County Clerk of Court on Aug. 15, 1972. The Krecks sought $12 million in damages for the destruction of trees, $1 million in damages for the destruction of shrubbery, grass, flowers and the natural beauty of the environment, and $1 million in punitive damages. The Anaconda Company denied the allegations and denied there was any willful or malicious conduct on their part. [64] On Aug. 18, the Hungry Horse News published the complete text of the legal notice sent by Judge Sykes to the 1,500 possible claimants in the lawsuit. The Anaconda Company was represented by the law firm of Korn, Warden, Walterskirchen & Christiansen in Kalispell and Miller, Anderson, Nash, Yerke & Wiener of Portland, Oregon. [65] According to Judge Sykes, this was the first class-action lawsuit in Montana history. In a similar lawsuit involving air pollution by a phosphate processing plant in Garrison, the individual lawsuits of the plaintiffs were consolidated into one case. [66]

Ruder expressed his opinion on the class-action lawsuit in an Aug. 25, 1972, editorial. "As an individual property owner, this writer elects to be excluded from the suit," he said. "Damage at the Hungry Horse News corner is one ponderosa pine. At our home where there are 100-plus trees, predominantly Douglas fir and ponderosa pine, no obvious damage by fluoride shows. Therefore in good conscience (one's idea of moral right and wrong) neither Mrs. Ruder nor I can claim damages. (Perhaps other property owners can.)" Ruder concluded the editorial by saying that the fluoride problem in Glacier Park was more serious than that of the local property owners. [67] By Sept. 7, a total of 846 notices had been returned by mail to the Flathead County Courthouse. Unofficially, all the returned notices indicated that the property owners did not wish to become part of the lawsuit. [68] Meanwhile Dennis Haddow, an agent for the Montana Air Quality Bureau, installed a seventh air pollution monitoring station on Teakettle Mountain high above the aluminum smelter on Sept. 13. Two more monitoring stations

were planned, he said. Data from the first six monitoring stations indicated that fluoride emissions from the aluminum plant were six to 35 times above the proposed Montana standard of 864 pounds per day. AAC claimed it had reduced fluoride emissions from more than 7,000 pounds per day to less than 2,500. [69] By Sept. 29, a total of 1,322 notices had been returned by mail to the courthouse. Unofficially, nearly all the returned notices indicated that the respondent did not want to join the lawsuit, but the deadline had passed so the 150-some unaccounted-for property owners had become part of the lawsuit by default. [70]

In November 1972, a second set of notices were mailed to owners of property within the area specified by the class-action lawsuit. Judge Sykes said about 300 notices were mailed to property owners who did not respond to the first notice. [71] Ruder expressed his opinion on the failure of the Krecks' lawsuit to gain public support in a Dec. 1 editorial. "If the Flathead could vote on the question of preservation of payrolls, it would be one-sided," he said. "Indicators include the returns on the part of property owners who wanted to sue Anaconda Aluminum Co. last summer. It was 1,325 to AAC to 0 for the suers. Senator Lee Metcalf, a national conservationist, lost the county by 1,259 votes." [72] Ruder chose the class-action lawsuit as number six in the newspaper's top-10 stories of the year list for 1972. [73] Judge Sykes spoke to the media about the case on Jan. 17, 1973. By that time, notices had been sent twice to property owners inside the designated area. Sykes said it appeared that 50 to 60 property owners were still considered part of the class action. At this point in the proceedings, Sykes intended to determine whether the lawsuit should continue as a class action or as individual civil suits. A number of individual civil suits already were pending independent of the class action case, he said. [74]

In a Feb. 22, 1973 ruling, Judge Sykes reduced damages allowed in the class-action lawsuit to $2.8 million, including treble damages for trees amounting to $2.4 million, another $200,000 for shrubbery and grasses and another $200,000 for punitive damages. Sykes added that about 60 property owners within the 24-square-mile area had not notified the court that they wished to withdraw from the class action suit, and attorneys were now free to contact these individuals to see if they wished to join the case. [75] Sykes dismissed the class-action lawsuit on April 18, 1973. It was Montana's first class-action lawsuit concerning pollution under a new law. After conferring with attorneys from both sides, Sykes granted a motion brought by the defendants to strike the lawsuit as a class action by agreement of the parties involved. The plaintiffs were given 20 days in which to file a personal lawsuit seeking damages. The plaintiffs included the Krecks, E.B. Finch, Merle R. Greenland and Fred F. Trebas. Finch alleged damage to trees and shrubbery on his property in Martin City and damage to animals that were fed hay grown near Columbia Falls. Greenland alleged damage to trees and shrubbery along

with “house paint discoloration and peeling, released in strips.” Trebas alleged damage to trees and shrubbery and a reduction in sale price for property. [76]

Judge Sykes signed an order dismissing the case with prejudice on May 15, meaning the lawsuit could not be brought back to court. By that time, the Krecks had failed to file an individual civil suit within the allotted 20 days. Several other lawsuits against AAC were still pending – including the largest, one brought by Harold R. and Mabel Dehlbom. The Dehlboms’ suit had been reduced from $2.38 million to $930,000 plus $1 million exemplary. [77] The class-action lawsuit caused a big stir in the Flathead and led to intense negotiations, Dale McGarvey recalled in a December 1980 newspaper interview. “The turning point came when Chuck Taylor, head of the plant then, admitted there was a terrible pollution problem,” McGarvey said. “It turned the anger of the people in the class action.” From these negotiations came a promise by AAC to reduce fluoride emissions from 10,000 pounds per day to 864 pounds. Eventually all the individual cases were settled. Harold Dehlbom, who owned acreage north of the plant, received $200,000. The company took over the land and leased it back to Dehlbom for free for two lifetimes. Eight landowners with property on the opposite side of Teakettle Mountain from the smelter settled for a total of $139,493. Owners of 16 smaller tracts on the front side of Teakettle Mountain settled for a total of $59,157. The payments were for damage to crops, white pine, lodgepole pine and ponderosa pine. [78] Dismissal of the class-action lawsuit ranked ninth in the Hungry Horse News’ top-10 stories of the year for 1973. [79]

