In the Missouri Court of Appeals
Eastern District
DIVISION FOUR

PATRICK BLANKS, et al.,	)	No. ED97810
	)	
Respondents,	)	Appeal from the Circuit Court of the City of St. Louis
	)	
vs.	)	
	)	Honorable Dennis M. Schaumann
FLUOR CORPORATION, et al.,	)	
	)	
Appellants.	)	

ORDER

On the Court's own motion, the Opinion filed in this case on June 17, 2014 is hereby withdrawn and a new Opinion is to issue. Appellants' and Respondents' motions for rehearing, or transfer to the Missouri Supreme Court are denied as moot.

So Ordered:

Dated: Sept 16, 2014

Angela T. Quigless

Angela T. Quigless, Chief Judge

cc: John H. Quinn III
Thomas B. Weaver
Jeffery T. McPherson
Thomas C. Walsh
Mark I. Bronson
Gerson H. Smoger
James R. Dowd

In the Missouri Court of Appeals
Eastern District
DIVISION FOUR

PATRICK BLANKS, et al.,	)	No. ED97810
	)	
Respondents,	)	Appeal from the Circuit Court
	)	of the City of St. Louis
vs.	)	
	)	Honorable Dennis M. Schaumann
FLUOR CORPORATION, et al.,	)	
	)	
Appellants.	)	Filed: September 16, 2014

"Our Tigger." That is what Austin Manning's parents called him when he was a little boy, because he bounced around like Tigger from the classic tale, *Winnie the Pooh*. He never sat still for more than a second. At the time, the family thought it was cute. Little did they know of the problems to come.

As Austin grew older, he had numerous problems. When Austin started school, he had trouble with simple things like writing his name. He was always behind. He needed directions to be repeated over and over again. He could not grasp even the simplest of concepts. And he could not sit still long enough to do anything without constant supervision. From early on, Austin was easily distracted. He could not complete a task. He talked too much, he fidgeted, and he disrupted his classroom. He struggled in reading and math, and repeated second grade. Austin played Little League, but not well. Rather than attentively playing his position, he would often just sit down at his outfield position and play in the grass. At home, Austin was restless, disorganized,

and had difficulty doing his chores. He was forgetful. He procrastinated. He was quick to anger and often argued with adults. The hyperactivity exhibited in his toddler years continued as he grew older. He had difficulty planning or engaging in leisure activities quietly. He interrupted or intruded on others. He had difficulty waiting for his turn. He was always on the go and acted as if driven by a motor. Unbeknownst to Austin's family, Austin had been exposed to high levels of lead and suffered from lead poisoning, all caused by lead emitted from the smelter in his town.

Austin is not alone. Other children from his town have suffered the same plight. The present action involves sixteen children who all suffered lead poisoning while living in Herculaneum during their early childhood. The children's parents, unsuspecting and unknowing at first, eventually learned that their children had been poisoned. They sued the partners of The Doe Run Company partnership, which owned and operated the Herculaneum lead smelter from 1986 to 1994. Framed by the children's lawyers as the age-old conflict of business profits versus human safety, the children alleged the partnership negligently allowed them to be exposed to lead. After a landmark trial lasting some thirteen weeks, the jury awarded the children millions of dollars, both in actual and punitive damages.

The partners have appealed, alleging a host of errors. Before addressing those legal questions, however, we return to Herculaneum, to recount the lives of the children and their unsuspecting parents, and the actions of an industry giant that allowed the children to be exposed to lead, forever affecting the children.[1]

[1] We set forth the facts in the light most favorable to the jury's verdict. *Hayes v. Price*, 313 S.W.3d 645, 648 (Mo. banc 2010). We pause here to address the children's two motions that are pending before this Court. The children first move to dismiss the defendants' appeal for repeated violations of Rule 84.04, the rule of appellate procedure that sets forth the requirements for an appellant's brief. The children allege

The Children

The sixteen children who suffered lead poisoning in this case are: Preston Alexander, Patrick Blanks, Bryan Bolden, Tiffany Bolden, Nathan Davis, Gabe Farmer, Sydney Fisher, Heather Glaze, Jeremy Halbrook, Matthew Heilig, Austin Manning, Jesse Miller, Jonathan Miller, Ashley Shanks, Lauren Shanks, and Isaiah Yates. Some of the children were born in Herculaneum. Some are even second-, third-, and fourth-generation residents of the town. Others moved there as infants or young children. When asked to describe Herculaneum as that town existed prior to 1994, the parents of these children painted a portrait of small-town America. They described "Herky" as a

---

numerous violations, ranging from an improper statement of facts to improper points relied on, to inadequate citations to the record. The allegations contained in the children's 74-page motion are largely meritorious. The most egregious of defendants' violations, and the one that most affected the disposition of this appeal, is the defendants' statement of facts. Rule 84.04(c) requires that an appellant's fact statement be a "fair and concise statement of the facts relevant to the questions presented for determination without argument." "The primary purpose of the statement of facts is to afford an immediate, accurate, complete and unbiased understanding of the facts of the case." *Kent v. Charlie Chicken, II, Inc.*, 972 S.W.2d 513, 515 (Mo. App. E.D. 1998). Defendants' statement violates the rule's requirements and falls woefully short of fulfilling its essential purpose. Defendants present a statement of facts entirely biased in their favor, while ignoring and excluding the facts that support the verdict. An appellant must provide the facts in the light most favorable to the verdict, not simply recount appellant's version of the facts presented at trial. *In re Marriage of Weinshenker*, 177 S.W.3d 859, 862 (Mo. App. E.D. 2005). Emphasizing facts favorable to the appellant and omitting others essential to the respondent does not substantially comply with Rule 84.04. *Rothschild v. Roloff Trucking*, 238 S.W.3d 700, 702 (Mo. App. E.D. 2007). Defendants also repeatedly misstate the evidence. And their fact statement is inappropriately riddled with inflammatory language as well as disparaging remarks about the trial judge, which we find entirely unjustified. Further, while the parties may be intimately acquainted with the context of their litigation, the matter is new to this Court. It is not this Court's duty or place to comb through the record, ferreting out facts, to gain an understanding of the case. Yet, this is exactly the position in which defendants placed this Court. The record on appeal consists of transcripts totaling over 12,000 pages and a legal file that exceeds 6,600 pages. The parties also filed over 1,400 exhibits with this Court. The defendants' failure to provide an adequate statement of facts resulted in the waste of judicial resources and added an inordinate amount of time to the disposition of this appeal.

Compliance with the briefing requirements is required, not only so the appellant may give notice of the precise matters at issue, but also so that unnecessary burdens are not imposed on the appellate court and to ensure that appellate courts do not become advocates for the appellant. *Thornton v. City of Kirkwood*, 161 S.W.3d 916, 919 (Mo. App. E.D. 2005). Failure to comply with Rule 84.04 preserves nothing for review and warrants dismissal of the appeal. *Culley v. Royal Oaks Chrysler Jeep, Inc.*, 216 S.W.3d 235, 236 (Mo. App. E.D. 2007). An inadequate statement of facts is grounds for dismissal. *See Washington v. Blackburn*, 286 S.W.3d 818, 820 (Mo.App. E.D. 2009). Given the gravity of this case, however, we have elected to exercise our discretion to review the case, choosing instead to deal with the defendants' violations as they arise, in the body of our opinion. We therefore deny the children's motion. The children also request that this Court sanction defendant Fluor under Rule 84.19 for its conduct in knowingly presenting false and materially misrepresented facts to this Court. We likewise deny that motion.

friendly, close-knit community, where everyone knew everyone else, and doors went unlocked. Children spent their days playing outside. They rode their bikes in the streets around the smelter. They fished near the dam behind the smelter, and even played on the smelter's slag pile. Families frequently took walks past the smelter. They gardened and worked in their yards. They barbequed and threw birthday parties for their children in their backyards.

In their early years, the children explored their world. For instance, Austin Manning loved to play in the dirt with his Tonka trucks and Hot Wheels. He built racetracks in the dirt. Before he was old enough to play with his trucks, he would play on blankets in the yard. Jeremy Halbrook also liked to play in the dirt with his dump truck. Preston Alexander played outside in his sandbox, played ball in his yard, and enjoyed Easter egg hunts. Jesse Miller crawled around and sat in the yard with his mother, picking grass. Isaiah Yates, when just in diapers, crawled around in his yard, picking up sticks. Patrick Blanks played with his shovels and buckets for hours in the dirt in his backyard. Each fall, Gabe Farmer played in the leaves in his yard. Sydney Fisher, from the time she was an infant, spent a lot of time in her yard. She played on the ground, played with her dog, and when she was older, she played on her swing set. She could see the smelter's smokestack from her yard.

The children here all lived very close to the lead smelter. Some lived directly across the street; all lived within several blocks of the smelter. The parents universally noted that smoke emanated from the smelter and settled like smog over the town several times a week. The smog had a strong sulfur odor; it burnt people's eyes and had a "horrible" taste. As one parent related, "You could taste it, you could feel it, you could

see it." The families also noted the enormous amount of dust that collected in their homes. Those who moved to the area noted that Herculaneum was dustier than other places where they had lived, and that their homes were harder to keep clean. Moreover, the dust was not like "normal" dust or dirt, but instead was dark gray or black in appearance and felt gritty. The families dusted and vacuumed each and every day. Even with that, they could not remove all the dust from their homes.

Despite all this, the parents gave the smog, the dust, and the smelter little or no thought. They knew the smelter existed – you could not miss it. Isaiah Yates's parents, in particular, hauntingly recalled having no concerns about the smelter. They moved to Herculaneum in January of 1990, two years prior to Isaiah's birth. They were looking for a starter home and a good place to raise their children. They were pleased to find the house in Herculaneum, in a neighborhood full of kids, with the school nearby, just a block down the street. They were aware of the smelter but were not worried, especially since the school was located so close to the smelter. They presumed that if there was a problem with the smelter, something would be said, and nothing ever was. Indeed, Mrs. Shanks's depiction, stated in rather blunt, matter-of-fact terms, aptly summarizes the parents' feelings: "There was a smelter. It was there. It was safe."

Unbeknownst to the parents, the air they breathed, the streets and dirt alleys they walked on, and the homes and yards they lived in were all contaminated with lead. The parents testified that prior to 1994, during the partnership period, no one from the smelter ever warned them of the danger their children faced. No one ever told them that lead from the smelter was poisoning their children.

"Just can't seem to get it together." This is how Patrick Blanks describes himself. Born in July of 1990, Patrick was very flighty as a young child – he just could not stay still. Once in school, he disobeyed, he talked back, and he disrupted his classroom. He would not sit down and listen. Patrick was diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and placed on Ritalin, which helped a bit. Nevertheless, even though Patrick was a bit more calm and obedient, his troubles persisted. He could not focus on the task at hand. And he was impulsive and aggressive. He started kicking his classmates' chairs. And when about ten years old, he hit one of his classmates, breaking the classmate's jaw. Patrick ended up in juvenile detention. He got into another fight several years later, and ended up in juvenile detention again. At this point, Patrick dropped out of school. As a young adult, Patrick still has attention problems and does not follow through. He would like to return to school to train as an electrician. Patrick's grandmother, though encouraging, has her reservations. She does not think Patrick can work as an electrician because he cannot focus and is forgetful.

"Always different." This is Melissa Alexander's description of her son Preston. Melissa was pregnant with Preston while living in Herculaneum. She gave birth to Preston in 1989. Preston's problems began when he was three or four years old. He started crying at night, complaining about his legs cramping. This went on continuously, and got so bad that Preston's father had to wrap warm towels around Preston's legs to comfort him. Preston also complained about severe stomach-aches. As a young child, Preston was always very hyperactive. He was temperamental and would throw fits. He was a very angry child and always wanted to fight. He talked back, did not listen to his parents, and constantly got into trouble. In school, Preston had an unpredictable

personality and was known as the school bully. He had a short temper with his coaches in high school. Preston was always behind in his schoolwork. He spent hours each night, just trying to finish his homework. He could not stay focused. He still has difficulties today as an adult. A year prior to trial, Preston was employed by a company that delivered equipment to construction jobs. Preston had difficulties at his job, learning, understanding, and being able to fulfill his job duties. A coworker described Preston as being "slow" and "in a daze." They always had to tell him what to do, and they had to constantly watch him so that he did not fall over construction work or wander into traffic.

"Like a mummy." This is how Jeremy Halbrook felt when taking medication to treat his ADHD. Born in 1984, and a resident of Herculaneum as of 1986, Jeremy as a child had trouble sitting still, following through with tasks, and completing assignments on time. He was jittery and anxious. This all affected his ability to do his schoolwork. Jeremy was a very poor student and struggled from the beginning. He had difficulty understanding the material. He could not concentrate and often forgot what he had just read. He needed much direction to complete a simple assignment. He was impulsive and was easily distracted. He could not stay seated in class, he spoke impulsively, and he hit his classmates. Jeremy had difficulty getting along with others. He was angry and could be mean. He got into verbal fights and inappropriately teased his classmates. He had few friends in high school.

Jeremy was diagnosed with ADHD when in the third grade. The doctor placed him on Ritalin to treat his symptoms. While on the drug, Jeremy would not eat. He had no emotions. A change in medication helped slightly – Jeremy would at least talk. Still, he was still very quiet, withdrawn, and "just not who he really was." He was still fidgety

and did not complete his schoolwork on time. Jeremy began treatment with a homeopathic doctor when in 6th grade, which slightly helped his hyperactivity – he could at least sit still a little bit. However, despite this, Jeremy continued to struggle. Indeed, he still struggles today. He has problems with attention and cannot focus and complete a task without someone coaching him. His mind wanders. He toils with his finances and gets help paying his bills. He likely could not pay them without help. He has low self-esteem, little to no interest in life events, and does not like being around a lot of people.

These are just a few of the children's stories. With no disrespect intended, we cite just these illustrative examples instead of setting out the particulars of each child's troubled development. Taken together, the stories tell the same tale. When young, the children were very active, very "busy," and would never sit still. As they grew older, this hyperactivity continued. Jesse Miller, for example, when eleven years old, was extremely hyperactive – talking, walking, and practically running. "I've never seen one quite like this," exclaimed one expert. Jesse's mother remarked that he took up seventy-five percent of her time. Further problems with memory, concentration, and comprehension emerged and became evident when the children started school. They had difficulty staying on task and were easily distracted. Jonathan Miller's mother, for instance, said that she could ask Jonathan to take out the trash, and if he did not immediately do so, he would still be sitting a minute or so later because he had forgotten what she had asked. Similarly, Bryan Bolden would get halfway out with the trash, then forget what he was doing and not finish the task. Nathan Davis, though physically able, tried to play football in high school, but could not remember the plays. The children all had difficulty keeping up with their schoolwork. They fidgeted and disrupted the class.

They had difficulty grasping concepts and had to be told things several times over in order to understand the material. As Gabe Farmer's mother explained: "You would just go over and over and over, and he was somewhere else. All he did was daydream." The children spent twice as long on their homework as their friends, just to be able to complete their assignments. Many needed tutoring or special classes. Five of the sixteen children repeated grades. All of this took a toll on the children. Isaiah Yates, for instance, came home from school crying every day because he could not keep up with his schoolwork and felt "stupid."

A number of children also have behavioral and social problems. They are quick to anger. Matthew Heilig, for instance, gets very angry and takes his anger out on furniture and walls, to the point of putting holes in the walls. Ashley Shanks complains of being irritable and angry. Several children have become defiant, others disrespectful. Several were suspended from school. Several, like Jeremy Halbrook and Matthew Heilig, have trouble getting along with others and avoid large groups. A number also suffer from depression and low self-esteem.

The children's problems persist in young adulthood. Problems with memory and concentration continue. Several of the children have tried to attend college, only to fail. Ashley Shanks, for example, has dropped out of three colleges. She cannot hold down a job and has many unfinished projects at home, all because of her inability to concentrate. Despite very much wanting a college education, Gabe Farmer simply could not complete his studies. After three semesters, Gabe had a grade point average of 0.22, and dropped out. In daily life, Gabe forgets to pay bills. His roommate helps out, and according to Gabe's mother, it would be a disaster for Gabe to live on his own. The children, like

Preston, need constant supervision. For instance, Nathan Davis, who works at a company that builds refrigerators, often drifts away, and coworkers have to tell him every day what to do. Heather Glaze "zones out" at work and coworkers have to repeatedly tell her work duties. She is inattentive and fails to complete assigned tasks. She is often disrespectful and is sometimes difficult to get along with. Her coworkers tend to walk on egg-shells around her. Self-esteem problems continue as well. Nathan Davis, for example, gets upset over little things. He once broke down at work – crying, sweating, and pulling his hair out, unable to speak – when a coworker told him he was a slow worker. Lauren Shanks has severe anxiety. One time, while driving, she pulled to the side of the road, called her mother, franticly crying, because she had so many things going on her life that she did not know what to do. Her mother remarked that Lauren "is not managing well."

Lead: Sources of Exposure and the Effects of Lead Poisoning

All sixteen children were eventually diagnosed as having elevated levels of lead in their bodies – or in short, lead poisoning. Lead enters the body principally through ingestion and inhalation. The lead is then absorbed into the bloodstream and distributed to all body tissues. Exposure to lead can cause a myriad of serious and devastating effects in young children. This is so because the most crucial and rapid time for brain growth and development is during the last trimester of pregnancy and the first five to seven years after birth.[2] "Holes in the brain" – this is how their expert described the brains of children who are exposed to lead at levels suffered by the children. With such elevated levels of lead, a child suffers significant brain loss in the very portions of the brain responsible for reasoning, attention, short- and long-term memory, motor function,

[2] The children all lived in Herculaneum and were exposed to lead at some point from their time in utero to when they were six years of age.

integration of function, and sensation.[3] This significant loss of brain tissue has grave implications. Lead in children can cause cognitive and neuropsychological problems, learning disabilities, mental retardation, decreased intelligence, IQ loss,[4] attention deficit hyperactivity disorder (ADHD),[5] as well as psychiatric and behavior problems. Furthermore, lead can cause nervous system and kidney damage, asthma, hearing loss, decreased muscle and bone growth, poor muscle coordination, convulsions, seizures, and even death.

Exposure to lead as a child can also lead to many problems in adulthood. Exposure to lead puts one at an increased risk of hypertension (high blood pressure), which can lead to strokes. Lead can also cause numerous problems during pregnancies. Women with significant amounts of stored lead in their body have an increased risk of problems with pregnancy, including premature birth, spontaneous abortion, toxemia, as well as problems with metabolism and blood pressure. Also, lead affects the fetus. Lead present in the mother's body crosses the placenta to the fetus in a proportionate amount. A child at birth will have essentially the same blood lead level as the mother. Moreover, a mother's blood lead level rises during pregnancy because lead stored in the mother's bone migrates into the bloodstream, further increasing the exposure and lead levels of the fetus. Lead in a fetus can cause significant harm, including brain damage or death. In

[3] One study has shown up to a 1.2 percent brain loss in those exposed to lead levels of 5 micrograms per deciliter or above. The children's levels in this case were all much higher than five.