## Setting fluoride standards

Some lawyers and scientists had multiple roles in the ongoing air pollution dispute in Columbia Falls – representing locals in lawsuits against the AAC plant while promoting air quality standards and regulations in Helena. Sometimes the roles intermingled with unexpected results. In October 1970, McGarvey joined several clients with property in the Tracey’s Aluminum City subdivision in sending a letter to Ben Wake, director of Montana Board of Health’s Air Pollution Control Division, about the state’s proposed standards for fluoride emissions by aluminum smelters. The health board was scheduled to take up the new standard at its Nov. 20 meeting. The letter asked Wake to reconsider the proposed standards in light of AAC’s announcement that it would install new air pollution control equipment that might reduce fluoride emissions to 2,500 pounds per day by April 1971, specifically the Ducon Venturi air pollution equipment. McGarvey said the $1 million that AAC planned to spend was proof the company intended to stay in the Flathead and deal with the air pollution problem. The landowners wanted an “absolute maximum” standard rather than “something to shoot for,” he said. “They feel they are entitled to a fair and impartial hearing of their claims against Anaconda unprejudiced by

the threats and counter threats engendered by the present emission standards." As for AAC's claim that it could reduce fluoride emissions to 2,500 pounds per day by April 1971, McGarvey said, "It's logical to assume if the goal can be met in 1971, there could be refinement and improvements of operations which would reduce the emission rate even further in the future." [80]

Gordon, who was opposed to McGarvey's idea of compromising with the Anaconda Company, wrote to Benjamin Wake on Oct. 28, 1970, about AAC's announcement that it intended to reduce fluoride emissions to 2,500 pounds per day. "While AAC is to be congratulated for the effort they are extending toward lower emissions… I don't see how that effort cancels out the Health Board's standard at 864 pounds per 24 hour period," he said. Gordon suggested political maneuvering was taking place. "There are ugly undertones of a Chamber of Commerce conspiracy related to this newfound 'concern' of lawyer McGarvey for reasonable emissions standards," he said. He also referred to letters to the editor by Chamber of Commerce representatives about AAC's announced plan to install Ducon Venturi scrubber equipment. Gordon noted that Judge Sykes had asked that letters to the editor be stopped so the air pollution lawsuits could be settled in court. "We would like to do this, but the AAC propaganda machine is still making noise," Gordon told Wake. He noted that "Loren Kreck seems discouraged with the way McGarvey is handling his case" and suggested that some people were not sure if McGarvey was still representing the people against AAC. [81]

A delegation from the Columbia Falls Chamber of Commerce planned to attend the Board of Health's Nov. 20, 1970, meeting with hopes of convincing the board members to adopt a reasonable standard for fluoride emissions. The Chamber had three goals – save the smelter for economic reasons, reduce air pollution and find a compromise between the first two. [82] Prior to attending the meeting, Wake released to the public a copy of a memo he had sent to the Montana Board of Health about a case involving air pollution by the Harvey Aluminum Co. smelter at The Dalles, Ore. Wake noted that the Harvey smelter emitted 1,300 pounds of fluoride per day, but emissions fell to 740 pounds per day with its rooftop scrubber system in operation. The Harvey plant had 300 reduction pots – half the size of the Columbia Falls smelter. Wake also released a copy of a news article from the Oct. 29, 1970 Hood River News headlined "Harvey Loses Fluoride Case." According to the article, a jury had found Harvey guilty of willful fluoride trespass and awarded triple damages in the amount of $450,000 to the owner of a fruit orchard near The Dalles. One of the plaintiff's attorneys called the lawsuit a landmark case for Oregon, marking the first time an individual was able to sue a large industrial company for willful pollution damage and win. Other similar cases were pending against Harvey, Wake noted. [83]

McGarvey also spoke to the public ahead of the Montana Board of Health meeting. He called for moving up the timetable and putting some kind of standards into effect two years sooner – in 1971 rather than 1973, when the new air quality standards were proposed to go into effect. The kind of fluoride standards he wanted would gradually push AAC to the 864 pounds per day limit, but it would begin the process sooner, McGarvey said. [84] Speaking to the board, McGarvey called for imposing interim fluoride emission standards to govern the AAC plant before 1973. Asked about his plan after the meeting, McGarvey explained that when his clients learned about the plant's new scrubber system proposal and the significant reductions in fluoride emissions accomplished so far, they began to ask questions: "Will AAC do what they announced? What is the plant emitting now? Why wait until 1973 for protection?" McGarvey worried that his clients had no protection from fluoride emissions before 1973, when the new standards would go into effect and, since he expected a challenge in court, a delay in emission standards until 1976 or later could leave his clients unprotected even longer. When AAC officials told the health board that the 864 pound-per-day limit was unrealistic, the board's reply was that variances could be issued to the plant on a yearly basis so long as the plant was progressing toward the goal of 864 pounds per day. [85] New air quality standards for fluoride that went into effect in 1971 called for ambient levels to be less than 1.0 ppb over a 24-hour period, a level AAC considered far too strict. A company spokesman noted that other states had adopted a 3.5 ppb level over a 24-hour period. It was expected that AAC would require a variance until new pollution control technology became available. [86]

## Forest Service studies

While local property owners battled the Anaconda Company in state courts, federal scientists continued to accumulate evidence of fluoride damage in the Flathead National Forest and Glacier Park. In 1971, the Forest Service published "Environmental Pollution By Fluorides in Flathead National Forest and Glacier National Park," one of several reports by Clinton Carlson, a Forest Service plant pathologist, and Jerald E. Dewey, a Forest Service entomologist. The Forest Service also published "Monitoring Fluoride Pollution in Flathead National Forest and Glacier National Park" by Carlson in August 1972. Fluoride emissions at the AAC plant had been reduced from 7,500 to 2,500 pounds per day by 1970, the second report stated, and evidence of this reduction showed up when comparing 1970 data with 1971 data. Fluoride concentrations in vegetation averaged from 4% less in Glacier Park to 77% less in areas near the aluminum plant when compared to 1970 data. Nevertheless, the report noted, fluoride would continue to accumulate in vegetation "even if the aluminum plant reduced fluoride emissions to the State of Montana standard of 864 pounds per day." Damaged

vegetation was found over a 15,000-acre area and insects also were accumulating fluoride, the report said. [87]

Carlson and Dewey presented their data for the 1971 report in the form of a map using isopols, similar to those found on a weather map, centered on the AAC smelter and indicating fluoride levels found in plants. The lowest concentrations were found at isopol 10, which extended 18 miles distant, deep into Glacier Park at Trout Lake. The highest was isopol 300 on the west side of Teakettle Mountain, right above the smelter, and isopol 600 at the smelter itself. The isopols tended to curve in a northeasterly direction in accordance with predominant wind directions. Carlson's 1972 report was based on sampling completed in 1970 through 1971, when fluoride emissions from the smelter reportedly had dropped from 7,500 pounds per day to 2,500. Carlson reported on 15 plots, which was 20% of the 77 permanent radial plots established in 1970 and resampled in 1971. About 59 square miles or 34,560 acres was being polluted, Carlson said, which was less than in 1970. He also reported that plants injured by fluoride were found on 84 square miles, or 53,920 acres, which was also less than in 1970. He reported, however, that above-normal fluoride accumulation was found in vegetation up to 12 miles away in Glacier Park, and that the fluoride pollution problem around Columbia Falls "has not been alleviated." In 1970, abnormally high fluoride concentrations had been found on 214,000 acres of public and private lands. Visible injury to plants included tree mortality, branch dieback on trees and shrubs, chlorosis and necrosis of foliage. Pollinators, foliage feeders and predators had abnormally high levels of fluoride. He noted that the EPA had contracted with Gordon to study Glacier Park in 1970, and Gordon had reported similar findings to those in the Flathead Forest. [88]

By summer 1971, it was evident that a severe insect epidemic involving five species of foliage-feeding insects had developed in the area impacted by fluoride emissions from the aluminum smelter. Carlson found a significant relationship between fluoride concentrations in trees and damage by needle miner and sheath miner insects. "The data strongly suggested that fluoride in pines was a contributing factor in predisposing the trees to insect attack," Carlson later reported in his 1978 Ph.D. dissertation. By 1974, trees on about 250 square miles of polluted land were very brown, which Carlson attributed to the combined impacts of insects and fluoride. [89] Insect infestations across the Forest Service's Region 1, including the Flathead Forest, had become a significant concern by June 1971 when the Region 1 offices in Missoula released two reports on the problem. The first, "Forest Insect Conditions for the Northern Region," by William M. Ciesla, Mark D. McGregor and Wayne E. Bousfield, focused on substantial damage to timber caused by various insect infestations, including significant impacts to western larch in the Flathead Forest. A companion report, "Forest Disease Conditions in the

Northern Region," by Carlson and Oscar J. Dooling, also discussed the impacts of fluoride emissions by the AAC smelter. "Fluoride has caused considerable injury and mortality to vegetation in the Columbia Falls, Montana area," the second report stated. The report's cover photo showed damage to lodgepole pine by fluorides. The area impacted by fluoride emissions also included Glacier Park, the report said. [90]

On Dec. 7, 1971, the Forest Service released a 57-page report called "Environmental Pollution by Fluorides in Flathead National Forest and Glacier National Park." Excerpts of the report were published in the Hungry Horse News. The Forest Service had initiated the study in 1969 and concluded that fluoride emissions from the AAC smelter were "the primary cause of the injury and damage to vegetation in the surrounding area." Highest fluoride concentrations reached 1,000 ppm in vegetation near the aluminum plant. Data showed that fluoride emissions from the plant were carried by prevailing air currents over a saddle in Teakettle Mountain toward Glacier Park. Elevated fluoride levels, greater than 10 ppm, were found in vegetation on Columbia Mountain and Teakettle Mountain as well as near the towns of Columbia Falls, Hungry Horse and Coram. Varying degrees of visible injury to vegetation caused by fluorides were found on more than 69,120 acres. Elevated fluoride levels were found on nearly 214,000 acres of forested land under mixed ownerships. [91]