[4] Dr. George Rodgers, testifying on the children's behalf, noted that it is broadly accepted by the scientific community, since the early-to-mid 1970s, that lead causes IQ loss. On average, one loses one IQ point for every three to five micrograms of lead in their blood. For example, if one has a blood level of twenty, then it is estimated that the person has lost somewhere between four and seven IQ points. According to Dr. Rodgers, several papers published in the last ten years estimate a higher loss – that one loses seven IQ points in the first ten micrograms per deciliter of lead. In other words, if a child's lead level is ten, that child has lost seven IQ points.

[5] As recently as the mid-to-late 1980s, Attention Deficit Disorder (ADD) and ADHD were two separate diagnoses under the DSM – the diagnostic statistical manual, an important guidebook that sets out criteria for diagnoses of psychological disorders. ADD had no hyperactivity; ADHD did. Now there is a single diagnosis – ADHD, in three types: primarily inattentive, primarily hyperactive-impulsive, and combined.

particular, lead prevents the growth and maturation of the nervous system and causes dissolution or loss of brain tissue in the growing fetus.

Exposure to lead may occur from a variety of sources. In years past, lead-based paints and lead in gasoline were common sources of exposure. The United States government, however, banned lead from paint and gasoline in the late 1970s, and so exposure to lead from these sources has greatly decreased. While lead-based paint may still be present in older homes, the more common sources of lead exposure now are lead-containing air emissions, contaminated ground water, and contaminated soil. In Herculaneum, the children's exposure to lead came from the air and contaminated soil; contaminated water was not an issue.

Lead levels in children who live in lead-laden environments fluctuate over time. Typically, lead levels will start to rise when children begin to crawl, around six months to one year in age. No longer immobile, children are now down on the floor, in the dust, and they start putting anything and everything in their mouth as they explore their world. Lead levels reach a peak during the toddler years – at 18 to 36 months. Children at this age are more active, but they lack the discrimination to avoid things that might be harmful. They are now able to walk, unattended by family members, and they still put things in their mouth, not knowing any better. Children at this age also have rapid respiration rates, and they absorb nearly all the lead they breathe into their bloodstream. All of this increases the amount of lead young children take into their bodies.

Once children reach the age of four or five, they generally are more discriminating and stop putting everything into their mouth. And their respiration rates decrease. Thus, their intake of lead declines, and correspondingly, their blood lead levels

begin to decline. But, this does not mean that the lead has left the body and is gone. Quite the contrary. Lead gets stored in bone and soft tissues – the kidneys, heart, liver, and most especially the brain – and it remains there for years, slowly leaching over time. While the half-life of lead in the bloodstream is generally about a month, the half-life of lead stored in the brain is about two years.[6] The half-life of lead in bone is more than twenty-five years. Levels decrease at a slower rate in those who are living in an environment where they are being constantly re-exposed to lead. And the lead continues to cause harm while stored in tissue. Put bluntly, the lead programs cells to die.

CDC Levels of Concern

Childhood lead poisoning has long been a problem in this country. Over the years, the Center for Disease Control (CDC) has set "levels of concern" regarding blood lead levels. According to the CDC, a "level of concern" is a level that should trigger public-health actions. In 1985, the CDC set a level of concern at 25, adjusted down from 30.[7] In 1991, the CDC lowered the level of concern to 10. The CDC also issued guidelines in 1991 stating that the presence of a large proportion of children with blood lead levels in the range of 10-14 should trigger community-wide activities to prevent lead poisoning.

The level of concern is not a level below which children are safe. Although some mistakenly think of the level as a level of safety, the CDC has never considered the levels of concern to be levels below which there is no toxicity. Dr. George Rodgers, a pediatrician, toxicologist, and member of the CDC Advisory Committee on Childhood

[6] "Half-life" of lead means the length of time it takes to get rid of half of the amount of lead.

[7] The blood lead levels here, and throughout the opinion, are expressed in terms of micrograms of lead per deciliter of blood (μg/dL).

Lead Poisoning, explained that it has been long known – for more than thirty years – that lead has toxicity well below the levels of concern. Toxic effects even occur at very low levels of lead. In short, there is no safe level of lead.

Children's Lead Levels

Once they were tested, the sixteen children all had high levels of lead. Test results from the early 1990s show the children with blood lead levels anywhere from 9 to 24. Studies show that during the time period of 1988 to 1991, the mean blood lead level in the country, for children ages one to five years of age, was 2.8. For the time period of 1991 to 1994, the mean level was essentially the same, at 2.7. The sixteen children's levels far exceeded these means. Gabe Farmer, for example, tested at nearly five times the national average. Jeremy Halbrook tested at six times, and Bryan Bolden tested at ten times the national average.

Some of the children were tested in 1992; the majority were tested in 1994 and 1995. By this time, many of the children were past their toddler years, and thus past the age of peak lead levels. Still, their levels far exceeded the national average. Dr. Rodgers explained that those children would have had even higher levels when younger. Gabe Farmer, for example, had a likely peak level of 31.2. Jeremy Halbrook had a likely peak level of 25.2. The children's exposure histories and test results, provided by Dr. Rodgers, appear in Appendix A.

ADHD and the Children's Diagnoses

All sixteen children were diagnosed with ADHD, as well as loss of IQ due to their exposure to lead. Their complete diagnoses appear in Appendix B. ADHD is a neurological, neuropsychiatric disease. Essentially, a person with ADHD does not have

the ability to pay attention adequately to function in academic, social, and workplace settings. The salient features of ADHD are inattention, hyperactivity, and impulsivity. Those with inattention fail to give close attention. They tend to daydream. They are disorganized and forgetful. They often get distracted by extraneous stimuli and lose focus. They have difficulty sustaining attention in tasks or play activities. Those with hyperactivity are very fidgety and very restless. They are always on the go, and are described as being "driven by a motor." Those with the impulsivity aspect of ADHD tend to act first before they think. They are incapable of considering the consequences of their actions. The most common, pervasive type of ADHD is the combined type, where an individual experiences all three features – inattention, hyperactivity, and impulsivity. This form of ADHD is the most impairing. Ten of the children here were diagnosed with this type of ADHD.

Several medications attempt to temper the symptoms of ADHD. As seen with Jeremy Halbrook, however, those medications come with significant side effects. They can cause one to feel like a zombie, and to have a loss of appetite, leading to significant weight loss.

ADHD is a lifelong problem. Over seventy percent of those with ADHD never outgrow the disorder. The hyperactivity and impulsivity may decrease as one becomes an adult. The inattention, however, never gets better for most. Rarely are these people successful. ADHD affects one's life pervasively. Those with ADHD struggle in school, they struggle at work, and they struggle to have meaningful relationships.

ADHD never occurs in isolation. A number of other disorders, such as depression, anxiety, oppositional defiant disorder, obsessive-compulsive disorder,

mood/bipolar disorder, and antisocial personality, occur together with ADHD. These disorders, like ADHD, impair a person's performance in school and in the workplace, and affect a person's relationships. The disorders can be crippling, to the point of rendering a person unable to function.

Ten to thirty percent of patients with ADHD have depression. Compared to the general population of those who do not have ADHD, those with ADHD have three to six times more depression, three to six times more alcohol and drug abuse, three to six times more divorce or separation, three to six times more automobile accidents, and three to six times more suicide attempts and suicides. Ten to thirty percent of those with ADHD also have anxiety. They become very anxious that they cannot concentrate, finish projects, or be as productive as desired. They describe themselves as feeling all wound up like a rubber band, tight as a drum. Anxiety often occurs with depression.

Fifty percent of those with ADHD have oppositional defiant disorder – a rejection of authority. They do not submit to authority, and want things their way. Twenty to forty percent of those with ADHD have an obsessive-compulsive disorder. Those with ADHD have an increased risk of a mood or bipolar disorder, described as the roller-coaster ride of emotions. An antisocial personality is yet another example of a neuropsychiatric disorder experienced by those with ADHD. Such a person is unable to interact with and respond to others in normal fashion. They may be confrontational, and they may become agitated and irritated with others, with or without provocation. As a result of not being able to connect or interact well with others, they are withdrawn and shy, and often become socially ostracized. In their judgment, it is safer for them to be shy and

withdrawn than to risk the sociological and emotional consequences of not being able to connect with people.

Carl Hansen, a vocational rehabilitation counselor, testified specifically about ADHD'S effect on a person in the labor market. He noted that those with ADHD rank "significantly lower" in occupational status. They are less likely to attend college and, if attending, are less likely to graduate. They receive poor job performance ratings and are more likely to be fired. They use more sick leave and have a higher risk of workplace accidents than those who do not suffer from ADHD. They quit jobs impulsively and have chronic unemployment problems. Over the course of their career, those with ADHD will lose a significant amount of time in the labor market – ranging from fifteen to thirty percent of work time lost – due to their disorder. Dr. Hansen opined that the children here would be unlikely to receive a college degree, and that all had suffered a significant loss in earning capacity, ranging anywhere from nine thousand to twenty-five thousand dollars per year, depending on the child's circumstances.

Physicians testified that the ADHD and the other conditions suffered by the children in this case were permanent and serious, and were caused by the children's exposure to lead emanating from the smelter.

Children Sue the Doe Run Company Partnership

The children sued the partners of the Doe Run Company partnership for negligently exposing them to lead. The children alleged numerous and wide-ranging acts

of commission and omission by the partners.[8] In sum, the children alleged the partnership knew of the lead contamination present and occurring in the community, and knew of the danger and the harm lead posed, but sacrificed the health of children for greater profits. The children sought compensation for their injuries, as well as punitive damages. Several parents explained why they sued. Matthew Heilig's mother said it was "heartbreaking" to see her son the way he was. Ashley and Lauren Shanks's mother noted that for years Doe Run knowingly poisoned her children. Isaiah Yates's father sued because his son was poisoned and because the company showed indifference and

[8] In particular, the children pleaded defendants were negligent in one or more of the following respects:

(a) Permitted lead and other harmful metals and substances to be mined, generated, smelted, processed, released, dumped, deposited and placed into the air and deposited onto the land when defendants knew, or by the exercise of ordinary care should have known, that the mining, generating, smelting, releasing, dumping, depositing, handling, storing, treating, transporting, loading, unloading and disposing of such toxic substances was dangerous and harmful to the public, and more particularly, plaintiffs;

(b) Failed to adequately and properly monitor and control the emissions and release of lead, metals and toxic substances into the air and environment by failing to report and act, or to timely report and act, upon instrument readings and warnings, and by utilizing, and knew or should have known of the utilization of, equipment and instruments which were altered and not adequate or proper and/or which were not adequately or properly calibrated or fit or suitable for use;

(c) Doe Run defendants failed to adequately and properly supervise the safe mining, generating, smelting, releasing, dumping, depositing, handling, storing, treating, transporting, loading, unloading and disposing of the aforedescribed lead, metals and other substances;

(d) Doe Run defendants failed to adequately and properly control the mining, generating, smelting, releasing, dumping, depositing, handling, storing, treating, transporting, loading, unloading and disposing of the aforedescribed lead, metals and other substances;

(e) Doe Run defendants failed to adequately and properly contain the mining, generating, smelting, releasing, dumping, depositing, handling, storing, treating, transporting, loading, unloading and disposing of the aforedescribed lead, metals and other substances;

(f) Failed to warn, or to adequately warn, the public, and more particularly plaintiffs, and children, parents, school administrators, church officials and residents of Herculaneum, of the dangers, hazards, and risks of exposure to lead, metals and substances mined, generated, smelted, processed, released, dumped, deposited, handled, stored, treated, transported, loaded, unloaded and disposed of by defendants;

(g) Doe Run defendants mined, generated, smelted, processed, released, dumped, deposited, handled, stored, treated, transported, loaded, unloaded and disposed of the lead, metals, and substances aforedescribed in a harmful and dangerous manner;

(h) Doe Run defendants violated environmental standards, statutes and regulations, including but not limited to: section 643.151 Revised Statutes of Missouri stating that it is unlawful to pollute the air; 10 CSR 10-6.010 entitled "Ambient Air Quality Standards,: and 10 CSR 10-6.120 entitled "Restrictions of Emissions of Lead From Primary Lead Smelter-Refinery Installations."

put fault at his feet. Austin Manning's mother put it bluntly. She brought suit because her son suffered from being poisoned, and because "[n]obody should make money off of kids suffering."

The Smelter & The Doe Run Company Partnership

At the time the children sued, the Herculaneum smelter had been in operation for over one hundred years, processing lead ore concentrates into purified lead.[9] St. Joseph Lead Company, later named St. Joe Minerals Corporation, owned and ran the smelter until 1986, at which time the newly-formed Doe Run Company partnership assumed ownership and operation of the smelter. This general partnership, with various different partners, owned and ran the smelter for eight years, from November of 1986 until March of 1994. The current action is against three of the partners from this partnership period: Fluor Corporation, A.T. Massey Coal Company, and Doe Run Investment Holding Corporation (DRIH).[10] The children advanced two theories of liability. They first sued each defendant separately, seeking to hold each defendant liable based on the defendant's and the partnership's negligence during the time each defendant was a partner. The children sued Fluor on an additional "domination" theory, seeking to hold Fluor liable

[9] In March of 1864, during the Civil War, a group of New York investors founded the St. Joseph Lead Company, a mining company and predecessor to The Doe Run Company. The company's original lead mine and smelter operations were located at Bonne Terre, Missouri. In 1886, the trustees approved local management's proposal to form a small company, to establish a mine on Doe Run Creek. Around 1890, this company began extensive drilling in the vicinity of Flat River, now Park Hills, Missouri, and discovered a rich body of ore. Construction of the Herculaneum smelter followed in 1892. The smelter operated continuously for the next 121 years.
A source outside our record reports that operation at the smelter ceased and the smelter closed at the end of 2013. Leah Thorsen, *Smelter's Closure is End of Era in Herculaneum*, St. Louis Post-Dispatch, December 15, 2013. We mention this for the reader's benefit. Obviously, we do not consider matters outside the record in our consideration of this appeal.

[10] In all, the children sued eight entities; they proceeded to trial against only three: Fluor, Massey, and DRIH. Massey is now known as Appalachia Holding Company.

because of its complete and pervasive control of its subsidiaries that were partners in the Doe Run partnership.

The Doe Run partnership conducted a lead business of wide-ranging proportions and on a far-reaching scale, both nationally and globally. When forming the partnership, the partners combined their respective lead businesses, and contributed a number of their assets, including the Herculaneum smelter to the partnership. The resulting partnership owned and controlled many of the lead mines in Missouri, as well as the Herculaneum and the Buick smelters – two major smelters in southern Missouri.[11]

The two original partners of the Doe Run partnership were Homestake Lead Company of Missouri and St. Joe, a wholly-owned subsidiary of Fluor.[12] Over the life of the partnership, the two original partners transferred or sold all or part of their interest in the partnership. The transfers on the St. Joe side of the partnership were all to various subsidiaries within the Fluor corporate family. Fluor purchased Homestake's entire interest in the partnership in 1990. The particulars of the partnership history – when and how the various partners came into the partnership – are not especially relevant. More important is the fact that the three defendants were partners at some point during the partnership, and that various subsidiaries of Fluor were partners during the entirety of the partnership. The children contend Fluor so dominated its subsidiaries that Fluor effectively was a partner, and therefore liable, for the entire duration of the partnership.

[11] The Buick smelter was located in Boss, Dent County, Missouri. Generally, smelters are classified as either "primary" or "secondary" smelters. A "secondary" smelter is one that smelts scrap metal and materials rather than ore from the ground. Smelters like the one at Herculaneum that smelt ore are referred to as "primary smelters." The decision where to base primary smelting operations – at Herculaneum or at Buick – was one of the early decisions confronted by the new partnership. The Buick smelter was located in a relatively unpopulated area. The partnership chose Herculaneum, however, because of the amount of lead that could be smelted there. Internal documents expressly note the choice was profit-driven.

[12] Fluor had acquired St. Joe in 1981.

In order to complete the Herculaneum story, we set forth a brief recitation of the partnership's historical background in Appendix C.

Fluor's Influence over Partnership

A partnership committee ran the partnership until 1990.[13] Initially, the St. Joe representatives on the partnership committee were St. Joe employees. That soon changed. By February of 1988, St. Joe had appointed three high-ranking Fluor officials to be its representatives.[14] The insertion of Fluor personnel into partnership committee roles, while not improper, signaled a change in Fluor's involvement with the partnership. Although not a partner until 1990, Fluor was extensively involved in partnership affairs prior to that time, to the exclusion of named partners St. Joe, Massey, and DRIH. Fluor was repeatedly referred to as being a partner, its approval was needed for partnership projects, and it received partnership cash distributions. Once Fluor purchased Homestake's partnership interest in 1990, and even after Fluor transferred its partnership interest to a wholly-owned subsidiary, Fluor considered and represented the Doe Run partnership as "100% Fluor." Fluor treated Doe Run as a corporate subsidiary, and continued to be extensively, if not exclusively, involved in running the partnership. We provide a summary of Fluor's influence over the partnership in Appendix D.

Smelting Process & Emissions

Missouri probably has the best lead ore in the world. A large deposit of high-grade lead ore is located in southeastern Missouri. The essential business of the

[13] The partnership committee stopped meeting and ceased to exist in 1990. See Appendix D for further details.

[14] The three Fluor officials appointed to the partnership committee were: Leslie McCraw, then president of Fluor; Robert Guyett, the chief financial officer; and Vincent Kontny, a high-ranking officer and later president of Fluor.

Herculaneum smelter was to process that ore into purified lead. The smelting process is a multi-step process, which begins at the mine site. Once the ore is brought to the surface of the mine, workers grind it up to a fine consistency, somewhere between the consistency of table salt and baby powder. Workers then run this ground-up rock through a chemical process, which separates out the lead from rocks and other materials, to form lead concentrate. Workers dry the lead concentrate to a consistency of wet beach sand and then load the concentrate into trucks or rail cars for shipment to the smelter.

The high-grade lead ore in Missouri is actually lead sulfide by constitution. The smelting process removes the sulfur and other trace metals present in the ore, in order to produce pure lead. Once the lead concentrate arrives at the smelter, it is dumped out of the trucks or rail cars. Smelter workers then load the material onto a conveyor-belt system, which moves the material through the smelter. The lead concentrate is first conveyed into the sinter plant building. There, the lead concentrate goes into a sinter machine, which heats up the concentrate to a very high temperature, burning off the sulfur.[15] During this process, the lead concentrate partially melts and becomes fused together. This fused-together material, called sinter, is broken up into fist-sized material, and then conveyed over and fed into the blast furnace. The blast furnace turns the sinter material into a molten, metallic form. The molten material that comes out of the blast furnace is still not pure lead, however. Trace metals and other organic materials, such as copper, zinc, cadmium, and arsenic, are still present. To separate and remove those trace metals, the molten lead is placed into a kettle and run through a refining process. In the end, one has purified lead.