Despite significant reductions in fluoride emissions at the AAC plant during summer 1970, the 57-page Forest Service report said, fir and spruce trees continued to accumulate fluorides at the same rate as in 1969. The report interpreted this to mean that a threshold concentration of atmospheric fluoride existed. According to the report, AAC needed to reduce emissions below this threshold before accumulation of fluorides by vegetation could be reduced. The susceptibility of conifer species to injury by fluoride emissions, from most susceptible to least, included white pine, ponderosa pine, lodgepole pine and Douglas fir. The most tolerant species were spruces, western red cedar and subalpine fir. Fluorides were also found in tissues taken from all groups of insects. Pollinators had the highest fluoride levels at 406 ppm. Predatory insects had fluoride levels at 53 ppm, indicating that fluoride was moving up the food chain. Inside Glacier Park, the highest incidences of injury and accumulation of fluorides were found on the southwest faces of the Apgar Hills and the Belton Hills. There was a possibility that fluoride pollution was present as far away as Logan Pass on the Continental Divide near the center of the Park, the report said, but no sampling had yet been conducted that far into the Park. Fluoride levels from sampling on Desert Mountain in the Coram Experimental Forest ranged from 10 ppm to 25 ppm, and very little visible injuries had been observed. The report concluded by recommending that either pollution controls be put in place at the AAC plant that reduced fluoride emissions to zero pounds per day, a highly unlikely scenario, or that the smelter should be closed, which was also

considered highly unlikely. As a compromise, the report recommended supporting the proposed state fluoride emissions standard of 864 pounds per day. [92]

On July 16, 1973, representatives from several federal and state agencies met at the Flathead Forest Supervisor's Office in Kalispell to discuss fluoride emissions from the smelter in Columbia Falls. The meeting was requested by Glacier Park Superintendent William J. Briggle and Flathead Forest Supervisor Ed Corpe. Representatives from the EPA and the Montana Department of Health were present at the meeting, where presentations were made by Carlson, Gordon, Wake and Kirk E. Foster, from the EPA. [93] On Oct. 9, Carlson spoke about fluoride impacts on vegetation in the affected area during a Western Forestry and Conservation Association meeting in Whitefish. Members of the professional group traveled to the Teakettle Mountain area the next day to observe damage to the forest cover by fluoride emissions. [94] On Oct. 16, Assistant Secretary of the Interior Nathaniel Reed wrote to Agriculture Secretary Earl L. Butz about fluoride emissions from the AAC plant impacting Glacier Park. "This department is increasingly concerned with the problem of the fluoride emissions emanating from the Anaconda Aluminum Company's aluminum reduction plant at Columbia Falls, Montana, and affecting the natural conditions of Glacier National Park," Reed said. "It is our understanding that you share our concern because of the diverse impact these emissions are having on the Flathead National Forest." Reed asked the Agriculture Department to join with the Interior Department in testifying at upcoming hearings on AAC's application for a variance to Montana's fluoride emissions standards. [95]

Carlson and Forest Service scientist W.P. Hammer reported on results from radial increment core sampling on conifers in areas impacted by fluoride emissions in 1974. The core samples were measured to within 0.01 inches to determine growth rates for lodgepole pines. [96] In a 1974 report, the Montana Department of Health and Environmental Science stated that hydrogen fluoride made up about 90% of the biologically toxic gas emitted by reduction cells at the AAC smelter. Other gaseous emissions included carbon tetrafluoride, silicon tetrafluoride, carbon disulfide, carbonyl sulfide, hydrogen sulfide and sulfur dioxide. Particulate emissions totaled about 10% of emissions and included cryolite, chiolite and aluminum fluoride. Fluoride emissions at the AAC plant were estimated to have been as high as 7,500 pounds per day. According to a later report in 1978, sulfur dioxide emissions, primarily from the continuous baking of Soderberg anodes, reached an estimated 14.3 pounds per day. "Hydrogen fluoride is probably the paramount phytotoxic gaseous emission from AAC, but sulfur dioxide possibly is important singly or synergistically," Carlson said in his 1978 dissertation. [97]

## National Park studies

Glacier Park studies during the early 1970s, including those conducted by Anaconda Company scientists, also accumulated evidence of fluoride impacts to vegetation. Gordon issued an interim report on fluoride impacts to Glacier Park in January 1971, and AAC scientists issued a report in March 1971. The federal government signed a contract with Gordon in July 1971 for additional study. Gordon issued a final report in January 1972, and AAC scientists followed up with a report in March 1972. The Environmental Protection Agency issued an interim report in December 1972, and AAC scientists issued another annual report in May 1973. Glacier Park put out a report on fluoride impacts to small mammals in June 1973, and the EPA issued its final report in November 1973. [98] Gordon's January 1971 preliminary report was contracted and paid for by the National Air Pollution Control Administration of Durham, N.C. – NAPCA, the predecessor to the EPA. Gordon's investigations found accumulated fluoride in conifer needle growth in 1968 and 1969 and reduced amounts in 1970 needles. Fluoride was found in lodgepole pine, grasses and shrubs. [99] The Hungry Horse News informed its readers about the Park studies in a March 5, 1971 editorial that also warned that federal pollution laws might soon be put in place to regulate fluoride emissions from the Columbia Falls smelter. The ongoing Park studies were expected to show that fluoride emissions had damaged flora and fauna in Glacier Park as much as 20 miles away from the plant, including lodgepole pines, grasses, shrubs and rabbits. [100] In July, the newspaper reported that Clifford J. Martinka, a research biologist employed by Glacier Park, and an observer from AAC would accompany Gordon during his studies. [101]

Gordon reported in his 1972 report that he collected fewer flora and fauna samples from Glacier Park in 1972 than in 1971 because he had less access time to helicopters, and he had no samples from the Belton Hills winter range area. He also had started later in the year, when the "grizzly bear season" had already begun in the lower Apgar Ridge area. The needle growth he collected from conifers represented four years of growth in all areas he sampled. This allowed him to compare fluoride accumulation for the years 1969 through 1972. No rodents were collected in 1972, but he received bone tissue samples from one elk and one black bear supplied by Martinka, two grouse from the lower Belton Hills area, seven deer collected from the Teakettle Mountain area in winter, and 100 large herbivores provided by the Montana Department of Fish, Wildlife and Parks that came from known "control" areas in 1972. Gordon reported that fluoride accumulations in Glacier Park were higher than in the control areas by several factors, indicating that "low levels of insidious concentrations of fluoride were still present in the southwestern portions of Glacier National Park during the growing season of 1972." He also reported that, "If one compares the fluoride levels found in those animals collected from Glacier Park with those from control areas, it appears without much doubt, even

though the sample size is extremely low, that the Park animals collected as obtained in 1972 have fluoride levels above baseline concentrations." He called grouse "one of the best indicator species for ascertaining the transfer of fluoride in the food chain." [102]

Portions of Gordon's report were published in the Hungry Horse News on March 10, 1972. "Finally, if the Anaconda Company has reduced its fluoride emissions to 2,500 pounds per day, as they have declared through the news media, then this reduction is not sufficient to effect a cessation of fluoride accumulation and damage to the flora and fauna of the three zones in Glacier National Park studied during 1971," Gordon concluded in his report. Gordon sampled flora and fauna at three locations in the Park – near the Middle Fork Ranger Station and Apgar Ridge area, in the Headquarters Hills area and part of the south side of the Belton Hills, and in the Belton Hills winter range. Gordon believed his results showed that fluoride accumulated in conifer foliage even during winter when conifers were dormant. This observation corresponded to fluoride studies conducted around the Rocky Mountain Phosphate plant at Garrison and the Intalco aluminum smelter in Washington, he said. [103]

The Anaconda Company and AAC wanted to conduct their own studies in Glacier Park. On May 5, 1971, Bernard Kostelnik, counsel for the Anaconda Company in New York, called Briggle from Columbia Falls to ask how fluoride sampling would be conducted for small mammals in Glacier Park. The Park had already turned down AAC's request to conduct their own collecting and sampling. Briggle replied that a group of personnel would be doing the collecting. "He stated that Anaconda had a low opinion of Dr. Clancy Gordon and asked if we would help do this analysis," Briggle described the phone conversation in a memo. "I replied that the company could bring it up at an appropriate time to discredit his work if they wanted to. APCO had accepted Dr. Gordon's analyses and therefore, we did not discredit them." APCO referred to the Air Pollution Control Office in the EPA. Briggle had issues with the implications of the phone conversation. "I stated that there is too much emphasis on Dr. Gordon; our contract is with APCO," Briggle said. Kostelnik said he wanted to petition for a change in how the studies were conducted and wanted double-checks on Gordon's findings. [104]

Kostelnik wrote back to Briggle on May 18, noting that the Park had approved AAC to study vegetation but not small mammals. "What choice had I but to take the half loaf you offered," he said. The Park had insisted only one group of collectors would be allowed to operate, and Kostelnik had wanted an AAC representative to be included in the group. AAC also wanted to conduct its own study and "see no valid reason we should not be permitted to do so," he said. "We will in that event not let the unfair treatment we feel we're receiving go unnoticed." [105] Briggle replied to Kostelnik in a May 24 letter. "If one were to read between the lines of your letter, it would appear

that you are casting doubt upon the integrity of the National Park Service, its employees and the Air Pollution Control Office to conduct a scientific study," Briggle said. "Moreover, there is a cloud cast on our honesty to share with the company the findings of such a study." Briggle said his staff would provide AAC with samples from small mammals which AAC could send to their own labs for analysis. [106]

Results of investigations by AAC scientists were forwarded to Glacier Park. On May 24, 1972, Kostelnik sent Briggle results of the company's analysis of bone specimens taken from animals captured in the wild, including Columbian ground squirrels, golden-mantled ground squirrels, yellow pine chipmunks, red-tailed chipmunks, snowshoe hares, blue grouse, ruffed grouse, white-tailed deer and black bear. The animals were captured along Apgar Ridge, in the Belton Hills, on the Flathead Forks Road and in West Glacier during the summer of 1971. The amount of fluoride found in the bone specimens ranged from a low of 70 ppm to a high of 3,100 ppm. Another set of data attached to the letter contained results of fluoride analyses of bone specimens taken from similar animals in similar locations by Gordon. The second set of data had not been analyzed by AAC and no data was given on the amount of fluoride found in the bone specimens from Gordon. [107]