[15] The burnt-off sulfur is in the form of sulfur dioxide, which has a very strong odor. This is what the residents smelled in the community.

One word concisely describes the smelting process: dusty. Or better yet, two words: extremely dusty. Lead-containing dust is everywhere throughout the entire smelting process. And once that dust gets into the air, it disperses into the surrounding community.

Emissions from smelters are divided into two general categories: point-source emissions and fugitive emissions. Point-source emissions are those that are captured, put through some sort of collection device or system, and then sent up and discharged out a chimney, called a stack. Fugitive emissions are everything else – those emissions that are not captured and sent up the stack, but rather escape the facility to the nearby community in any other manner. Fugitive emissions come from any number of sources at the smelter. For instance, unloading the lead concentrate when it first arrives at the smelter may stir up and release dust into the air. To unload lead concentrate from a rail car, a large machine takes that car, tips it upside down, and then shakes out the concentrate. Although lead concentrate is usually moist, it dries out on hot days, and thus when the rail car is tipped over, dust goes everywhere. An individual rail car typically holds one hundred tons of concentrate. Workers unload the rail cars in an open, unenclosed area, across the street from where people live. Another source of fugitive emissions is the conveyor belt, which during the partnership period was not fully enclosed. The sinter plant and blast furnace are large sources of fugitive emissions. The sinter plant building is also not totally enclosed. The building has four walls, but its top is completely open. The sintering machine operates at 1500 degrees or more, so the building is designed to draw the hot air up and out of the building through the open top. It is common for lead dust to be everywhere in the sinter plant, and so the air that escapes is full of lead dust.

The same scenario is repeated in the blast furnace. The roof on the blast furnace is also open, the room is extremely dusty, and the air that escapes is full of lead dust. Fugitive emissions also originate from slag piles and other open areas on the grounds where dust settles.[16] The movement of vehicles in and out of the plant, kicking up dust, is yet another source of fugitive emissions.

Fugitive emissions were primarily responsible for the lead contamination faced by the children. A model predicted that up to ninety percent of the lead contamination within one mile of the Herculaneum smelter came from fugitive emissions. As explained at trial, lead-containing fugitive emissions settle relatively quickly and relatively close to the smelter. Fugitive emissions, unlike the point-source emissions from the stack, generally originate at a low height above the ground, and disperse without velocity behind them.[17] Without height and velocity, the impact of the fugitive sources tends to be much closer to the facility. Furthermore, lead sinks. Lead particles are very heavy and quite dense, and therefore descend to the ground fairly quickly.

Lead dust emitted from the Herculaneum smelter readily contaminated homes and yards in the nearby neighborhoods. Lead dust settled on the streets and soil, and blew into the homes through open doors and windows. Moreover, if not blown away or washed away with the rain, lead accumulates, forever remaining lead – it never changes into any other element.

---

[16] Slag is the by-product material from the smelting process. Although waste material, slag still contains lead that was not recovered during the smelting process. The slag at the Herculaneum smelter was gathered into piles. Dust can blow off those piles. Additionally, in years past, before 1981, the slag was ground up into a gravel or sand-like material and used as road base, and spread on icy roads for traction. Over time, the material on and in the roads would break down further and eventually settle as dust in people's yards.

[17] Point-source (stack) emissions and fugitive emissions disperse and settle in different ways. Stacks tend to be directed in an upward direction, so the emissions have a velocity behind them in order to go straight out of the stack. Furthermore, stacks are high and thus disperse the toxic chemicals into the atmosphere at a high elevation. Emissions from stacks, therefore, disperse and settle a distance away from the plant.

Increase in Production

Production at the Herculaneum smelter increased forty percent between 1981 and 1989. In 1988, the smelter produced 236,000 tons of lead, yielding a net income of 60 million dollars for Doe Run. Lead production reached a record high in 1989, with the smelter producing an "impressive" amount – 248,572 tons – of lead. By 1989, the Herculaneum smelter was the largest lead smelter in North America, and one of the largest in the world.[18] This increased production coincided with an increase in market prices and profitability.

The increased production produced a staggering amount of emissions. In 1987 alone, the Herculaneum smelter emitted 179 tons of lead emissions. Of this, 98 tons were fugitive emissions that poured out into the surrounding neighborhood. The smelter emitted the same or similar amounts of fugitive emissions every year in the 1980s. Ninety-eight tons is equivalent to approximately four or five tractor-trailer truck loads of lead dust.

It was during this time period of increased, record-high production and increased market prices, that Doe Run came under growing pressure from regulatory agencies to reduce emissions of hazardous materials from the Herculaneum smelter.

National Ambient Air Quality Standards

The United States Congress in 1970 enacted the Clean Air Act, which required the Environmental Protection Agency (EPA) to set national ambient air standards – regulatory limits – for certain pollutants.[19] In 1978, the EPA set the maximum

[18] Fluor issued a press release in May of 1990, in which it stated that Doe Run, as the largest fully-integrated lead producer in North America, had approximately 60% of the total U.S. market.
[19] Officially, these standards are called National Ambient Air Quality Standards.

permissible air concentration of lead at 1.5 micrograms of lead per cubic meter of air, averaged over a quarterly period. The EPA required smelters to meet this 1.5 level at the fence-line of their facilities. The fence-line is the boundary of the facility – the line between the smelter property and the surrounding neighborhood. The EPA adopted this particular 1.5 level to protect the health of those most sensitive to lead exposure, particularly young children. Doe Run and the smelter never met this national 1.5 standard at any point during the partnership period.

Lead Industry: Knowledge of Dangers & Fight against Regulations

Testimony at trial confirmed that the lead industry has long known the dangers to children posed by lead. In the early 1900s, journal articles around the world recounted studies of children who had been poisoned by lead paint. In 1908, at a time when child labor was quite common, National Lead banned children from working in leaded areas of their plants.[20] The lead industry has also long known that smelters' emissions pose a danger to surrounding communities. In early days, farmers sued smelters when their cows died after ingesting grass covered with lead and other toxins emitted from the smelters.

The Herculaneum smelter and its ownership groups have long been an integral part of the lead industry. In 1928, various lead producers and users formed the Lead Industries Association (LIA), a trade association designed to ensure that members' lead products remained shielded from public attack and from competition.[21] High-ranking

[20] National Lead operated lead mines and smelters, and produced pigment for paint.
[21] The LIA represented a whole series of industries, such as smelters, paint manufacturers, and battery makers, that depended upon or sold lead.

executives from the Herculaneum smelter were directly involved in the association from its inception. This involvement continued into the partnership period. [22]

The lead industry's fight against regulation is equally longstanding. From the 1920s all the way through the partnership period, the lead industry has continuously, consistently, and aggressively fought any attack on lead – be it from medical studies, negative publicity, or proposed regulatory actions.[23] The industry's efforts included a "full frontal assault" in the late 1970s on the EPA's proposed ambient air standard. The association's environmental committee met specially in 1977 and devised an all-out public-relations effort in opposition to the planned regulations, to convince the regulators and the public that the proposed standard would be costly for the industry and would likely hurt local economies by jeopardizing employment and the tax base. The industry challenged the proposed ambient air standard even though the industry knew the standard

[22] The first president of LIA was also president of the St. Joseph Lead Company, which operated the smelter. He was replaced in the late 1940s by another executive from St. Joseph. The secretary of the association during the twenties, thirties, and forties was also from St. Joseph. This involvement in the association's leadership continued into the partnership period. Jeffrey Zelms, president of Doe Run, served as president and chairman of the LIA during the partnership period. Daniel Vornberg, the partnership's director of environmental affairs, served on the association's environmental health committee throughout the 1980s and early 1990s. The partnership itself, upon formation in October of 1986, agreed that the company become a member and participate in the LIA.

[23] The association's efforts were numerous and wide-ranging. From the beginning, they approached legislators who were concerned about lead and asked them not to pass legislation. They visited and challenged physicians who claimed that their young patients had been poisoned by lead, insisting that the physicians were mistaken and that what they were seeing was not really lead poisoning. The association even threatened physicians with libel suits if the physicians persisted in their claim that children were being poisoned by lead. In one famous example from 1943, the association threatened Dr. Byers of Boston with a million-dollar suit. Byers, a Harvard physician, had published a widely-publicized article about children who were poisoned by lead and had permanent damage. In that report, Dr. Byers stated that hyperactivity and attention problems were a lasting legacy of having ingested lead. Dr. Byers felt so threatened by the association that he did not publish another article about lead for ten years. The association, from its inception, was also active on the public-relations front. In the 1930s, the association ran a massive promotional campaign to promote the use of lead paint and shape public opinion in favor of lead paint, even though numerous medical articles showed that children were being poisoned by lead paint. The lead industry strenuously opposed efforts to remove lead from paint and gasoline at every turn, from as early as the 1920s. They argued that the movement to remove the lead was in response to researchers who did not understand the social, economic, or health effects of low-level lead exposures. Indeed, by claiming that it could not be shown that lead posed a long-term danger, the industry managed to get lead back in gasoline after a two-year ban in the 1920s. The industry's opposition persisted for 50-60 years, until the late 1970s and early 1980s, when lead was finally removed from paint and gasoline.

was selected to protect children, and that mounting evidence showed that children were developing problems at very low levels of lead exposure.

Then came the Needleman report. Dr. Herbert Needleman, an eminent physician, released a very critical study in 1979 that put to rest the idea that lead could be used safely. Dr. David Rosner, a public-health expert, characterized Needleman's study as very damaging and important because it convincingly demonstrated that lead was dangerous at much lower levels than previously realized. According to Dr. Rosner, the industry was outraged. The study undermined the industry's arguments that exposure to lead was from some other source, such as lead paint, and that lead was a problem of the past. The industry also feared that evidence of low-level damage meant that the government might lower the ambient lead level even further and take lead out of gasoline.

In fact, the government did require the removal of lead from gasoline. And once all lead was removed from gasoline, lead in the air declined. And then, as airborne lead declined, so did the lead content of children's blood. All of this demonstrated that reducing lead in air effectively protected children. Dan Vornberg, the environmental manager at St. Joe and later director of environmental affairs for the Doe Run partnership, bemoaned these results, writing, "The most difficult data to deal with will be a study which has been represented to show that children's blood levels are dropping in strict correspondence to air lead decrease and gasoline phase down."

Despite mounting evidence of the dangers and detrimental effects of lead, even at low levels, the industry continued its fight. In 1983, the association discussed a three-year public-relations campaign to try and raise lead's "pitiful" image. The proposed

campaign came on the heels of a plethora of articles reporting the dangers of low-level lead, and at a time when, in Dan Vornberg's words, multimillion-dollar lawsuits were "mushrooming" and anti-lead regulations were "epidemic." The lead industry's fight against regulation and its challenge to the conclusion that children were being affected by lead continued into the partnership period. In 1987, the partnership, along with other industry allies, sponsored research to create uncertainty and call into question the scientific consensus on the dangers of lead established by Dr. Needleman and other scientists. Ultimately, researchers funded by the lead industry published a series of articles stating that lead did not cause neurobehavioral problems in children.

The EPA re-evaluates the ambient air quality standard for lead every five years. The agency first revisited the lead standard in 1983, and considered lowering the level below 1.5. In 1987, the agency considered lowering the standard to 0.5. The lead industry fought the EPA at every turn. Doe Run especially opposed lowering the standard. In writing about the standard and Doe Run's strategy, Dan Vornberg noted a half-billion dollar cost to primary smelters should the EPA implement a 0.5 standard. Based on the proposed cost, and what it saw as a "minimal" reduction in blood lead levels from the measures, Doe Run suggested the following alternative approach:

> The approach suggests that in lieu of the 0.5, if you meet the 1.5 standard, you take other steps ONLY if the blood leads of the children in the community are elevated. If a survey shows no problem, then nothing further is required. If specific children are elevated, then specific steps should be taken to help them – buy out, resodding, education on cleaning, etc.
>
> This could prevent very large expenditures for air pollution control equipment and broad scale soil cleanup where there are no public health problems.

"Canaries in the coal mine" is how Dr. Rosner characterized Doe Run's proposed strategy. He explained that Doe Run was essentially going to use the children as guinea pigs to find out whether or not a problem existed. Waiting for the children to be injured, according to Rosner, was bad public-health policy and immoral. Dr. Rosner explained that the proper public-health approach was to make sure that children did not get poisoned in the first place, because lead poisoning is permanent. You do not recover. Doe Run should have been looking for ways to prevent the lead exposure, and making sure the children were not injured.

Evidence of the detrimental effects of lead continued to accumulate in the late 1980s. A study, published in *The New England Journal of Medicine* in 1988, indicated that no clear threshold may exist below which mental development is not adversely affected. A memo circulated throughout the lead industry, reporting on recent studies, stated: "As little as one-tenth ppm lead exposure can impair mental development in newborns. This damage is believed to be permanent." A study published in 1990, reported in both *The New England Journal of Medicine* and reprinted in *The Los Angeles Times* with the headline "Lead Exposure May Be Permanent, Study Finds," noted that childhood exposure to high lead levels resulted in inferior performance, such as failure to graduate from high school, increased absenteeism, reading disabilities, and low scores on tests measuring vocabulary, grammatical reasoning, fine motor skills, and hand-eye coordination. The study concluded that exposure to lead in childhood was associated with deficits in central nervous system functioning that persist into young adulthood. High-ranking Doe Run officials received copies of all these studies.

After years of insisting that lead was safe, the industry changed its public message in 1990. Jeffrey Zelms, then president of Doe Run and chairman of the LIA, in testimony before the Senate oversight committee as chairman of the LIA, recognized that lead was a toxic material. Dr. Rosner explained that LIA's express recognition of lead as a toxic material was a very new position. Until this point in time, Rosner explained, the LIA had denied virtually every attempt to identify lead as a toxic material, except in very, very high doses. The industry acknowledged they had, in some sense, lost the scientific battle. The industry could no longer provide alternative theories why children were developing lead poisoning. And so the industry switched approaches, and began explaining away the problems with lead as a problem from the past. According to Rosner, the industry blamed the dangers to children on past events, and argued that the industry had reformed its ways and was now safe, and therefore should not be held responsible. Rosner remarked on the irony, that in touting the industry's advances and increased environmental awareness, the industry tried to take credit for what had been imposed on them – the removal of lead from paint and gasoline – measures they had opposed at every turn.

Despite having publicly acknowledged that lead was toxic, the industry nevertheless continued its fight against regulation. They still advanced the notion that lead production involved little danger to the community. The lead industry knew in 1990 that 45% of children living around smelters in the country had blood lead levels over 10, yet the industry persisted in fighting any changes in the ambient air standard or in the CDC's level of concern. The industry viewed the EPA's proposed revision of the air standard downward to 0.5 to be of only marginal benefit to the few people who lived in

very close proximity to lead facilities and of no benefit whatsoever to the efforts to reduce blood lead concentrations across the country. In the industry's view, only 150 children would be minimally aided by revising the ambient air standard. The EPA ultimately did not change the standard. Continuous opposition by the lead industry created enough confusion and obfuscation that the EPA was never able to revise the standard. The lead industry also pressured the CDC to not adopt a new, lower level of concern. The industry argued that the potential effects of blood lead levels in the 10-15 range remained subject to scientific debate. And thus, because of this uncertainty, the CDC should retain the then-current level of concern, which was 25. According to Dr. Rosner, the industry's argument was all too familiar. Dating back to the 1920s, whenever faced with detrimental news or information, the industry argued that controversy still existed, all in an attempt to stave off further regulation. But, as Rosner explained, by the early 1990s, no scientific debate existed about the detrimental effects of blood lead levels in the 10-15 range. The only debate was that which the lead industry tried to foment.

State Implementation Plan

Now let us turn to Herculaneum. The Clean Air Act required the state of Missouri to develop a plan – called a state implementation plan – for reducing the amount of lead in the air to meet the national standard. Responsibility for preparing Missouri's plans fell to the Missouri Department of Natural Resources (DNR). DNR officials worked with the lead industry in Missouri, including the Herculaneum smelter, to gather data, identify their emissions, determine ambient air levels, and then formulate an attainment plan.

Air monitors placed around Herculaneum all showed excessive amounts of lead in the air. Officials completed a five-year implementation plan for Herculaneum in 1981. The plan called for a series of control measures designed by the DNR and EPA to reduce airborne lead levels. Initially, the implementation plan required the Herculaneum smelter to meet the national 1.5 standard by 1984. The smelter later received a two-year extension of this deadline. Dan Vornberg wrote in 1985 that it was "unlikely" that the Herculaneum smelter could meet the national standard by 1986, or "at any time" under the current regulations. And indeed, the smelter did not meet the national standard in 1986. In fact, Doe Run and the smelter never met the national 1.5 standard at any point during the partnership period. Mr. Vornberg never told the EPA, the DNR, or the community that he thought the smelter could never meet the standard.

Violations

The DNR eventually cited Doe Run and the smelter in June of 1989, for impermissible air lead levels. In fact, Doe Run was cited by two different regulatory agencies in the late 1980s for lead-related violations: first by OSHA, in 1988, and then by DNR, in 1989.[24] OSHA cited Doe Run for violating nearly every section of the OSHA lead standard. OSHA issued 55 citations in all, representing some 300 instances. The citations covered four major areas: record-keeping, failure to abate, medical removal, and willful noncompliance with standards.[25] OSHA levied one of the highest fines in the

[24] OSHA is the federal Occupational Safety and Health Administration.

[25] Among the violations were: exposing employees to lead up to seventy-one times over the permissible exposure limit; providing improper respirators; failing to implement engineering and work practice controls to reduce and maintain employee exposure; failing to establish and/or implement written compliance programs to reduce lead exposure to permissible levels; failing to adequately monitor; failing to provide for cleaning and/or disposal of protective clothing, and the improper cleaning of that clothing on other occasions; failing to clean surfaces of accumulated lead, and improperly doing so on other occasions; failing to prevent cross-contamination between work and street clothes; failing to timely notify employees

history of the agency – nearly 2.8 million dollars. Just over a year later, in June of 1989, the DNR issued a notice of violation to Doe Run and the Herculaneum smelter, for violating the national 1.5 standard. The DNR required Doe Run to pay a penalty, which Doe Run succeeded in getting reduced by half. The DNR also required Doe Run to submit a revised implementation plan that promised installation of control equipment or reduced production levels necessary to meet the national standard. By this time, regulators believed it urgent that the smelter comply with environmental standards, especially the national ambient air standard. The EPA asserted that Doe Run's Herculaneum smelter was one of the top ten polluters in Missouri. Indeed, in 1989, the entire St. Louis region exceeded the national 1.5 standard simply because of the Herculaneum smelter.