On May 15, 1973, A.W. Hook, the environmental manager at the AAC smelter, sent results of the company's analysis of air, vegetation and rodent samples taken in Glacier Park in the 1972 season. A map attached to the letter showed sampling sites in the Park as far north as Bowman Lake and up McDonald Creek as far as Avalanche Creek. Animals tested included Columbian ground squirrels, deer mice, yellow pine chipmunks and golden-mantled ground squirrels. A femur was taken from each animal for use by AAC, and the remaining femurs and skulls were given to Clifford Martinka for analysis. [108] On June 27, 1973, Clancy Gordon sent Martinka lab results for fluoride-content analysis of femurs, jaws and skulls from small mammals collected in Glacier Park. The cost was $10 per sample for 100 samples. Femur samples with high levels of fluoride included sample No. GPA-7 at 888 ppm, GPB-1 at 972 ppm, GPB-2 at 1,415 ppm, GPH-1 at 832 ppm, and GPB-3 at 889 ppm. [109] On Jan. 21, 1974, Charles E. Taylor, at that time the assistant division manager for AAC, sent the results of the company's analysis of air and vegetation samples taken in Glacier Park in the 1973 season. [110] On Jan. 30, 1975, Taylor sent the results of the company's analysis of air and vegetation samples taken in Glacier Park in the 1974 season. [111]

Meteorological data also was developed to show how fluoride emissions from the smelter reached different areas of the Flathead Forest and Glacier Park. In 1973, the EPA reported on a study of air flow patterns in the vicinity of the AAC smelter. Upper elevation winds prevailed from the southwest and west-southwest, while lower

elevation winds close to the ground varied as a result of topography and season. During the growing season, from April to October, low elevation winds tended to move from the northeast and down the Flathead River in the morning, but by 11 a.m. solar heating became intense enough to reverse the flow and a southwest breeze became prominent. Early morning winds created an eddy west of Teakettle Mountain, the EPA study found, trapping emissions from the AAC plant. When the airflow reversed by midday, the emissions plume was carried over Teakettle Mountain in a northeastward direction toward Glacier Park. Using an arbitrary scale of 1 to 100, the EPA categorized the seasonal quantity of fluorides in the air to be 100 in summer, 43 in fall, 38 in winter and 54 in spring. [112]

Glacier Park fluoride studies continued through the rest of the 1970s. In August 1974, Gordon was accompanied by University of Montana students Don Dodge and Peter Rice while he collected samples in Glacier Park. [113] AAC scientists presented the Park with reports in January 1974, January 1975, February 1976 and March 1977. Gordon issued another report in July 1975. Glacier Park issued a final report on fluoride impacts to small mammals by Mark Fogelsong in April 1974. The Montana Department of Health and Environmental Science began its analysis of fluoride accumulations at monitoring stations in January 1975. Carlson and Glacier Park plant ecologist Robert Hall conducted vegetation sampling in Glacier Park in August 1977. A Clean Air Act Visibility Study Analysis Report was sent to the National Park Service director in October 1977. New monitoring sites were set up in Glacier Park at Camas Road, Fish Creek Road and Polebridge in March 1978. A new monitoring site was set up across the Continental Divide at the Rising Sun Campground in May 1978. New monitoring sites were set up on the Going-to-the-Sun Road at The Loop and Logan Pass in June 1978. Fourteen monitoring sites were operating in Glacier Park using formate papers or sodium formate plates by 1978. [114]

## Pollution control limitations

On Jan. 8, 1971, AAC General Manager Charles Taylor and AAC Environmental Manager Warren Hook presented the company's progress in controlling air pollution at a meeting of the Montana Board of Health in Helena. Members of the board included John Bartlett of Whitefish, G.H. Gould of Kalispell and Virginia Mann of Missoula. Members of the Montana Air Pollution Control Advisory Council included Bruce Allison of Kalispell and Mel Ruder of Columbia Falls. [115] During the informal hearing, Wake asked about the use of rooftop scrubbers. Taylor said rooftop scrubbers would cost the plant an additional $13 million to $16 million with only marginal improvements in pollution control. Rooftop scrubbers had high maintenance costs and were limited in effectiveness during cold winter weather, Taylor said, and a five-week survey of European aluminum plants

by an AAC engineering team had confirmed this opinion. Taylor also pointed out that company-sponsored consultants had found considerably less fluoride in Glacier Park than reported in other studies. [116]

Francis Alphiser, a NAPCA consultant to the Montana Board of Health who had made a concentrated study of aluminum plants throughout the U.S., also spoke to the board. Alphiser said if the plant invested $10 million on air pollution control equipment, they still could not comply with the state's proposed fluoride emission standard of 864 pounds per day. "In my estimation, the best the plant could hope to achieve is 1,400 pounds daily even after a major capital expenditure," Alphiser said. Wake responded by explaining the philosophy behind the 864 pound-per-day standard. "We never developed the standard just so it could be met," he said. "We adopt a standard to meet the needs and justification of the area. I repeat, the 864 pound standard won't protect anyone (within) a radius of three miles of the plant. I still say technology is available to meet this standard, and the National Air Pollution Control Board says no." Mann informed Taylor that the Montana Board of Health "is not so hard-nosed that it won't consider granting the company a variance if no new technology is developed before the June 30, 1973 deadline." After the meeting, Bartlett noted that board members were impressed with Taylor's sincerity. Partially fabricated Ducon Venturi scrubber units had begun to arrive at the AAC plant for installation in January 1971. Pilot tests of a unit in 1970 had proved successful, and AAC planned on installing 30 units in line with its existing scrubber towers. The Ducon Venturi scrubber units were expected to remove fine particles using water under high pressure and packed beds with more surface area for absorption. Water used in the units would be recirculated in the system. [117]