The partnership, like the lead industry in general, was concerned about the impact of regulations and the proposed downward revisions of the ambient air standard. The children presented evidence showing the partnership's disdain for regulations, with Doe Run officials developing strategies to get around requirements they deemed "excessive" and "draconian." As with the lead industry in general, the partnership disagreed with the 1.5 ambient air standard – even to the point of arguing it should not apply to them. The partnership believed the "unachievable" air lead standards jeopardized the world-wide competitiveness of the U.S. lead-smelting industry. Yet Doe Run knew that if it did not improve its airborne lead emissions, regulators would likely order them to comply with the national standard, without regard to the economics or feasibility of the order. At a time of high market prices and record-level production, the partnership committee

---

of high blood lead levels, and failing to promptly remove those employees with high levels of lead in their blood.

worried that regulators would draft a plan that Doe Run could not "afford," and that EPA intervention would result in the smelter's closure. The regulatory pressures to reduce emissions came at a time when Fluor expressed a desire, in October of 1989, for the partnership to be a "low-cost producer."[26]

Ultimately, partnership officials and the DNR fashioned a new implementation plan that committed Doe Run to eight projects designed to bring the plant into compliance with the national standard by December of 1993. For example, the DNR ordered the partnership to install a new sinter plant system to reduce the levels of airborne lead emissions in the Herculaneum area. Doe Run expected revisions to the sinter plant to eliminate 78% of the fugitive emissions. By 1989, Doe Run knew what its emissions were, where those emissions were coming from, and they clearly knew that the smelter violated the national standard. Despite this, the partnership delayed. Despite promises of eight to ten million dollars in environmental controls, the partnership committee postponed authorization for expenditures and equipment upgrades.

Air Contamination in Herculaneum
&
The Fence-Line Monitor

We next consider the air and soil contamination in Herculaneum. To measure the amount of ambient airborne lead and determine the smelter's compliance with the

[26] Some mention should be made that as early as April 1989, Fluor considered selling its interest in the partnership. A potential buyer visited the site in June of 1989. Allegedly, Doe Run decreased production to make the site more appealing, and the partnership withheld environmental material from the potential buyer. The partnership also looked into the economics of shutting down the smelter. Officials knew that the shutdown and cleanup of the Bunker Hill facility in Idaho cost 100 million dollars. Doe Run officials, however, believed they could shut down and clean up the Herculaneum smelter for as little as $20 million dollars, provided the community "didn't turn on [them] at the eleventh hour and demand a pristine clean job." Officials at this time assumed the Herculaneum smelter would operate for another twelve to fifteen years, and believed that in the end they could "cut a deal" with the EPA for the orderly run-out and shut-down of the smelter.

national ambient air standard, officials placed monitors at various locations throughout the town. To comply, a facility must comply everywhere, even at the point of maximum ambient air concentration. An air-pollution control expert explained that the maximum ambient air concentration will tell the facility what could secure its compliance. He further explained that to find the maximum concentration of fugitive emissions from a facility, one should look at the fence-line first, and then work out from there. Typically, a fence-line monitor will be the monitor with the most fugitive emissions.

But no official fence-line monitor existed at the Herculaneum smelter until 1992. Prior to this time, the closest monitor to the smelter was located at the high school, about one-half mile away. Moreover, smelter officials – both before and during the partnership period – resisted efforts to place a fence-line monitor.

Indeed, smelter officials opposed a fence-line monitor from the inception of the national ambient air quality standards. In completing the smelter's implementation plan in 1982, state regulators requested a monitor be placed across the street from the smelter, just northwest of the plant, at a point where, according to models, the maximum ambient air concentration of lead would result from fugitive emissions from the plant. Dan Vornberg, then St. Joe's environmental manager, expressly rejected this request on numerous grounds, including the fact that management was somewhat concerned about that sector because it was so close to some of the process emissions, and because management believed the standard to be unreasonable and much more stringent than necessary to protect public health. Vornberg also refused the request because no public-health problems existed in the community due to lead emissions from the smelter. Notably, Vornberg acknowledged that liability and the possibility of community legal

action were major reasons for not wanting a public record of any data well above the national standard.

Opposition to a fence-line monitor carried forward well into the partnership period. In December of 1986, Dan Vornberg, by now Doe Run's director of environmental affairs, and his coworker, Jim Lanzafame, noted that Doe Run might be able to avoid placement of the fence-line monitor if they could fence off certain areas from the public where maximum levels would be found. In May of 1988, Lanzafame stated that Doe Run was "still adamant about not installing the fence-line monitor until after the controls were in place."

Smelter officials knew fence-line readings would far exceed the national standard. To begin, after the EPA established the national lead ambient air standard, environmental officers from the smelter toured other smelters in the country and learned of the smelters' problems in meeting the national standard. For instance, upon touring the Bunker Hill smelter in Idaho, Dan Vornberg learned that the Bunker Hill smelter had a fence-line monitor that averaged well above the national standard. Bunker Hill personnel expressed little hope of their fence-line monitor ever reaching the national 1.5 standard.

Beyond this, the smelter in 1979 had privately placed its own monitor across the street from the smelter, at a building it owned, referred to as the environmental building. The monitor at this building was at or very near the proposed location for the northwest monitor – near the smelter and significantly closer to the plant than the high-school monitor, or any other monitor being used and reported to the state of Missouri and the EPA. The readings from this private fence-line monitor far exceeded the national standard. In October and November of 1979, shortly after the EPA established the

national standard, the quarterly average ambient air level of lead at the private fence-line monitor was 32.3, more than twenty times the national standard of allowable ambient lead. The average for the entire 1979 calendar year was 16.6, more than ten times the national standard. In 1981 and 1982, Dan Vornberg conceded that the data from this private monitor was "unacceptable."

Smelter officials convinced the DNR to use the high-school monitor as the closest official monitor, and in late 1986, the EPA agreed to "passively support" this location for demonstrating attainment of the federal standard, despite the fact that models indicated that maximum levels would be at the old environmental building. A true fence-line monitoring station was not established until the fall of 1992, when the EPA and the DNR forced the partnership to install a monitor closer than the high school. The first level at this location, at the end of 1992, was 5.5. By this time, the smelter had installed some air-emission control equipment. The level would likely have been higher before the equipment was installed. Even with the equipment in place, the levels were more than three times the national standard and allowable limit of 1.5.

Soil Contamination

The smelter contaminated not only the air in Herculaneum, but also the soil.

In 1984 and 1985, smelter officials, under Dan Vornberg's leadership, conducted lead testing on dust and surface soil samples taken from areas around the smelter, such as streets and under swing sets, where children were known to play. The levels were high throughout the community. Analysis of the samples revealed lead levels ranging from a low of 50 ppm to a high of 9250 ppm.[27] To place these levels in context, the EPA in

[27] The levels of lead in soil are measured in terms of "ppm," meaning parts per million.

1989 set the soil cleanup level for superfund sites at 500-1000 ppm, meaning the EPA required removal and replacement of soils containing levels of lead greater than 500 ppm. Smelter officials plotted the results on a map and then divided the town into four pie-shaped sectors around the plant, centered on the smelter stack. The average lead values in each sector, for the area within one-half mile of the stack, were all very high: 1458 ppm for sector A; 2258 for sector B; 2239 for sector C; and 1822 for sector D. As to the particular children involved in this lawsuit, levels are available for locations at or near the homes of eight of the children. Those levels ranged from 1010 to 4720.[28] Although these particular children were born, and resided at these locations after this testing was conducted, Dr. Rodney J. O'Connor, a chemist with expertise in environmental chemistry and chemical safety, explained that lead in soil never really leaves. The only way lead leaves a site is by blowing away in the wind, dissolving and washing away in water runoff, or by being dug up. Otherwise, the lead remains and accumulates.

Dr. O'Connor characterized all these levels as being "very high." He noted that scientific papers dating back to at least the 1970s showed that lead in soil could be dangerous. He further noted that, according to those papers, the levels of lead seen in the 1985 testing would be deemed dangerous. Dr. O'Connor observed that, as of the 1980s, it was widely known that soil levels in excess of 3000 ppm were unsafe. He further

[28] In particular, analysis revealed the following levels:

CHILD	LEVEL (ppm)
Preston Alexander	1360
Bryan and Tiffany Bolden	1820
Gabe Farmer (age 3-6)	4720
Gabe Farmer (age 7)	2010
Ashley and Lauren Shanks	2010
Isaiah Yates	1010

explained that by 1994, soil lead levels over 2000 ppm were also undisputedly considered unsafe.

Doe Run officials knew of the soil results by at least December 1987, when the results were summarized in a memo directed to president Jeffrey Zelms, copied to Fluor's general counsel, and forwarded to Doe Run's director of environmental affairs, Dan Vornberg. The memo also noted the levels at which the EPA was requiring soil removal and replacement at superfund sites. We find no evidence that the partnership informed either the EPA or the residents of Herculaneum of these soil test results.

The partnership conducted another soil test in 1990. This time, instead of testing known play sites, as previously done in 1985, the partnership randomly selected one out of every three houses within a half mile of the smelter for testing. The partnership believed that testing every third yard would provide a sufficient measure of the lead levels present in the neighborhood. They assumed that surrounding yards would have similar lead concentrations to the ones tested.

Dan Vornberg admitted the partnership expected the levels to be high. And they were. The tests revealed average soil lead concentrations ranging from a low of 15.5 ppm to a high of 10,150 ppm. Of eighty-five yards tested, only sixteen came back with levels under 1000, and only three of those results were under 500 ppm. The other sixty-nine yards had levels above 1000 ppm, and forty-two of those yards had levels above

2000.[29] As to the particular children involved in this suit, testing was conducted at or near the homes of five of the children. The levels ranged from 1132 to 4488 ppm.[30]

The partnership was less than forthcoming with these results. Isaiah Yates's father specifically testified that no one ever told him what the soil levels were in his area. Gary Walker, environmental officer for Doe Run, who characterized the results as "fairly high," stated that Doe Run sent the results back to the specific residents whose yards had been tested. But, as to those residents whose yards were not tested, Doe Run relied on the residents to talk to their neighbors, or to attend a community meeting to learn of the results.

[29] In all, the test results showed:

AVERAGE LEVEL OF LEAD (ppm)	**NUMBER OF HOMES**
0-1000	16
1000 – 2000	27
2000 – 3000	17
3000 – 4000	15
4000 – 5000	5
5000 – 6000	2
6000 – 7000	0
7000 – 8000	0
8000 – 9000	2
9000 – 10,000	0
Over 10,000	1

[30] Specifically, testing revealed the following levels:

CHILD	**LEVEL (ppm)**	**RESIDENCE & SAMPLE LOCATION**
Patrick Blanks	1858	Lived at 406 Burris; sample from 411 Burris
Nathan Davis	4488	Lived at 774 Circle; sample from 773 Circle
Gabe Farmer	1132	Lived at 375 Mott; sample from 371 Mott
Heather Glaze	3462	Lived at 925 S. Main; sample from 929 S. Main
Jeremy Halbrook	2527	Sample taken from Halbrook yard

Blood Tests

In 1984, the smelter conducted community-wide blood testing of children living around the smelter. The average blood lead level was over 15 for children living within a half-mile of the smelter. Several children had levels above 25, and one child had a level of 34.

No further community-wide screening was performed until 1992. Dr. Rodgers, again a pediatrician, toxicologist, and member of the CDC Advisory Committee on Childhood Lead Poisoning, called this lack of screening entirely inappropriate. He explained that the children around the smelter were a particularly high-risk population that should have been screened frequently and intensely – even yearly. He noted that by 1985, it was known that children who lived next to lead smelters tended to have high blood lead levels. CDC guidelines issued in 1985 classified children from nine months to six years old who lived near a lead smelter as a high-priority group for lead screening, and recommended yearly testing. Dan Vornberg, Doe Run's director of environmental affairs, acknowledged that he knew in January of 1985 that the CDC regarded children living near lead smelters as a high-priority group for screening, but explained that the CDC guidelines were directed to health agencies. According to Vornberg, Doe Run officials did not view themselves as having an annual duty to run a blood lead program. Moreover, with but "a few" above the 25 level of concern, Doe Run considered the community a "normal community" by EPA guidelines and thus, in its view, screening was not called for. They would recommend testing if anyone called in to the smelter to talk about the issue, but Doe Run did not go out in the community, knock on doors, and tell residents that they wanted to monitor blood levels.

When asked if Doe Run informed the people in the first half mile that the average blood lead level in the area was above the level of concern, Mr. Vornberg stated that they "put that in a paper." He could not say, however, if the people that lived across the street read that published scientific paper. And Doe Run held no public meetings at the time. When asked how the Halbrooks, who in 1986 moved virtually across the street from the smelter, were supposed to know about a published study, Vornberg replied: "Well, the community was very aware of this issue. You'd think you'd be talking to neighbors, talking to school officials, their alderman."

"We weren't set up at that time," Vornberg stated, as another reason why Doe Run did not perform further blood monitoring between 1985 and 1992. Yet, in 1986 alone, Doe Run regularly screened about 400 employees at the smelter. Doe Run had equipment onsite and employed a phlebotomist full-time to draw blood. Mr. Vornberg ultimately acknowledged that Doe Run had the ability to do the screening. He also acknowledged that Doe Run got a good response when the company performed the community-wide screenings in 1984 and 1992, due to a team of people knocking on doors and taking the blood samples in the residents' homes. But, he said, he never thought about sending out Doe Run's full-time phlebotomist to do the same thing each year.

Partnership Actions: What did they do? What did they fail to do?

We come now, to the heart of this case. What was Doe Run's responsibility to the children of Herculaneum? And knowing the extent of contamination and the effects of lead on children, what did the Doe Run partnership do and what did they fail to do?

Professor James Fisher, a marketing and business ethics professor, opined that a company such as Doe Run has a responsibility, in dealing with their neighbors and the general public, "to do no harm, to communicate honestly, and even openly, and to not use [their] knowledge to disadvantage the public…." Doe Run, itself, in 1993, represented to the community that "[a] company has an obligation to be a good neighbor…." and that the "health of every member of the community is one of our major priorities." According to the children, however, Doe Run was anything but a good neighbor. They contend the partnership's efforts were insufficient, and that the partnership withheld information, even to the point of deceit, all to protect and enhance their bottom line. The partnership knew substantial contamination existed in the community. They knew they were not in compliance with federal standards and that they were continuing to contaminate the community. They knew the harm that lead posed to children. Yet the partnership continually reassured the parents of Herculaneum that they had nothing to worry about – their children were safe. In sum, the partnership contaminated, concealed, delayed, and deceived.

Fence-line Monitor

We return to the fence-line monitor. Not only did the partnership oppose placement of an official fence-line monitor, and not only did the partnership know well that the levels recorded at their private fence-line monitor were exceedingly high and "unacceptable," but the partnership kept quiet about the existence of that monitor. Indeed, Matthew Heilig's mother testified she had no idea of the monitor right in front of her home registering a high level of lead. The partnership also kept mum about the levels recorded at their monitor. They did not share those levels with either the community or

regulatory authorities. Dan Vornberg, Doe Run's director of environmental affairs, admitted that he never shared the levels at the environmental building with anyone. In his words, he did not report the levels to the EPA because the agency "didn't ask for them." Instead, the levels were kept in-house. Robert Schreiber, from the DNR, confirmed that he was never shown the 1979 results showing a ninety-day average of 32.3. Had he known of the results, which he described as "abnormally high," he would have alerted the Missouri Department of Health and the EPA.

Furthermore, the partnership publicized demonstrably false information. In a report released to the public in March of 1990, purporting to report on the air quality and emissions in the smelter area for the years 1988 and 1989, Doe Run declared that an 8.59 quarterly average in 1988 was an "abnormally" high reading and was the "highest level in a decade." Doe Run made this statement despite the 32.3 reading in 1979.

"Absolutely outrageous." That is how public-health expert David Rosner described attempts to hide information from the community that had been contaminated by the smelter's pollutants. Jim Tarr, an expert in air-pollution control, similarly opined that the data "absolutely, positively" should have been shared with the government, and that it was not appropriate to stand silent. Both experts agreed that hiding the truth distorted the community's and the regulatory agencies' appreciation of the danger. Withholding information limited the ability of the people in the community to make reasonable informed decisions in order to shield their children from the contaminated air. Withholding information and refusing an official fence-line monitor also skewed the very results that formed the basis of the implementation plan. Herculaneum's implementation plan did not address the truth of the matter "by any stretch of the imagination." The state

of Missouri and the EPA simply did not realize the degree of the pollution.[31] Those in public health depend on accurate, fair, and honest data. By not knowing the truth, the State operated under an "illusion" and could not adequately address the danger and protect the community. In sum, the partnership hid critical information about what was being emitted from the smelter, putting the children further at risk.

Slag Pile & Other Smelter Equipment

The slag pile on site at the Herculaneum smelter was quite large – about twenty feet high and covering about twenty acres. The slag material itself contained a percentage of lead that had not been refined. Lead dust also accumulated on the slag pile, as well as other open storage piles around the plant. James Lanzafame, an environmental officer for Doe Run, acknowledged that they did not need a computer model to tell them that dust would blow off the piles. Yet, the partnership did not purchase a portable sprayer, to spray down the piles with water, until 1992, when the partnership authorized $2,820 for the purchase. The partnership did not purchase a sprayer prior to this time because they were addressing other "bigger" sources first.

Children from town long played and rode their bikes on the slag pile. The smelter placed a small, low fence around the pile in the early 1980s, to try to signal that the pile was a hazardous-waste area. Dan Vornberg noted that they posted signs and "tried to get the message out" that the community should not play on the pile. Vornberg, Doe Run's director of environmental affairs, admitted that this was not a perfect system, and

[31] For instance, in developing the implementation plan for Herculaneum in the early 1980s, the State believed the highest ambient air value was 2.28, when the private fence-line monitor instead showed a level of 32.

explained that they relied on parents to inform and watch their children. A chain-link fence topped with barbed wire did not enclose the pile until after the partnership period.

In the early 1990s, Vornberg estimated that it would cost Doe Run 2 to 5 million dollars to cover the slag pile. The partnership never covered the pile. Vornberg explained, "At the time there was no requirement to close it."

As noted earlier, lead concentrate arrived at the smelter by truck and by railcar. The trucks kicked up dust as they traveled through the neighborhood streets. When asked by a resident in 1990 why Doe Run did not switch shipment of all incoming lead concentrate to rail, the company responded that if they shipped all concentrates by rail, the rail rates would rise to the point of putting the smelter out of business. In 1991, Vornberg proposed bringing in all lead concentrate via rail, rather than shipping some via truck. He noted that trucks delivered thirty percent of the concentrate and that those trucks generated dust. Vornberg presented his proposal to the president of Fluor and other partnership officials. The record does not show that Doe Run ever changed delivery methods.

In December of 1993, the partnership authorized money for an enclosed conveyor-belt system to replace the old, existing, open conveyor-belt system. An enclosed system would eliminate a major source of dust within the plant, and correspondingly, significantly lower fugitive emissions and lead levels at the fence-line air monitors. Richard Coleman, a chemical engineer and consultant for smelters, explained that an enclosed system existed as early as 1976, and therefore the partnership could have replaced the conveyor-belt system much earlier than 1993.

"Community Outreach"

Over the years, the partnership engaged in a number of "community outreach" programs. The children presented evidence showing that Doe Run was less than forthcoming in its outreach. Doe Run allayed concerns, downplayed the smelter's contribution as a source of lead, and consistently and repeatedly assured the community that all was well.

Shortly after formation of the partnership, in 1987 and 1988, Doe Run officials began community walks and distributed two pamphlets, entitled "My Book about Staying Safe Around Lead" and "What Everyone Should Know About Lead Poisoning." These pamphlets described lead poisoning, its signs and symptoms, the sources of lead, screening programs and preventative measures to take – such as washing one's hands, not putting things in one's mouth, and eating healthy foods. Officials went door-to-door, handed out this literature, and asked residents if they had any concerns. Officials did not, however, tell them of the past and present dangers to their children of grave and irreversible injuries.

In July of 1989, at the time when Doe Run had received a notice of violation from the DNR for violating the national air quality standard, Doe Run sent a letter to their employees who had children, in response to concerns raised regarding air lead levels in Herculaneum. In that letter Doe Run downplayed the concerns, stating simply that the "standards are set very conservatively …."

In 1990, prior to conducting the second soil study, Doe Run held an informational meeting to inform residents of the upcoming study. To announce the meeting, Doe Run distributed a letter to residents, in which Doe Run expressly stated that they were

proposing the study, even though their information "indicates that there is no significant health problem among residents living near the smelter."

On a display chart for the meeting, Doe Run listed reasons for the meeting, three of which were:

> TO LET YOU KNOW the current status of the area's lead health, which is favorable.
>
> TO LET YOU KNOW THAT NO SERIOUS HEALTH THREAT has been identified for people living near the smelter.
>
> TO DETERMINE THE BEST AND SAFEST way to ensure the continuing good health and well-being of every Herculaneum resident.

On another chart, Doe Run listed eight sources of lead, listing "lead smelters" last, after such sources as "improperly fired ceramics" and "antique pewter." On yet another chart, Doe Run listed the ways in which lead entered the body, listing "breathing dust and fumes produced by lead smelters" last, after such items as "folk medicines," "cosmetics," and "breathing dust and fumes produced when working on leaded stained glass." Doe Run created another chart, listing the following measures residents could take to reduce their exposure to lead: "wash hands before eating," "vacuum carpets and floors frequently," "check plumbing for lead piping," "wear a mask when scraping leaded paint," "avoid using leaded ceramic pans or dishes when cooking, storing, and serving food," and lastly, "keep clothes clean."

This last chart exemplifies the consistent message from Doe Run – that residents could lower their exposure to lead if they would just clean their homes and watch their kids. Another example of Doe Run's misleading messages is when the partnership provided vacuum cleaners for the residents, free of charge. Doe Run officials simply told

Nora Murray that "this will help keep your house clean."[32] Ms. Murray just thought Doe Run was being nice.

Doe Run officials continued their door-to-door community walks in 1991. During these walks, Doe Run officials did not tell residents that exposure to lead lowered IQs. Officials did not tell residents that the brain effects were irreversible. Officials did not tell pregnant mothers that pregnancy released lead from bone. Officials did not tell residents that lead could impair brain function in children. When asked why Doe Run did not inform residents about the risks, Gary Walker, the partnership's environmental officer and industrial hygienist, answered only that "we told them about what we were doing to try to make things better in the community." Doe Run again emphasized that parents could minimize exposure to lead by cleaning their homes. Walker insisted that parents needed to take responsibility and spend some amount of time cleaning their homes. He declared the lead "may or may not be related to the smelter," and that there were "multiple issues" as to why lead was present in the community. He further maintained that as of 1992 there were "only a few people" at the CDC levels of concern, when the evidence showed otherwise. He knew soil levels were high, but persisted in the notion that lead-based paint contributed to the elevated lead levels. He also maintained that the residents knew of the lead in the community because the smelter had been there for over a hundred years. This "had to know" position was yet another message consistently advanced by Doe Run – even to the point of insinuating it was the parents' fault for choosing to live close to the smelter.

[32] Nora Murray, a cousin of Brian and Tiffany Bolden, also lived in Herculaneum.

Soil-Abatement Program

In 1991, a year after completing the second soil study, Doe Run instituted a soil-abatement program, in which they dug up and then replaced leaded soil. Doe Run budgeted $480,000 for the program in 1991. Out of nearly two hundred homes in the nearby community, Doe Run in 1991 replaced soil in only six yards, a vacant lot, and a one-acre field. They did not start at the homes with the highest level of lead in the soil. When asked why only six yards, Gary Walker explained that they, Doe Run, wanted to do a "pilot project" to see whether they could do a "decent" job. Paul Allen, a consultant for Fluor and member of the partnership committee, commented on the newly-replaced yards when reporting to Fluor's president in October of 1991, expressly remarking that the program was "costing only a nominal amount."

The following year, in 1992, Doe Run again replaced soil in just six residential yards. When asked why, after 1991, Doe Run did not buy all the equipment they possibly could, and proceed to clean the entire area in 1992, Mr. Walker explained that they were using equipment – high lifts, bobcats and the like – that took a lot of time and effort to complete the job. He also blamed the rain, wash-outs, "and other things." He further explained that Doe Run had hired consultants and contractors who were landscape people to do the soil replacement, so "there's a learning process in getting that done." In sum, he explained that Doe Run's progress in replacing soil was limited by the type of equipment they were using and their knowledge about how to get started. "You've got to walk before you can run," he protested. Dan Vornberg, the partnership's director of environmental affairs, gave a similar explanation. He noted that the soil-replacement program was a pilot program to demonstrate the feasibility of the program. He further

noted that no one else in the state had done anything, that the State was not interested, and that federal officials were not pressuring them. He also explained that in Doe Run's view, lead in the soil only minimally raised the blood level of a child, and so soil replacement "wasn't the most important thing that could be done." Vornberg was also of the opinion that most of the houses had a soil lead level below 2000. The results, noted before, belie this opinion.

Doe Run acknowledged that the process of removing the contaminated soil kicked up a lot of dust. But, Doe Run did not move families out of their homes when cleaning up the contaminated yards. Doe Run did not perceive any risk to the residents because they kept the residents away from the heavy equipment. Doe Run also did not offer to clean the residents' homes after completing the remediation projects. And although Doe Run monitored the blood levels of their own workers during the soil cleanups, they did not monitor the levels of the resident children. Mr. Walker characterized the workers' exposure as "low." But testing on those workers revealed an average blood level of 15.

Dr. O'Connor, the children's expert in environmental chemistry and chemical safety, opined that the soil-remediation project was not effective. In his view, it simply was not feasible to clean up the entire area. Dr. O'Connor explained that Doe Run may have replaced soil in a particular yard, but lead dust was still in the surrounding environment – be it in the street, the air, or an adjoining yard – and the soil replacement did not protect a yard from that dust. Doe Run did not retest yards after replacement to see if and how much lead had reaccumulated in the yards.[33] And even though Doe Run

[33] As noted in our recent decision, *Doyle v. Fluor Corp*, 400 S.W.3d 316 (Mo. App. E.D. 2013), soil remediation accelerated beginning in 2001, after the partnership period, pursuant to a consent decree between the smelter and the EPA. By 2007, 54 properties had been remediated. To date, nearly all properties in Herculaneum have been remediated except for a few at the outskirts of town.

made a minimal effort at remediation, they did not explain the danger of the lead to the homeowners.

1992 Blood Study

In April of 1992, in conjunction with a national study, Doe Run conducted another blood study of residents. Doe Run planned to test those children, aged six months to six years, who lived within a one-and-a-half mile radius of the smelter. However, several parents testified that they did not know, or were never contacted about the test.

Testing revealed an average blood lead level of 11.6, above the CDC level of concern. This average was an overall average – based on children within the one-and-a-half mile radius of the smelter. Of those children living closest to the smelter, within the first half mile, ninety-one percent – thirty of thirty-three children – had lead levels above 10. Of these thirty children, ten children had levels between 10 and 15, fifteen children had levels between 15 and 20, and five children had levels over 20.[34] The average level for those children living within a half mile of the smelter was 15.6.

Doe Run issued a press release after the study, emphasizing that levels had decreased since 1975 and 1984. They did not point out that nearly every child tested in the first half mile of the smelter was above the CDC level of concern of 10.

Dr. Rodgers, the pediatrician who served on the CDC Advisory Committee on Childhood Lead Poisoning, concluded that these levels should have triggered community-wide efforts. Doe Run contended that they followed the CDC guidelines, and that they worked to ensure that those with blood levels above 10 were told they needed to

[34] Those levels were 21, 23.1, 27, 28, and 28.

get another blood test. Several parents, however, were never informed of the test results. Mrs. Shanks, for instance, never received a letter and only later learned that her daughters had tested at 10.2 and 10.8. Had she known that over 90% of the children living near the smelter, including her daughters, had lead poisoning, she would have moved out and sought treatment. Others, like the Alexanders, received results, but no one from Doe Run ever contacted them about those results. The letter, as sent, gave them no reason to be concerned. Their son Preston was tested twice in 1992, two months apart. His levels were 16.9 and 16.5. Dr. Rodgers testified that when someone tests above 15 twice within the same year, the CDC would say that you need to find the source of the lead and then get the person away from that source. And certainly the person needs to be followed closely. As a pediatrician, Dr. Rodgers would have told the Alexanders that they needed to get Preston away from the source of the lead.

REACT Program

After this blood study, in the late summer of 1992, Doe Run hired a company by the name of REACT Environmental Engineers to perform a variety of functions, including conducting an environmental survey of households with children having elevated blood lead levels. Doe Run and REACT asked residents to complete a household questionnaire. Curiously, a number of questions had no connection to lead exposure.[35] But in addressing the activities of household members, the questionnaire began by asking about every other type of potential lead exposure other than the

[35] For instance, the survey asked such questions as whether household members smoked or used tobacco products, and whether household members had any pets in house. The survey also asked the highest level of education for the head of household, the gross household income, and the race of the children. The survey also asked whether the resident owned or rented the house.

smelter.[36] And in addressing occupations, the questionnaire asked no questions specifically about the smelter, such as whether any member of the household worked there.

Preston Alexander's parents participated in the REACT survey. Officials collected paint chips and dust from the home, as well as soil and water samples. Testing showed that the Alexanders had no problems with lead in their water supply; the lead present was well within the acceptable range. The Alexanders had no lead paint inside their house and just a minimal, acceptable, amount of lead paint on their outside steps. The house dust samples, however, showed a "relatively high" lead concentration of 6030 for the vacuum sample and a "moderate" lead concentration of 1270 for the wipe sample. And soil testing revealed "moderately high to high" lead concentrations of 1720 and 3620.

Based on these findings, the letter reporting the test results set forth a litany of recommendations to reduce their child's exposure to lead in the home, including: making sure peeling paint was not accessible to the child, either inside or outside of the house; conducting an extensive one-time cleaning of the entire house; wet-mopping and cleaning windowsills, furniture, and baseboards twice a week; vacuuming carpets and rugs twice a week; washing toys daily; washing their child's hands and face frequently, especially before he eats and after playing in the soil; making sure their child was not ingesting paint chips or soil; making sure their child ate regular meals; and making sure parental

[36] For instance, the questionnaire first asked whether anyone painted pictures with artists' paints, painted furniture or the inside/outside of the home, worked with stained glass, cast lead into fishing sinkers, soldered electronics or pipes, repaired auto radiators or worked on auto bodies, worked in a sewage treatment plant, made any pottery, performed any welding, cleaned a firearm, or visited an indoor firearm target range. The survey did not ask about smelting lead until the seventeenth of twenty-seven questions regarding household activities.

occupations or hobbies did not expose their child to lead. But nowhere does the letter even allude to the lead smelter. And nowhere does the letter suggest that parents need to move their children out of Herculaneum. The letter never mentions that the lead found could be a poison to the Alexanders' children. No one ever explained to the Alexanders just how "relatively high" the dust sample of 6030 was. And no one ever explained the meaning of the soil numbers or the meaning of "moderately high." Furthermore, despite stating the purpose of the survey was to determine the most likely sources of exposure, the letter never even mentions the most likely source of the lead in their home. In Mrs. Alexander's words, Doe Run was conducting a lot of surveys and they were being asked a lot of questions, but "we had no answers."

The Alexanders interpreted the letter as telling them they were not keeping a clean home and, if they did, everything would be alright. After receiving the letter, Mrs. Alexander, a professional housekeeper, tore apart her home and cleaned constantly. Even though she believed herself a good housekeeper, she allowed Doe Run to conduct an extensive one-time cleaning of her home. Instead of a "professional" cleaning service, as offered in the letter, Doe Run simply sent employees from the smelter – coworkers of Mr. Alexander – to clean the home. And those employees used dirty, dusty equipment from the smelter. The workers took equipment that was used in the smelter's change house and brought it straight across the street to clean the Alexanders' home.

1993 "Community Interaction" Program

Doe Run officials launched a new "community interaction" program in 1993. Doe Run was under mounting regulatory pressure and believed it was losing community standing and empathy. Doe Run officials set various goals for their program, including:

having 95% (but notably, not all) of children in the smelter umbrella with a blood lead level less than 10 (the new CDC level of concern); eliminating negligence liability; booking liability for the half-mile radius at appraised value of property; "optimizing" Doe Run's public-relations position; reducing the possibility of a negative media campaign; and managing "the impact on Doe Run's potential to operate and consequently the value of the company and its potential marketability to the public or another company."

Doe Run hired a new public-relations firm. This new firm developed a communications strategy for Doe Run that included messages to convey to the community, and then a multi-faceted approach for interacting with the community to disseminate these messages. The firm identified several key audiences, such as residents nearest the smelter, parents of young children, and residents new to the area, and then matched messages to these audiences. Slightly tailored for each audience, those messages all struck a consistent and familiar refrain: Doe Run is a credible source of information; Doe Run is a responsible company that continues to improve its environmental performance; the community is safe; Doe Run's operation does not adversely affect either the health of children or property values; and lastly, most exposure is historical and can be avoided by careful attention during routine house-cleaning. In handwritten notes from a meeting with this new public-relations firm, Dan Vornberg ominously observed, "Perception is reality."

As part of this new "community interaction" program, the partnership produced and distributed a video entitled "Living with Lead." In general terms, the video conveyed that exposure to too much lead could cause health problems. Remarkably, the video showed a child playing in a yard, and made it appear that it was okay for children to be

playing in lead-contaminated yards. Again Doe Run deflected attention away from the smelter. A good portion of the video dealt with lead-based paint, and even described precautionary measures to be taken when remodeling homes with lead-based paint. The word "smelter" was used only twice in the entire video. The video stated that many or all women were below the CDC level of concern, but never mentioned the children of Herculaneum. The video never alluded to the 1992 blood test results. Instead, the video stated that many children in the United States were above the CDC level of concern, and that "most don't live near lead smelters." When asked about this at trial, Mr. Walker, Doe Run's environmental officer, stated the video statement was correct and, in defense, declared: "but everybody in Herculaneum in the half mile absolutely knows they live near a lead smelter."

The partnership also published a series of newsletters called "Neighborhood Notes." Portrayed by Doe Run as a way of informing residents about community events, Doe Run's environmental progress, and ways to minimize lead exposure, the children contended these newsletters were likewise misleading.

Over the course of four newsletters, Doe Run included a number of articles portraying the company as a good neighbor.[37] They publicized that they were running experiments and soil tests at eleven homes to see how the soil could be improved, and to learn how to treat each yard to correct any problems. In yet another article, Doe Run extolled the environmental progress at the smelter, noting that newly-installed equipment would reduce air emissions. The focus of the measures and article, however, was sulfur dioxide gas, not lead emissions. In lauding their environmental progress, Doe Run never

[37] For instance, in one article, Doe Run boasted that their employees had filled sandbags during the Great Flood of 1993. In another full-page article, they touted their whistle alarm, which sounded for fires and tornados, as a "real benefit" to the community.

mentioned that they had not met the air-quality standard and did not think they ever would.

The articles often minimized the extent of contamination, as well as the dangers of lead. In announcing that company representatives would be doing "walk abouts" and distributing coupons good for one free rental of a rug shampoo machine, Doe Run downplayed the danger: "It's our way of saying thank you for meeting with us and a way for you to get dust out of your home. Some of that dust might contain a small amount of lead." In an article discussing their soil-replacement program, Doe Run stated that "some" of the homes nearest the smelter had relatively high levels of lead in the soil. Professor Fisher, the marketing professor and a communications expert, believed that this statement misled residents regarding the dangers they confronted. A lot of homes had high lead levels, not just "some." Professor Fisher was also critical of the way Doe Run informed the community about the availability and importance of blood testing. Instead of conveying a sense of urgency, Doe Run had written the newsletter in a "light and breezy tone," with an "alarming lack of candor." Professor Fisher further opined that, given Doe Run's knowledge that children within a half-mile of the smelter had very high levels of lead, this casual tone was totally inappropriate when the very grim numbers confirmed a healthcare emergency. Indeed, parents testified that the newsletters gave them no cause for concern, but instead conveyed that Doe Run was a good neighbor, and that there was nothing to worry about.

Doe Run's last newsletter, from February of 1994, is especially telling. Doe Run included but one article in this newsletter, an article entitled "An Expert Talks About Families and Lead," in which Dr. Eugene Shippen, a physician and consultant for lead

companies about the health effects of lead exposure, gave his thoughts on lead. After proclaiming "there is positive news about the health effects of lead exposure," the article noted that yesterday's children were exposed to dramatically higher levels of lead than today's youngsters, because many sources of lead – gas, water, food cans, and toothpaste tubes – had been eliminated. Despite the fact that Doe Run was not meeting the air-quality standard for lead, it ran an article proclaiming "today's cities have lead levels in the air well below what was measured in the past." The article goes on to declare that much of what is known about health problems caused by lead emissions comes from studies done before environmental controls were put into place, and that today's smelters could not be compared to the way operations were run sixty years, or even ten years ago. The article then counsels that "the best defense parents have to prevent young children from becoming exposed to lead is close observation," and that "one of the highest risk factors for young children is exposure to old lead paint." Little is said of smelters, other than stating that "even with a point source such as a smelter, a community's lead exposure is below what used to be normal in a major city when lead was used in products families were exposed to." The overall tenor of this article – that conditions are so much better than what they used to be – reflected the strategy of the lead industry, and sounded the recurring refrain of Doe Run.