In his report on the Jan. 8, 1971, meeting, Clancy Gordon noted that Taylor had said new air pollution control equipment would soon reduce fluoride emissions to about 2,500 pounds per day, an amount that would not cause damage to surrounding areas, but Wake had disagreed, suggesting that even the 864 pounds per day allowed under state standards would cause damage three miles downwind. Gordon had suggested that AAC install rooftop scrubbers, but Taylor objected, saying it would cost from $13 million to $16 million. Gordon suggested Taylor's figures seemed high, based on the literature, and $10 million seemed more realistic. Gordon also said a pilot program for the rooftop scrubbers would only cost $1 million. Taylor, however, had said the Anaconda Company didn't have money for that, and he left the meeting shortly afterwards, Gordon noted. [118]

The fluoride emissions problem in the Flathead also drew national attention. In a Feb. 21, 1971, LA Times article titled "Anaconda Fumes Killing Forest: Ecologists Battle Montana Economic Giant," Philip Fradkin described fluoride emissions damaging

vegetation downwind from the smelter. “Along the way, the gas has denuded Teakettle Mountain, killed or maimed about 10,000 acres of trees and plant life in the national forest and damaged trees in the national park – one of the most pristine wilderness areas in the United States,” he said. “Wildlife has suffered, as has some domestic cattle. Trees in town are being killed by fluorides, and residents have been warned against eating lettuce raised in local truck gardens.” Fradkin then posed the economic question. “An environmental disaster? Hardly, as viewed by the residents of this community which is heavily dependent on the paychecks and taxes the plant generates,” he said. “If a poll were taken in town today, most agree it would favor continued pollution over a decline in the material standard of living.” According to Fradkin, the city government, labor unions or service groups had not spoken out against the air pollution. [119]

Fradkin interviewed Roger Elliot, the mayor of Columbia Falls and an accountant who computed taxes for AAC workers and businesses dependent upon AAC employees. “From a personal position, I don’t like to see the fluorides in the air, but I have to recognize it is good for the economy,” Elliot said. Fradkin also interviewed Curtis Peterson, president of Aluminum Workers of America Local 320, representing production workers at the plant. The union had written to the Montana Board of Health objecting to imposing fluoride emission standards that the company said it would be unable to comply with. “We’re grubby men who got to make a living tending those pots, not professors from far away,” Peterson said. Fradkin also talked with an anonymous labor leader who told him, “I don’t want to see this thing stampeded to the point where they close the plant down. If you get right down to it, the paycheck outweighs the other factors. Some workers are concerned, some are not. It all depends on whether they own their own homes, their ages, how much payments they got to make. All these things enter into it.” Fradkin also talked with officials at the AAC plant. “In my opinion there is very little damage,” General Manager Charles Taylor said. “I don’t think I am in a position to say what is damage or what is not. What is damage to trees? There are very different definitions. There is no scientific definition for damage.” Warren Hook, the plant’s environmental manager, also had language questions. “I don’t know of any trees which have died specifically of pollution in the community,” Hook said. “If you have industry, you will have pollution. What is pollution? You tell me what it is.” [120]

Contrasting these statements were the opinions of Loren Kreck who told Fradkin, “What really gets me is that they expanded in 1968 in the face of knowing they were killing trees and without offering any better protection as far as controls were concerned. They have denied any responsibility for killing trees in town. Hell, we’ve had trees dying from here to the plant and Taylor says he couldn’t see any damage. They have no concern for anything around here – that is what makes you pretty mad.” Fradkin also discussed the role played by Mel Ruder, publisher of the Hungry Horse News and winner of a Pulitzer

Prize for reporting on the 1964 floods. Ruder was also a member of the Montana Air Pollution Control Advisory Council, a former president of the Columbia Falls Chamber of Commerce and "deeply entwined in the business of the community through being part owner of the local bank and chairman of its board of directors." In a sidebar to the Fradkin article run in the Hungry Horse News, Ruder acknowledged that he and his wife owned 4% of the stock of the Bank of Columbia Falls. Fradkin reported that AAC maintained an account in the bank and quoted Ruder saying, "We're not going to drive them out. If they leave, this paper and the bank will be worth a lot less money." Fradkin acknowledged that Ruder had broken the air pollution story in 1969 and had covered the story accurately. [121] In a Feb. 26, 1971, editorial, the Hungry Horse News noted that the LA Times article said little about the plant's fluoride emissions that had not been previously reported, and Fradkin barely mentioned progress made by AAC in reducing fluoride emissions despite his awareness of these improvements. Instead, Fradkin focused on the attention residents and workers placed on job security. "Horror aspect rather than progress in pollution control sells newspapers," the editorial commented. [122]

On May 22, 1971, the New York Times published a feature article by Roy Reed on the smelter's air pollution problems. Under the large-type headline "Prosperity, Then Pollution, in Montana" was a big aerial photograph showing the plant in the foreground, Teakettle Mountain in the middle and the snow-capped mountains of Glacier Park in the background. "Prosperity of the kind most Americans take for granted is less than a generation old in the Flathead Valley and still has only a tenuous foothold," the article began. The article described efforts by Loren Kreck and others to combat pollution by the AAC plant, resentment of the plant's workers to the air pollution lawsuits, damage to ponderosa pines, particularly on Teakettle Mountain, scientific studies by Clancy Gordon and Clint Carlson, and efforts by the company to control air pollution. "I don't want to see this place closed down and bottled up," said Gilbert Rodriguez, an electrician at the plant. "Employment is still not the best in Montana. We could use more industry around here." Regarding health hazards at the smelter, Rodriguez pointed out that "a lot of people have worked in here 15 years and they're still going strong." Concern about the plant's air pollution problem intensified after the plant expanded in the middle-to-late 1960s and the needles on ponderosa pines on the side of Teakettle Mountain turned brown, the article said. Fluoride emissions were suspected from the very beginning. Soon afterwards, the company settled lawsuits with a Christmas tree plantation and a cattle farmer who claimed 22 head of cattle had been harmed. [123]