As advertised, Doe Run indeed revived their door-to-door walks as a part of their new "community interaction" program, as a way to disseminate their messages. The children argued that Doe Run officials, in their walk-abouts and in the informational packets they distributed during those walks, were every bit as misleading as in the video and the Neighborhood Notes. The children heard the same messages. Doe Run touted

their "many projects" designed to reduce exposure to lead, including replacing soil around "a number" of homes. Doe Run is a responsible company. In offering coupons for a free rental of a rug shampoo machine, Doe Run told residents that "[k]eeping lead dust out of your house is one of the best ways to reduce your family's exposure to lead." Just clean. In responding to the question "How big a problem is exposure to lead?', Doe Run did not mention the children of Herculaneum, but instead spoke in general terms, stating that "only about 200 [children] live around the 25 lead smelters in the United States." The community is safe. In responding to the question "where does the lead come from?", Doe Run answered that lead "comes from many places," and then mentioned lead smelters as a source of lead after mentioning old water pipes and food cans.[38] Doe Run's operation does not adversely affect the community. When asked if their answer was designed to make people think that the smelter was a minor source, Gary Walker, Doe Run's environmental officer, simply answered: "anybody that lives in Herculaneum knows the smelter is there, and they had received, by this time, information about the lead in soil. They were seeing people removing … soil from yards with lead. They knew that this was one of the sources…." They knew. Doe Run did not mention the current blood levels present in the Herculaneum children. Instead, they boasted that levels were "43 percent lower" than what they were in 1975. When asked the point of comparing current lead levels with levels from 1975, Mr. Walker responded: "You want to move forward…You want to tell people that you're doing better." Perception is reality.

[38] In full, Doe Run's prepared answer stated:

> Lead comes from many places. In the past, lead was in gasoline and paint, which can chip and be eaten by small children. Old water pipes were soldered with lead, which can find its way into drinking water. Cans used to store food might have lead seams and that lead can get into food. Lead smelters also are a source of some lead in the air and in soil.

Buyouts

Numerous experts testified that Doe Run should have bought out the community. They did not.

Richard Coleman, the chemical engineer and smelter consultant, stated that engineering controls alone, such as replacing and installing new equipment, would not solve Doe Run's problem. Those control measures alone could not achieve the 1.5 air standard. According to Mr. Coleman, Doe Run had other avenues available to meet the national standard. For one, Doe Run could dramatically reduce production. Mr. Coleman noted that this meant Doe Run would likely have to shut down the plant. Doe Run could also expand out their property's perimeter to a point where they complied. To do that, Doe Run had to buy out all the surrounding houses. In Mr. Coleman's opinion, Doe Run should have done so.

Dr. O'Connor, the chemist with expertise in environmental chemistry and chemical safety, also concluded that Doe Run needed to move the children to prevent their continuing exposure to the high levels of lead. In his view, the residents were endangered and cleanup was not feasible. Dr. O'Connor opined that Doe Run should have offered buyouts at a very early date, as soon as Doe Run knew the area was contaminated and that they were not going to stop contaminating the town.

Professor Fisher, the marketing and business ethics professor, opined that if Doe Run had operated in the community's best interest, they would have moved the residents rather than surveying them for their attitudes, as they had done during their walk-abouts.

According to Dr. Rosner, the public-health expert, a buyout was the most logical course of action, given the high levels of lead in the children. In his opinion, Doe Run

should have bought out the community in 1989, when Paul Allen, a partnership committee member, raised the idea of a buyout in response to the "very complex and serious environmental problem" that existed in Herculaneum. If not then, Rosner opined, then Doe Run unquestionably should have bought out the homes when they learned in 1992 that nearly every child tested in the first half mile of the smelter was above the CDC level of concern of 10. Doe Run knew those close to the smelter were subject to high levels of fugitive emissions. In Dr. Rosner's opinion, all Doe Run had to do to reduce that exposure was move the residents. And Doe Run could have met the national ambient air standard if they would just have moved the fence-line to a new plant boundary that was further away. Doe Run could have done just that, but decided not to.

Dr. Rodgers, the pediatrician and toxicologist, also testified that Doe Run should have moved the children away from the smelter. Nathan Davis was a perfect example. Nathan underwent four blood tests in 1992. His levels were all quite high, at 19, 20.5, 16, and 20. Dr. Rodgers explained that if someone with these results had come to him as the head of a poison center, he would have told them to identify the source of the child's lead and remove the child from the source. In Nathan's case, he would have told the Davis family to get away from Herculaneum.

A primary goal of poison-prevention activities is removal – either remove the source or, if that is not possible, then remove the child from the source. The CDC published a document in 1991, entitled "CDC Preventing Lead Poisoning in Young Children, A Statement by the Centers for Disease Control." The CDC emphasized throughout the document that eliminating childhood lead poisoning required preventing lead poisoning altogether. "For the child who is lead poisoned, however, efficient and

effective interventions are needed as quickly as possible." "Abatement means making the source of lead inaccessible to the child." "Complete abatement of the lead hazards in the child's environment is the most effective and only certain way to prevent further damage." The CDC also recommended that environmental interventions be directed at primary prevention of lead poisoning in communities with a large number or percentage of children with blood lead levels greater than or equal to 10." The CDC further emphasized that its focus was on the source: "The purpose of community-level intervention is to identify and respond to sources, not cases, of lead poisoning." "Whatever mechanisms are used, the goal of hazard abatement must be to systematically eradicate the lead hazards in the community. Such a program will protect not only lead-poisoned children but all children – and thus safeguard the community's future."

When asked if he knew a way of abatement – making lead inaccessible to people within a half-mile of smelter – other than offering to buy out properties and moving families away from the smelter, Gary Walker responded, "The health department did not say that that was needed or necessary, that we needed to move those people …."

Unquestionably, Doe Run could afford a buyout. Dan Vornberg, Doe Run's director of environmental affairs, admitted that Doe Run had several hundred million dollars in sales and very large profits, and that they "had a lot of cash flow." In 1988, Doe Run completely and independently financed a secondary-lead project out of the partnership's cash flow. Financial reports for fiscal year 1988 show Doe Run's net income at 60 to 61 million dollars.[39] In 1989, Doe Run made 13.1 million dollars more than the partnership had projected. Professor Henry Ordower, a professor of law at St.

[39] Net income, of course, is total income revenues less expenses – in other words, the amount of money left over after a company has paid all its expenses.

Louis University School of Law, who teaches courses on business associations and corporate finance, remarked that this extra 13.1 million dollars was more than sufficient to buy out the town. In formulating its 1990 budget, Doe Run reduced operating costs and capital expenditures by a total of six million dollars. According to Professor Ordower, the partnership could have used this freed-up money to buy out the town. But Doe Run budgeted just $265,000 in its 1990 budget for buyouts. Doe Run again cut its budget in 1991, reducing operating costs by thirty million dollars. By September of 1991, Fluor had more cash on hand than it could effectively invest. In 1993, Gary Walker, the partnership's environmental officer and industrial hygienist, calculated a cost of $9,238,299 to buy out all the houses in Herculaneum.

Substantial precedent existed for buying communities out. Love Canal, in New York, was bought out in 1978; Mountain View, Arizona, in the 1970s; Revilletown, Louisiana, in 1987-1989; Morrisonville, Louisiana, in 1989-1990; and closer to home, Times Beach, Missouri, was bought out in 1983. Granted, these classic examples of buyouts relate to the chemical industry, but towns around lead smelters had also been bought out. Smeltertown in El Paso, Texas, home of the ASARCO smelter, was bought out in 1972; and Kellogg, Idaho, home of the Bunker Hill smelting facility, was bought out in 1983.

Doe Run officials considered buyouts as early as 1987. In July of that year, Jeffrey Zelms, president of Doe Run, requested partnership approval to purchase certain properties surrounding the smelter. In making his request, Mr. Zelms noted reasonable grounds existed to believe that the EPA would promulgate regulations requiring smelters to create a belt around the plants for environmental reasons. Mr. Zelms wanted to get a

jump on those regulations by creating such a belt a little at a time. Mr. Zelms requested just over one hundred thousand dollars for the project.

The partnership committee apparently approved the request, since Doe Run began purchasing properties shortly thereafter. However, once purchased, the partnership turned around and rented out the homes. Notably, the lease contracts contained a clause stipulating that no children under the age of eighteen could live in the home. Doe Run did not rent to families with children under eighteen because it was a "risk management" issue. Yet Doe Run never told the neighbors, or the town in general, that they were not renting homes to families with children because of the presence and danger of lead. Dan Vornberg explained: "We didn't have the right of eminent domain. We didn't have the right to destroy the value of their property by telling them it wasn't safe to live there. That was their determination."

The issue of buyouts next arose in 1989, when Paul Allen, newly appointed to the partnership committee, reported on his recent trip to Herculaneum. In a letter to Les McCraw, fellow committee member and CEO of Fluor, Mr. Allen cited the "very complex and serious environmental problem" that existed in Herculaneum, and cautioned that an all-out buyout would likely result in a massive class-action suit. He wrote:

> We discussed the idea of buying up all the property in Herculaneum where homes can be purchased for an average of only $38,000. However, an all-out program to do this, to relocate families, raze the buildings and return the land to its pristine state, would very likely precipitate a massive class action suit.

Mr. Allen again worried about the possibility of a class-action suit in a second letter to Mr. McCraw:

> All this discussion gave rise to the question as to whether the 9.1 million dollars for … sinter plant revisions might be better spent on buying all the

> properties in Herky, locating the families elsewhere and returning the land to its pristine state. …
> From the discussion on November 3rd though, it appears that the idea of buying Herculaneum property on an all out rush basis is much too simplistic. Implementation of such an idea would almost certainly invite a major class action suit.

Indeed, Doe Run decided to not buy out the entire community. Instead, the partnership decided to purchase homes gradually, budgeting for only a certain number of home purchases per year. Moreover, Doe Run only purchased homes one house out from the smelter property line. And Doe Run's purchase of properties was unrelated to the presence of children with high blood lead levels, even though Dan Vornberg in 1987 said that a buyout was one of the things to be done in response to high blood lead levels. Furthermore, Doe Run never solicited people in the proposed buyout zone to purchase their property. Instead, Doe Run waited until the owner placed their house on the market. Doe Run would then appraise the home, and if the appraisal met the asking price, they would then purchase the home.

In the early 1990s Doe Run still only had a budgeted amount of money each year for buyouts. And Doe Run still did not specifically purchase property based on the safety of children. Rather, if a resident approached them about a potential buyout, Doe Run considered the proximity of the house to the smelter and the available budget. If Doe Run had expended their budgeted money for the year, Doe Run put people off and told them to wait until the following year. Doe Run told parents in 1992 that the company was getting out of buying houses because it was getting "too costly."

Even as late as 1993, Doe Run still only purchased a small number of homes. When asked why Doe Run did not ask people to move in 1992, when Doe Run knew of the high level of lead in the soil, the high fugitive emissions, and the high blood lead

levels, Dan Vornberg, the partnership's director of environmental affairs, explained only that Doe Run was instituting a multi-tiered program of selected purchases, soil lead education, plus a $20 million air lead reduction program. Furthermore, in Doe Run's view, the real-estate market was robust, and people could sell their house if they were not in Doe Run's buyout zone. Mr. Vornberg did not believe that residents were having difficulty selling their properties. The children, however, presented evidence that residents could not sell their homes because their property was contaminated. Mr. Vornberg further excused Doe Run's actions by explaining that Doe Run did not have the right of eminent domain, so in their view, they could not go to people and offer to move them away from the area. Although Doe Run continually argued that they "could not force residents to sell their property," numerous parents testified that if Doe Run had offered, they would have sold in a heartbeat.

Doe Run declined to buy a home in October of 1993 despite compelling circumstances. A resident had approached Doe Run about the possibility of Doe Run buying her home. She was afraid her children were being poisoned by the lead. She already had a dog die from lead poisoning, and the soil level at her home was 3525. She herself was experiencing headaches, nausea, cramps, and diarrhea. She could not sell her house. Doe Run offered blood testing, but told her they could not commit to purchasing the house in the "midst of budgets." They also said that an environmental review by an outside party would help them decide if they had any responsibility with regards to her symptoms. The Doe Run official, in memorializing the conversation, wrote that he "attempted to deliver some of our key messages – following CDC guidelines, making improvements, air lead coming down in community, trying to get more information out to

them." The official also noted that the house was not in the present buyout zone. The official also asked the resident if she knew the smelter was there when she bought the home.

Even in the closing days of the partnership, Doe Run still had no interest in buying homes. Moreover, Doe Run was still laying blame at the parents' feet. The Yateses' experience is especially telling. Prior to the spring of 1994, the Yateses had no concerns about life with their children in Herculaneum. They then learned that their neighbor's dog had died from lead intoxication. The Yateses had blood tests run on their children. Isaiah's level was 13. Upon learning this, Isaiah's father immediately called Doe Run and demanded a meeting with company officials. The Yateses met with several officials, some of whom were lawyers, in a large conference room at the smelter. The Yateses sat at one end of the long conference table, the Doe Run officials at the other. The Yateses informed the officials that Isaiah had over the allowable limit of lead, and they wanted to know what Doe Run was going to do about it. They asked if Doe Run would be interested in purchasing their home. The officials made it clear to the Yateses that Doe Run would not. "We're not interested in buying your property," they repeatedly said. Even when the Yateses said they were just asking fair-market price, officials responded: "Not interested." Officials then told the Yateses that they needed to run their air conditioner more. But the Yateses did not even have an air conditioner. To add insult to injury, one of the officials then remarked that Isaiah's level and exposure probably came from the Yateses "not keeping [their] baseboards clean enough in the house," and that the Yateses "didn't keep [their] house clean enough." These remarks ended the meeting.

"Absolutely inappropriate" and "horrifying." That is how the children's experts described Doe Run's course of conduct. Richard Coleman, the chemical engineer and smelter consultant, explained that Doe Run should have been forthcoming and honest with the community, explained the hazards involved, and told residents that the company wanted to buy their houses to avoid their exposure to lead. Jim Tarr, the expert in air-pollution control, similarly testified that Doe Run should have first told the truth, both to the community and to the regulatory agencies; and that secondly, Doe Run should have taken definitive action to protect the children's health, either by providing their families an opportunity to live elsewhere or by shutting down the lead smelter. Professor Fisher and Dr. Rosner both opined that it was absolutely inappropriate for Doe Run to condition public health and a course of action on the possibility of lawsuits. Dr. Rosner explained:

> the idea that you allow people to have their children in harm's way while you know there's a problem and you tell them to have vacuum cleaners or clean up their act or wash their hands or dust their house, when you know that's not the problem, is a horrifying, horrifying example of the misuse ... of their power.

Dr. Rosner further testified that it was not appropriate to just buy properties when they became available and without regard to the blood levels of the children. He was equally critical of Doe Run renting the homes after they purchased them. Dr. Rosner explained that the fact that Doe Run rented only to "no-children" families shows that Doe Run fully appreciated that children living in those homes were at risk. They knew everything they needed to know to get people out of the area. But they stood silent. Doe Run protected themselves as owners of the leasehold, but did not protect the children next door.

In sum, a public-health emergency existed in Herculaneum. And according to Dr. Rosner, the public-health expert, Doe Run acted inappropriately in failing to warn the

community and in failing to move the residents out of harm's way. The children of Herculaneum faced a risk that was predictable, understandable, and preventable. The children would have been at no risk if they had been moved away from the smelter. Doe Run should not have just offered, but should have convinced the residents to move. But Doe Run did not. Instead, Doe Run officials did everything in their power to keep the residents in the dark. Doe Run could have and should have protected the children and moved them away from the smelter. But they did not. Instead, Doe Run let the children sit there amidst the dust.[40]

Trial

After nearly six years of discovery and pre-trial proceedings, the children proceeded to trial against three of the partners: Fluor, Massey, and DRIH. These three entities were represented at trial by the same group of attorneys.[41] Over the course of thirteen weeks during the spring and summer of 2011, the parties presented 52 witnesses, and introduced over 1,400 exhibits. The trial, at times, was quite contentious.[42]

Defendants presented a vigorous defense. In simple terms, as summed up by their counsel in his closing argument, the defendants defended on grounds that it "wasn't us," and that the children were not harmed but were all doing "quite well." As to the business and operational side of things, defense counsel insisted that the three defendants were not involved in the operations of the smelter, but just had ownership. Fluor, Massey, and DRIH did not smelt "one ounce of lead," counsel protested. Counsel instead pointed the

[40] Concurrent with remediation efforts that took place after the partnership period, the owners of the smelter in 2002 agreed, in cooperation with the Missouri DNR, to offer to purchase all of the residential properties within approximately three-eighths of a mile of the smelter. *Doyle v. Fluor Corp*, 400 S.W.3d 316 (Mo. App. E.D. 2013).

[41] These attorneys also jointly briefed and argued the defendants' appeal.

[42] We commend the trial judge on his constant and judicious professionalism.

finger at Jeffrey Zelms, president of Doe Run, and at St. Joe, another partner from the partnership period, but not a party at trial.[43] Counsel insisted that Zelms was the person in charge and the one really running the company and the smelter. As far as the day-to-day running of the smelter, "the buck stopped" with Mr. Zelms. Counsel alternatively claimed that St. Joe ran the show, and argued that it was St. Joe who dominated Massey and DRIH, not Fluor. He insisted that the children sued Fluor, as opposed to the "operating company," simply because Fluor was a "huge" company and because Fluor owned entities that were partners. "Remember, we didn't smelt it, we didn't do any of the stuff, it wasn't our actions." "We (Fluor) are being sued because of legalisms and because of contracts."

Defendants adamantly argued that they were not negligent. They acknowledged they knew of the contamination in the area, but insisted their actions were reasonable, when considered in context of the knowledge and standards of the time. Counsel defended that the 1.5 national standard was difficult to meet, and that it was not easy to bring an old smelter and all of its emissions into control, to bring the smelter into the new age, but they tried. Counsel protested that no federal or state agency claimed that Fluor, Massey, or DRIH had ever done anything wrong. To the contrary, defendants maintained that they complied with the implementation plans and the law, and that they did many positive things to control emissions and benefit the community. He noted that blood lead levels in the community were declining. Counsel also pointed out that the partnership spent millions of dollars on new equipment at the smelter, that they bought out homes, offered free blood testing, distributed educational materials, and cleaned up yards, even

[43] See Appendix C for details of the partnership. St. Joe was owned by Fluor, and was the parent corporation of Massey.

though the EPA had not ordered them to do so. Counsel even insinuated that they may not have been responsible for all the lead in the soil. He noted that in years past, the city used slag material on the roads, and argued that lead in some of the soils may have come from residents themselves going to the slag pile and bringing it home. As to the buyouts, counsel insisted that the decision was not made for economic reasons. He explained that they did not buy out the entire town because Jeffrey Zelms never recommended a buyout. He explained that Zelms, intimately familiar with the community, wanted to reduce emissions and bring the smelter into compliance, and keep the community together. In defendants' opinion, "this was not a community that really wanted to disband."

"All doing well." Such were defense counsel's words in describing the children. In defendants' view, the children were not harmed. Defendants claimed that the children were successful, that they were gainfully employed, and that the ones still in school were doing well, and that even though the children supposedly had ADHD and IQ losses, they were doing as well or better than their parents. Defendants maintained that the majority of the children – 13 of the 16 – did not have ADHD at all. They conceded that three of the children had ADHD, but insisted that lead was not the cause. Counsel argued that ADHD is caused by many things, and that a "heated debate" still existed as to whether lead in fact causes ADHD. Counsel claimed that many of the children did not have symptoms until just before trial. And he told the jury that because of the nature of the injuries alleged – being cognitive in nature rather than physical like a broken leg – the jury had to decide if the children's injuries were real. Indeed, he wondered if one of the reasons the children did not testify might have been because the jury would get a chance to actually see them and evaluate if they were really harmed.

Each child submitted four claims to the jury: a separate claim against each of the three defendants for negligently allowing the children to be exposed to unsafe levels of lead during the time when each defendant was a partner; and an additional claim against Fluor, for negligently allowing the children to be exposed to unsafe levels of lead through its total domination and control of subsidiaries DRIH and Leadco. The children also sought punitive damages against each defendant. In all, the jury received 214 instructions – 150 during the liability phase of the trial, and 64 during the punitive-damage phase of the trial. The jury filled out a total of 32 verdict forms – 16, or one for each child during the liability phase of the trial, and likewise 16 during the punitive-damage phase.

A unanimous jury found in favor of each child on all claims, and assessed a total of $38,527,186 in compensatory damages.[44] A unanimous jury also found each defendant liable for punitive damages. In the punitive-damage phase of the trial, the children presented one witness, who testified to the value, worth, and financial condition

[44] The compensatory damages awarded varied by child:

CHILD	COMPENSATORY DAMAGES AMOUNT
Preston Alexander	$2,501,425
Patrick Blanks	$2,981,430
Bryan Bolden	$2,593,151
Tiffany Bolden	$2,832,492
Nathan Davis	$2,199,124
Gabriel Farmer	$3,031,175
Sydney Fisher	$2,366,606
Heather Glaze	$2,590,290
Jeremy Halbrook	$2,852,192
Matthew Heilig	$2,479,350
Austin Manning	$1,250,000
Jesse Miller	$2,547,651
Jonathan Miller	$2,167,086
Ashley Shanks	$1,638,802
Lauren Shanks	$2,062,850
Isaiah Yates	$2,433,562

of the three defendants. Counsel for both sides then presented closing arguments. Counsel for the children recommended a total punitive-damage award of 208 million dollars – 160 million against Fluor, 32 million against Massey, and 16 million against DRIH – to send a message to defendants that they cannot come into this state and poison our children, and that they cannot ever choose profits over our children. The jury returned a verdict assessing a total of 320 million dollars in punitive damages, 112 million dollars more than requested, to be divided equally among the sixteen children: 15 million dollars per child against Fluor; 3 million dollars per child against Massey; and 2 million dollars per child against DRIH. This amounts to a 20 million-dollar punitive-damage award for each child; a 240 million-dollar award against Fluor; a 48 million-dollar award against Massey; and a 32 million-dollar award against DRIH. Together, the sum of the compensatory-damage amount and the punitive-damage awards is $358,527,186.

The defendants appeal.

DISCUSSION

Defendants advance seventeen points of alleged trial-court error. We can divide those points into the following general categories: (1) the submissibility of the children's case; (2) trial rulings; (3) jury instructions; (4) punitive damages; and (5) post-trial motions to reduce the compensatory and punitive-damage awards. We address each category in turn. In so doing, we hold that the children made a submissible case against all defendants on their negligence claim predicated on defendants' conduct while partners. The children's domination claim against Fluor, however, is based on a flawed

statement of agency law. We therefore reverse the judgment entered against Fluor on this theory of liability.

As to the trial rulings, defendants advance five challenges – three contest the admission of several of the children's expert witnesses; one complains about the exclusion of evidence; and one protests the trial court's denial of a mistrial after children's counsel mentioned the Missouri Victims' Compensation Fund during voir dire. We deny defendants' allegations of error because defendants failed to preserve those points for our review.

As to the jury instructions, we hold that the children's compensatory-damage verdict directors neither constituted a roving commission nor permitted the jury to hold defendants liable for conduct predating their partnership interest, and therefore the trial court did not err in submitting those instructions.

As to punitive damages, we hold that the children made a submissible case for punitive damages against all defendants, and we deny defendants' various contentions regarding the form of the punitive-damage instructions. Nevertheless, we must reverse the punitive-damage awards against Fluor because the instructions required the jury to consider undifferentiated conduct, and we cannot conclude that the jury would have found Fluor liable for punitive damages based solely on Fluor's conduct as a partner.

Lastly, as to defendants' attempts to reduce the awards, we find no abuse of discretion in the trial court denying remittitur of compensatory damages and the punitive-damage awards do not violate the Due Process Clause. We turn now to the submissibility of the children's claims.

Submissibility

The children advanced two theories of liability in suing defendants for negligence. First, the children sought to hold each defendant liable based on the defendant's negligent conduct while a partner in the Doe Run partnership. Secondly, the children sought to hold Fluor liable due to its alleged domination and control of its subsidiaries and the partnership. Defendants challenge the submissibility of both theories.

Standard of Review

Whether the children made a submissible case is a question of law we review *de novo*. *D.R. Sherry Const., Ltd. v. Am. Family Mut. Ins. Co.*, 316 S.W.3d 899, 904 (Mo. banc 2010); *Doe Run Res. Corp. v. Certain Underwriters at Lloyd's London*, 400 S.W.3d 463, 470 (Mo. App. E.D. 2013). A case may not be submitted to the jury unless each and every fact essential to liability is predicated upon legal and substantial evidence. *Sanders v. Ahmed*, 364 S.W.3d 195, 208 (Mo. banc 2012); *Doe Run Res.*, 400 S.W.3d at 470. In determining whether the children made a submissible case, we review the evidence in the light most favorable to the claim's submission, giving the children the benefit of all reasonable inferences. *Id*. We disregard all evidence and inferences that conflict with the verdict. *Id*. The children "may prove essential facts by circumstantial evidence as long as the facts proved and the conclusions to be drawn are of such a nature and are so related to each other that the conclusions may be fairly inferred." *Doe Run Res.*, 400 S.W.3d at 470. This Court will reverse the jury's verdict for insufficient evidence only if there is a complete absence of probative facts to support the jury's conclusion. *Sanders*, 364 S.W.3d at 208; *Doe Run Res.*, 400 S.W.3d at 470.

Theory I: Defendants' Conduct While Partners

The children sought to establish defendants' liability for negligence due to each defendant's conduct while a partner in the Doe Run partnership. Defendants, however, insist that the court's judgment improperly imposes liability on them for conduct antedating their joining the partnership. They believe they are being held responsible for smelter operations and the "copious quantities" of lead released into the Herculaneum atmosphere in the decades before any of them acquired their partnership interest and had any connection with the smelter. The defendants reallege this in various points on appeal. Defendants contend they are responsible only for the acts of the partnership that occurred during the period of time they were partners. They further argue that the children presented no competent evidence that they were damaged by any acts occurring during the defendants' respective partnership period, and therefore the defendants insist that we must reverse judgment for the children and remand the cause to the trial court with instructions to enter judgment in their favor on the children's partner-liability claims.

Under the Missouri partnership act, all partners are jointly and severally liable for everything chargeable to the partnership. Section 353.150. And Missouri law holds a partnership liable for the acts of one of the partners in the ordinary course of the partnership's business or with the authority of his copartners. Section 358.130. Thus, all partners are jointly and severally liable for torts committed by a partner acting within the scope and ordinary course of the partnership's business. Sections 358.150 and 358.130; *Dwyer v. ING Inv. Co.*, 889 S.W.2d 902, 906 (Mo. App. E.D. 1994); *Martin v. Yeoham*, 419 S.W.2d 937, 951 (Mo. App. 1967). Defendants acknowledge these well-established

principle of law, but contend this liability is restricted to claims that can be made with regard to the specific time when each defendant was a partner. Thus, they contend Fluor is subject to liability for the operation of the smelter for only the one day it owned a partnership interest; that Massey is subject to liability for the operation of the smelter for only the four months it owned a partnership interest; and that DRIH is subject to liability for the operation of the smelter for only the five years it owned a partnership interest. Defendants contend they are not liable for conduct antedating their partnership, for two reasons: first, because the children's tort claims are not "obligations" under the Missouri Partnership Act, such that defendants, as incoming partners, would be liable for the pre-existing torts; and second, because they did not expressly assume historic, pre-existing liabilities upon joining the partnership.

Liability of Incoming Partner: Tort Claims & Obligations

Section 358.170 of the Missouri Partnership Act, entitled "Liability of Incoming Partner," provides that a person "admitted as a partner into an existing partnership is liable for all the partnership obligations arising before his admission as though he had been a partner when such obligations were incurred…." Defendants argue that the "obligations" assumed by an incoming partner are contractual undertakings and debts of the partnership and not unasserted tort claims. Defendants maintain that the this statutory section serves to protect creditors who have extended credit to the partnership. Uniform Partnership Act 1914 § 17 (Comment).[45] They then reason that an incoming partner can protect itself by examining the partnership books and records, thereby obtaining full knowledge of the partnership's financial condition, and can insist on liquidation or

[45] Section 358.170 is identical with §17 of the Uniform Partnership Act.

settlement of existing partnership debts before joining. The same is not true, defendants posit, for unasserted tort claims based on the partnership's prior conduct, of which the new partner may be unaware and thus unable to evaluate. Defendants contend that the children's lawsuit amounts to an unasserted tort claim, based on conduct that preceded the defendants' respective periods as partners, that simply cannot be an "obligation" under the statute. Thus, they declare that they are not liable for injuries suffered by the children that were attributable to smelter operations prior to the time they acquired their partnership interests. In sum, they disclaim liability for the consequences of the more than 100 years of contamination that occurred before their entry into the partnership.

Caselaw on this issue is scarce. Different courts have reached different conclusions of whether a tort claim is an "obligation" of the partnership. *Soberg v. Sanders*, 220 N.W. 781 (Mich. 1928); *Wierzbinski v. Celina Mut. Ins. Co.*, 426 F.Supp 27 (E.D. Wis. 1976); *Penrod Drilling Co. v. Silvertooth*, 144 S.W.2d 335 (Tex. Civ. App. Galveston 1940). Compelling arguments exist on both sides of the issue. However, we need not delve into the intricacies of those scholarly arguments and decide the question, for defendants proceed from a faulty premise. Contrary to the defendants' assertions, the children did not seek to hold defendants liable for conduct antedating the defendants' respective partnership interests. Rather the children claimed the defendants were responsible for their own conduct while partners. In their petition, the children pleaded wide-ranging acts of negligence on the part of defendants while partners.[46] Although the children also alleged that defendants, pursuant to successorship and various partnership agreements, assumed liabilities arising out of the operation of the smelter, the children did not submit this theory of liability to the jury. The jury instructions specifically

[46] See footnote 8 on page 18.

required the jury to assess each defendant's conduct and liability while a partner rather than assumed partnership liability or incoming partner liability for pre-existing torts. As to Fluor, the instructions required the jury to find each of the following in the conjunctive: (1) that Fluor was a partner; (2) that while Fluor was a partner, the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations; 3) that while Fluor was a partner, Fluor knew or should have known of the unsafe contamination of the community; (4) that Fluor specifically allowed the children's exposure to unsafe levels of lead; (5) that Fluor was thereby negligent; and (6) that such negligence directly caused or directly contributed to cause damage to the children.[47] The instructions as to Massey and DRIH similarly limited liability to the time each was a partner. The instructions for Massey and DRIH differed from the Fluor instruction only in the fact that the instructions imputed liability to Massey and DRIH based on the knowledge and negligence of the partnership, rather than of the entity itself, as had been the case with Fluor.[48]

---

[47] The "partner" verdict director for Fluor reads:

> On the claim of plaintiff (--) for compensatory damages for personal injury against defendant Fluor Corporation, your verdict must be for plaintiff (---) if you believe:
>
> First, defendant Fluor Corporation was a partner of the Doe Run Company Partnership, and
>
> Second, while defendant Fluor Corporation was a partner of the Doe Run Company Partnership, the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Third, at that time, defendant Fluor Corporation had information from which it, in the exercise of ordinary care, knew or should have known that the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Fourth, defendant Fluor Corporation allowed plaintiff (---), a resident of Herculaneum, to be exposed to unsafe levels of lead which originated from the smelter operations before May 26, 1990, and
>
> Fifth, defendant Fluor Corporation was thereby negligent, and
>
> Sixth, such negligence directly caused or directly contributed to cause damage to plaintiff (---).

[48] The "partner" verdict directors for Massey and DRIH were largely identical except for the particular defendant's name and the ending date of the particular defendant's involvement in the partnership. The

Granted, the children adduced evidence of lead emissions, airborne lead levels, soil contamination, partnership activity, and other events occurring prior to the time defendants joined the partnership. But this does not mean that defendants were held liable for those actions. The evidence of the years of lead emissions, the accumulation of lead in the soil, the violations of the air-quality standards, and the partnership's early conduct necessarily provided a historical background, showing the extent and harmful nature of the lead contamination, as well as the defendants' knowledge of the contamination in the Herculaneum community. The children did not premise the defendants' liability on past conduct that had concluded. Of course, much of the conduct occurring prior to the partnership period continued into and through the partnership period, including the time that defendants were partners. The smelter continued to emit harmful lead dust; the lead continued to accumulate in the soil; and the air continued to be contaminated, such that the smelter never met national air quality standards during the

---

instructions also differed slightly from the Fluor instruction in the third and fourth paragraphs, in that the instructions ascribed liability to Massey and DRIH Fluor based on the partnership's knowledge and negligence, rather than that of the individual entity. The verdict directors read:

> On the claim of plaintiff (--) for compensatory damages for personal injury against defendant A.T. Massey Coal Company/DRIH, your verdict must be for plaintiff (---) if you believe:
>
> First, defendant A.T. Massey Coal Company [DRIH] was a partner of the Doe Run Company Partnership, and
>
> Second, while defendant A.T. Massey Coal Company [DRIH] was a partner of the Doe Run Company Partnership, the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Third, at that time, the Doe Run Company Partnership had information from which it, in the exercise of ordinary care, knew or should have known that the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Fourth, the Doe Run Company Partnership allowed plaintiff (---), a resident of Herculaneum, to be exposed to unsafe levels of lead which originated from the smelter operations before April 5, 1989[March 26, 1994], and
>
> Fifth, the Doe Run Company Partnership was thereby negligent, and
>
> Sixth, such negligence directly caused or directly contributed to cause damage to plaintiff (---).

partnership period. Thus the defendants' liabilities were not "historic" at all. Throughout the case and now on appeal, defendants consistently ignore their many acts of omission as a basis for liability. The children adduced substantial evidence of these. Defendants do not deny that upon becoming and while serving as partners they well knew of the unsafe lead contamination present in the community. Despite this, defendants failed to act and allowed the contamination to continue. Day after day, be it for one day or five years, defendants operated the smelter, emitting lead into the air. Day after day, that lead settled on the soil of the nearby community. Day after day, the lead in the air and soil, emitted from the smelter, found its way into the children's homes and into the children themselves. Day after day, defendants stood silent, and failed to inform – and worse, misinformed – the community about their safety. Day after day, the defendants failed to inform the parents of the level of lead present in the soil around their home, or the level of lead present in their children. Day after day, the defendants failed to curtail operations or install equipment to meet federal ambient air levels. Day after day, the defendants failed to adequately remediate the lead contaminating the surrounding neighborhood. Day after day, by their actions and inactions, defendants allowed the children to be exposed to unsafe levels of lead.

Assumed Historical Liabilities

Even if the children had premised the defendants' liability on conduct predating their partnership interest, we conclude that the children produced sufficient evidence from which a jury could conclude that each defendant assumed that liability upon acquiring its partnership interest and becoming a partner.

It is axiomatic that a partnership rests on contract. *Allison v. Dilsaver*, 387 S.W.2d 206, 211 (Mo. App. 1965); *Hidden v. Edwards*, 285 S.W. 462, 467 (Mo. 1926). The rights and liabilities of the partners, though generally fixed or implied by law, are subject to modification according to the agreement and intention of the parties. *Allison*, 387 S.W.2d at 211; *Hidden*, 285 S.W. at 467; *see also* Section 358.180 of the Missouri Partnership Act (setting forth rules by which the rights of duties of partners are to be determined, noting that those rights and duties are subject to any agreement between the partners). In other words, the partnership agreement governs, and the rights and liabilities of the partners are to be determined in accordance with the partnership agreement. *Heath v. Spitzmiller*, 663 S.W.2d 351, 354 (Mo. App. S.D. 1983).

The partnership agreement here provided that in forming the Doe Run partnership, partners St. Joe and Homestake contributed to the partnership all of the liabilities constituting their respective lead businesses, so that the partnership would have the obligation of managing all such liabilities. The contributed liabilities expressly included "contingent liabilities relating to employment, environmental, product and other matters." The partnership agreement further defined St. Joe's liabilities as "… all usual and customary obligations and liabilities related to the ownership and operation of the St. Joe Assets (whenever arising and whether or not set forth…" and "the pollution control debt relating to the Herculaneum smelter…." It is undisputed that St. Joe's assets included the Herculaneum smelter. Professor Ordower, in commenting on the partnership agreement, stated that the partners had contributed all their environmental liabilities to the partnership, including any environmental liabilities from before they joined together. Similarly, Jeffrey Zelms, president of Doe Run, in discussing the assets

and liabilities contributed to the partnership, testified that the historic liabilities for the smelter in Herculaneum went to the Doe Run partnership. Even defendants, in their brief on appeal, admit that in forming the Doe Run partnership, Homestake and St. Joe "intended to assume at least some of each other's historical liabilities for their respective lead operations." The partnership agreement is unambiguous; all liabilities relating to the operation of the Herculaneum smelter, whenever arising, were contributed to the partnership.