An AAC spokesman confirmed to Reed that both the trees and the cattle showed evidence of fluoride but pointed out that both had recovered. The most dramatic evidence of damage by fluoride emissions was reported by Gordon. In one case, Gordon

discovered that the metacarpal bone of a seven-year old deer shot 1,500 yards from the plant was twice as big around as a normal bone. In other cases, the teeth of deer were seriously malformed. According to Gordon, excessive fluoride intake caused cells to grow too quickly, resulting in brittle oversized bones or teeth and bone spurs. Gordon found affected deer as far as 15 miles from the plant. Carlson had found that needles of some conifers in Glacier Park contained fluoride levels about 13 times higher than normal. Some grass in the Park contained 70 ppm of fluoride, twice the amount allowed in forage by state law. Carlson concluded that the flora and fauna of the Park was threatened by the AAC plant emissions. The company disputed the two scientists' findings, which were being reviewed by NAPCA. Meanwhile, AAC had installed more air pollution control equipment after Kreck filed his class-action lawsuit in September 1970, the New York Times reported. Fluoride emissions at the plant climbed as high as 7,500 pounds per day, according to company estimates, or as high as 10,000 pounds per day, according to critics, after the plant's expanded facilities began operating in 1968. "The company holds over the community's head an implied threat that it will close the plant if the conservationists push too hard," Reed wrote. [124]

Four months after the New York Times article appeared, a film crew headed by Charles Finance came to the Flathead Valley for two weeks to make an educational movie about air pollution. About a year later, the Encyclopedia Brittanica Educational Corporation completed production of the 16 1/2 minute color film and offered it for distribution. The film used the controversy surrounding air pollution by the AAC plant in Columbia Falls as a case study. [125] Not all media stories supported the allegations against AAC. On Oct. 19, 1973, the Salt Lake Tribune reported that University of Utah biology professors George Edmunds and Michael Treshow had been making observations in the Flathead Forest and Glacier Park for about five years as consultants for AAC. The two scientists reported finding injured or dead vegetation near the aluminum plant in Columbia Falls caused by fluoride emitted by the plant but "no significant injury" in Glacier Park. The only impacts they observed in Glacier Park were "in a small area on a few Oregon grape leaves and a weed called St. John's wort." Both scientists had testified before a House subcommittee where they reported that insects were harming trees on thousands of acres in Glacier Park – but not fluoride. [126]

In March 1974, PEDCO-Environmental of Cincinnati published a draft report on fluoride pollution in Flathead County for the EPA. The report, which was prepared by Robert L. Harris, referred to numerous Forest Service and University of Montana studies that found excessive fluoride levels on more than 300 square miles around the AAC plant. The PEDCO report noted that the EPA, Forest Service and University of Montana studies all "reported histological changes in foliage or indigenous vegetation consistent with fluoride injury." The various studies also found accumulating fluoride levels in grasses

and woody shrubs that were eaten by animals and excessive accumulations of fluoride up to 30 times greater than normal in samples from small mammals. Insects also had elevated levels of fluoride, especially pollinating insects. The studies had reported higher levels of fluoride at higher elevations, possibly as a result of wind transportation. PEDCO noted that a 1970 study had found 1 ppb of fluoride in the ambient air, but PEDCO noted that some pine tree species were known to suffer from needle necrosis if exposed to 1 ppb fluoride in the air for more than 200 hours, and lesser levels of one-tenth to one-fortieth of 1 ppb "has the potential to be detrimental to the health of some plant species." PEDCO concluded it report by stating: "It is clear that excessive fluoride concentrations occurred in the flora and fauna of the Flathead County study area in 1970 and 1971. A comparison of fluoride concentrations found in vegetation and in animal species confirms that an increase of several orders of magnitude can occur in the food chain. The apparent tendency toward concentration of fluorides in the food chain, as evidenced by results of these studies, suggests that excessive fluoride accumulation in the carnivores of the study area is a strong possibility." [127]

It was pretty clear to everyone concerned – plaintiffs and attorneys in individual air pollution cases, scientists conducting studies for the government or the Anaconda Aluminum Co., plant workers and managers, state officials in Helena, and the media – that AAC would not be able to meet the 864 pound-per-day fluoride emissions standard by the June 30, 1973 deadline. The standard was based on pounds of fluoride emitted per ton of aluminum produced, so if AAC reduced the number of reduction pots it operated in order to meet the 864 pound limit, which was based on all 600 reduction pots in operation, then the limit would be reduced in proportion. Just operating one or two potlines was not a solution. The amount of fluoride emitted by the smelter could be estimated by using monitoring stations established around the plant, but there was a much more accurate method – count the number of bags of fluoride emptied into reduction pots each day. Assuming AAC could pick a pollution control system that worked and arrange the financing, it would still take years to implement the fix. What the company was going to need to keep the smelter running were the year-by-year variances that Virginia Mann had mentioned at the Jan. 8, 1971 Montana Board of Health meeting, but getting those variances wasn't going to be easy.

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