Of course, the Doe Run partnership consisted of more than just the original two partners, St. Joe and Homestake. Over the course of the partnership, these original partners transferred or sold their partnership interests to other entities. The partnership agreement allowed such transfers and dictated that upon such transfer, the new partner assumed all the duties, liabilities, and obligations of the transferring partner. The partnership agreement contained two separate provisions regarding transfers – one governed transfers to wholly-owned affiliates, the other governed transfers to nonaffiliates. As to transfers to a wholly-owned affiliate, the agreement provided that upon such transfer the affiliate was required to execute a copy of the partnership agreement "to assume all the duties, liabilities and obligations of the transferring partner" in respect to the partnership and under the partnership agreement.

The first such transfer occurred in October of 1988, when St. Joe transferred part of its partnership interest to Massey. Defendants argue the partnership agreement did not apply, and therefore any "historic" or pre-existing liabilities did not transfer to Massey, because Massey was not a wholly-owned subsidiary of St. Joe. Although it may be true that Massey was not a wholly-owned subsidiary of St. Joe, the non-transferring partner,

Homestake, did not object, and in fact expressly consented to the transfer. Moreover, and more critically, Massey executed a copy of the partnership agreement contemporaneously with the transfer, adopting the terms and conditions of that agreement, and accepting the duties, liabilities, and obligations of a general partner pursuant to the partnership agreement. Massey's corporate representative, Richard Grinnan, in his deposition read at trial, admitted that Massey assumed the liabilities of the Herculaneum smelter as part of the obligations Massey undertook when it entered into the partnership. Professor Ordower similarly testified that when Massey accepted the transfer of partnership interest from St. Joe, thereby becoming a general partner in the Doe Run partnership, Massey took on all the historic liabilities of the partnership.

When Massey assigned its partnership interest to DRIH in April of 1989, DRIH, as Massey had done before it, executed a copy of the partnership agreement, adopting and agreeing to the terms and conditions of that agreement, and accepting the duties, liabilities, and obligations of a general partner. Professor Ordower explained that in executing the partnership agreement and accepting all of the liabilities and obligations of the partnership, DRIH assumed whatever historic liabilities came with becoming a general partner.

Lastly we address Fluor's purchase of Homestake's partnership interest. In addition to the provision governing transfers to affiliates, the partnership agreement also contained a provision governing transfers to nonaffiliates, which allowed a partner to sell all its shares to a third party. Such transfer, however, was conditioned on the requirement that the party purchasing the shares "be bound by the provisions of and assume the obligations of the transferor Partner under this Agreement as fully and to the same extent

as though such transferee had executed this Agreement." Professor Ordower explained that in purchasing Homestake's shares and becoming a general partner in the partnership, Fluor took on the historic liabilities of the partnership. Furthermore, contemporaneously with Fluor's purchase of Homestake's shares, the partners – Fluor, Homestake, DRIH, and St. Joe – executed an amendment to the partnership agreement. That amendment expressly provided that Fluor was "substituted" for Homestake as a partner. The amendment also stated that the partnership would continue to be in existence after the sale. Fluor's intent to assume all of the partnership's liabilities is likewise unambiguous. Fluor stepped into Homestake's shoes, and in so doing became obligated, like Homestake before it, for all liabilities relating to the operation of the smelter, whenever arising.

Elements of Negligence

As noted, the children sought recovery on a negligence cause of action. To prove negligence, a plaintiff must show that the defendant had a duty to protect the plaintiff from injury; the defendant failed to perform that duty; and defendant's failure caused injury to the plaintiff. *Hoffman v. Union Elec. Co.*, 176 S.W.3d 706, 708 (Mo. banc 2005).

Defendants do not challenge the submissibility of the children's action except on the grounds of causation. Thus, we will consider only that element, and simply note that the children presented sufficient evidence establishing both a duty and breach of that duty. And undoubtedly, they also showed injury.

The mere fact that injury follows negligence does not necessarily create liability on the part of the tortfeasor. *Branstetter v. Gerdeman*, 274 S.W.2d 240, 245 (Mo. 1955) Plaintiffs must establish a causal connection between the charged negligent conduct and

the loss or injury sustained. *Id*. Defendants claim the children failed to prove that the activities of Doe Run that occurred during defendants' respective periods of partnership ownership caused the children's injuries. In other words, they argue the children provided no evidence to connect their injuries to the conduct of defendants during the one-day, five-month, or five-year periods that defendants respectively owned partnership interests. Defendants complain that the children instead inundated the record with evidence of lead emissions, and supposedly resulting pollution, that occurred during the previous period of ownership by St. Joe and its predecessors before the existence of the partnership.

Defendants point to the children's causation expert, Dr. O'Connor, and characterize his attempt to trace the children's exposure to the actual period of defendant's partnership participations as highly speculative, equivocal, and conjectural ruminations. As to Fluor, Dr. O'Connor could not say that lead emitted on May 25, 1990, the single day of Fluor's partnership interest, had entered the bodies of any of the children in this case. When asked if he could say whether any of the lead in the children's bodies was generated during the five-month period when Massey was a partner, Dr. O'Connor replied that "likely" some of it did, but he could not give any estimate as to what amount or what percentage, and he acknowledged that one could not tell lead from 1988 apart from lead in 1950. As to DRIH's five-year involvement, Dr. O'Connor similarly stated that some lead from that time period "probably" got into the children's bodies, "but you can't tell what percentage that was." Defendants argue that "probably" or "likely" do not constitute proof of causation under Missouri law. Defendants argue that when properly confined to the periods for which defendants are

actually responsible – their respective times as partners – the children's causation analysis suffers from the same infirmity as that in *Zafft* and *Benjamin Moore*, that being the inability to trace injuries to a particular defendant. *Zafft v. Eli Lilly & Co.*, 676 S.W.2d 241 (Mo. banc 1984); *City of St. Louis v. Benjamin Moore & Co.*, 226 S.W.3d 110 (Mo. banc 2007).

Zafft was a pharmaceutical product-liability action in which the plaintiffs alleged injury as a direct result of their exposure *in utero* to a drug (DES) taken by their mothers. Plaintiffs sued thirteen defendants, representing all or substantially all of the known makers, sellers or distributors of DES in Missouri at the relevant time. The plaintiffs, however, were unable to identify which defendant made, sold, or distributed the particular drug ingested by their mother. The drug had been marketed generically by as many as 300 different companies, and thus it was impossible to match a specific dosage with an individual manufacturer. *Zafft*, 676 S.W.2d at 242-43. The plaintiffs' inability to trace their damage to a particular defendant doomed their case. Our Supreme Court cautioned:

> If the injury may have resulted from one of two causes, for one of which, and not the other, the defendant is liable, the plaintiff must show with reasonable certainty that the cause for which the defendant is liable produced the result; and, if the evidence leaves it to conjecture, the plaintiff must fail in his action.

Id. at 246. Accordingly, the Court held that plaintiffs had not proven causation and thus could not maintain their cause of action. *Id*. at 247.

Benjamin Moore involved a public-nuisance claim brought by the City of St. Louis against a number of companies that put lead paint into the stream of commerce. The city sought to recover its costs for assessing, abating, and remediating lead paint that was allegedly present at or abated from a number of properties in the city. *Benjamin*

Moore, 226 S.W.3d at 112-13. Relying on *Zafft*, the Court reiterated that "where a plaintiff claims injury from a product, actual causation can be established only by identifying the defendant who made or sold that product. *Id*. at 115. The city, however, could not connect any specific defendant to any specific project. Specifically, the city could not identify the manufacturer of any lead paint that was allegedly present at or abated from the properties at issue. *Id*. at 113. The Court thus held that without this product-identification evidence, the city could not prove actual causation. The Court reasoned:

> Without product identification, the city can do no more than show that the defendants' lead paint may have been present in the properties where the city claims to have incurred abatement costs. That risks exposing these defendants to liability greater than their responsibility and may allow the actual wrongdoers to escape liability entirely.
> *Id*. at 115-16.

Defendants contend that the principles of causation reiterated in *Benjamin Moore* dictate the outcome of this case and require rejection of children's claims based on partnership liability. They argue that Dr. O'Connor's inability to trace any lead from Fluor's one day of ownership to any child mandates reversal of the judgment against Fluor, and that Dr. O'Connor's concession that lead was not traceable to any particular time period also invalidated the children's claims as to Massey and DRIH. We disagree. To begin, the *Zafft* and *Benjamin Moore* cases are readily distinguishable. In those cases, multiple sources of the offending agent – be it the drug in *Zafft* or the paint in *Benjamin Moore* – existed. The cases treated the question of an indeterminate defendant. Here, on the other hand, we only have one source of the offending agent – the smelter. Moreover, defendants' argument again proceeds from a faulty premise. The issue is not whether a causal connection can be made between a particular particle of lead dust and the

children's injuries. Rather, the critical inquiry is whether plaintiffs have established a connection between a defendant's negligent act or omission and the injury suffered by the plaintiffs. Plaintiffs did not need to prove the transmigration of lead into a child's bloodstream occurred on a specific date. They needed to prove the defendants' negligence while partners caused injury. *Zafft* and *Benjamin Moore* "reaffirm the policy that a plaintiff who seeks recovery in tort against one joined as a defendant must identify that defendant as an actor in the production of the harm for which the plaintiff seeks recovery." *Elam v. Alcolac, Inc*., 765 S.W.2d 42, 183 (Mo. App. W.D. 1988). And here the children have alleged and shown such a connection – that the acts and omissions of the defendants caused them harm.

To establish a causal connection between the alleged negligent conduct of the defendant and the resulting injury to the plaintiff, a plaintiff must prove that the defendant's conduct is both the actual cause and the proximate cause of the plaintiff's injury. *Callahan v. Cardinal Glennon Hosp*., 863 S.W.2d 852, 865 (Mo. banc 1993); *Freight House Lofts Condo Ass'n v. VSI Meter Servs.*, 402 S.W.3d 586, 599 (Mo. App. W.D. 2013).

"An essential element of the proof of a cause of action for negligence is that there be some reasonable connection between an act or omission of the defendant and the damage the plaintiff has suffered." *Elam*, 765 S.W.2d at 173 (citing Prosser and Keeton, The Law of Torts § 41 [Fifth ed. 1984]). This connection is the "causation in fact" – or actual causation – of the damage sustained. *Id*. In noting the necessity of establishing causation in fact, our Supreme Court has explained:

> Any attempt to find liability absent actual causation is an attempt to connect the defendant with an injury or event that the defendant had

> nothing to do with. Mere logic and common sense dictates that there be some causal relationship between the defendant's conduct and the injury or event for which damages are sought.

Callahan, 863 S.W.2d at 862. A defendant's conduct is the actual cause, or cause-in-fact, of the plaintiff's injury where the injury would not have occurred "but for" that conduct.[49] *Richey v. Philipp*, 259 S.W.3d 1, 8 (Mo. App. W.D. 2008); *Callahan*, 863 S.W.2d at 861-62. The "but for" formula of causation in fact "is as much an expression of legal policy as of factual quantum." *Elam*, 765 S.W.2d at 176. As announced by our Supreme Court:

> The traditional and foremost policy of the tort law is to deter harmful conduct and to ensure that innocent victims of that conduct will have redress. Cognate principles of equity and economic efficiency also inform that policy: that the costs of the pervasive injury … shall be borne by those who can control the danger and make equitable distribution of the losses, rather than by those who are powerless to protect themselves.

Id. The children easily proved actual causation in this case. But for defendants operating the smelter, the children would not have been harmed. But for defendants failing to adequately control the emissions and release of lead into the surrounding neighborhood, the children would not have been harmed. But for defendants failing to warn or inform the community of the level of contamination present, the children would not have been harmed. But for their many acts and omissions, the children would not have been harmed.

Once a plaintiff establishes actual causation, the issue becomes one of proximate cause – that is, whether the defendant should be held liable because the harm is the reasonable and probable consequence of the defendant's conduct. *Benjamin Moore*, 226

[49] The "but for" test for causation applies in all cases except those involving two independent torts, either of which is sufficient in and of itself to cause the injury (e.g., two-fire cases). *Callahan*, 863 S.W.2d at 862-63. That is not our situation here.

S.W.3d at 114; *Callahan*, 863 S.W.2d at 865. In regard to proximate cause, our Supreme Court has explained:

> Proximate cause requires something in addition to a "but for" causation test because the "but for" causation test serves only to exclude items that are not causal in fact; it will include items that are causal in fact but that would be unreasonable to base liability upon because they are too far removed from the ultimate injury or damage.
> …
> Missouri, like many other states, has not applied a pure foreseeability test; we have generally said that the injury must be a reasonable and probable consequence of the act or omission of the defendant. This is generally a "look back" test but, to the extent it requires that the injury be "natural and probable," it probably includes a sprinkling of foreseeability. To the extent the damages are surprising, unexpected, or freakish, they may not be the natural and probable consequences of a defendant's actions.

Callahan, 863 S.W.2d at 865 (internal citations omitted). Thus, we determine proximate cause "by looking back, after the injury or damage has occurred, and examine whether the injury is a reasonable and probable consequence of the defendant's conduct." *Richey*, 259 S.W.3d at 9; *Callahan*, 863 S.W.2d at 865. Foreseeability, as it relates to proximate cause, "refers to whether a defendant could have anticipated a particular chain of events that resulted in injury or the scope of the risk that the defendant should have foreseen." *Richey*, 259 S.W.3d at 9 (quoting *Lopez v. Three Rivers Elec. Corp., Inc.*, 26 S.W.3d 151, 156 (Mo. banc 2000)). It is only necessary that the party charged knew or should have known an appreciable chance existed that some injury would result. *Richey*, 259 S.W.3d at 9. Furthermore, the defendant's negligence need not be the sole cause of the injury; it only need be one of the causes without which the injury would not have occurred. *Id*. Indeed, as reflected in the jury instructions, the jury in this case needed only to find that defendants' negligence "contributed to cause" damage to the children.

As with actual causation, the children here easily proved proximate causation. Defendants knew of the lead contamination in the air and soil in the Herculaneum community. Defendants knew of the toxic and harmful nature of lead. The children's lead poisoning was a reasonable and probable consequence of defendants' conduct in continuing operations at the smelter and allowing the children to be exposed to unsafe levels of lead by failing to take appropriate action to stem the contamination and warn the community of the danger.

To conclude, we hold that the children made a submissible case against all defendants based on each defendant's negligence while a partner in the Doe Run partnership. Hence, the trial court did not err in overruling defendants' motions for directed verdict and judgment notwithstanding the verdict. We deny this point.

Theory 2: Domination and Control

The children submitted an additional theory of liability against Fluor – a "domination and control" theory – seeking to hold Fluor liable based on agency principles and Fluor's parent-subsidiary relationship with DRIH and Leadco. The children contended that Fluor exercised total control over its subsidiaries with respect to the lead business, and that in exercising such control, Fluor dominated and controlled all activities of the partnership and exercised total control over the smelter. In the children's view, the subsidiaries were mere conduits for Fluor. They argued that Fluor's conduct, in controlling its subsidiaries and the activities of the partnership in operating the smelter, created a relationship with the community that gave rise to Fluor's duty to exercise reasonable care to protect the children from harm caused by lead from the smelter – a duty that the children maintain Fluor breached. The children cited to the *Ritter*, *Sedalia*,

and *Blackwell* cases for the principle that a parent corporation may be held liable for a subsidiary's actions where the parent company exercises "such domination and control that the controlled corporation [or subsidiary] has, so to speak, no separate mind, will or existence of its own and is but a business conduit for its principal." *Ritter v. BJC Barnes Jewish Christian Health Sys.*, 987 S.W.2d 377 (Mo. App. E.D. 1997); *Sedalia Mercantile Bank and Trust Co. v. Loges Farms, Inc.*, 740 S.W.2d 188 (Mo. App. W.D. 1987); *Blackwell Printing Co. v. Blackwell-Wielandy Co.*, 440 S.W.2d 433 (Mo. 1969).

The children rightly contend that they adduced ample evidence from which the jury could have concluded that Fluor exercised total dominion and control over DRIH and Leadco. We do not have a want of evidence in this case. The problem here lies with the legal theory relied upon by the children.

A Roadmap

Courts, both nationwide and in Missouri, recognize two doctrines by which to hold a parent corporation liable for the acts of a subsidiary: piercing the corporate veil and agency. The children expressly disavowed reliance on piercing the corporate veil as a means to hold Fluor liable. Nevertheless, we find a discussion of that doctrine necessary to explain the agency theory of liability in Missouri, and what appears to be the flawed development and statement of the theory relied upon by the children. We thus begin with a general overview of corporations, then proceed to a discussion of piercing the corporate veil, and then, finally, agency liability.

Corporations

A corporation is an artificial entity created by the state. *See generally* Mo. Const. art. XI, section 2; Chapter 351 RSMo; *Clark v. Austin*, 101 S.W.2d 977, 982 (Mo. 1937).

Among the principal attributes of a corporation is the corporation's legal existence distinct and separate from its shareholders. Mo. Corporate Organization and Operation §1.2 (MoBar 2005). "Ordinarily, a corporation is regarded as a wholly and separate legal entity, distinct from the members who compose it." *Thomas Berkeley Consulting Eng'r, Inc. v. Zerman*, 911 S.W.2d 692, 695 (Mo. App. E.D. 1995); *accord Blackwell Printing Co.*, 440 S.W.2d at 437. Likewise, two separate corporations are regarded as wholly distinct legal entities, even if one partly or wholly owns the other. *Cent. Cooling & Supply Co. v. Dir. of Revenue, State of Mo.*, 648 S.W.2d 546, 548 (Mo. 1982); *Mid-Missouri Tel. Co. v. Alma Tel. Co.*, 18 S.W.3d 578, 582 (Mo. App. W.D. 2000); *Grease Monkey Intern., Inc., v. Godat*, 916 S.W.2d 257, 262 (Mo. App. E.D. 1995)("In the eyes of the law, two different corporations are two different persons. This is true even if one corporation is the sole shareholder of the other.").

Another major feature of the corporate form is that it insulates shareholders from personal liability for the actions of the corporation. Shareholders are not ordinarily personally liable for corporate obligations. Mo. Corporate Organization and Operation §1.4 (MoBar 2005); 1 Fletcher Cyclopedia of the Law of Corporations §14 (2006); *Adelstein v. Jefferson Bank and Trust Co.*, 377 S.W.2d 247, 251 (Mo. 1964). Correspondingly, a parent corporation is normally not liable for the acts of its subsidiary corporations. *Mid-Missouri Tel. Co.*, 18 S.W.3d at 582. The mere existence of a parent-subsidiary relationship, without more, does not subject a parent corporation to liability for acts of the subsidiary. *Sedalia*, 740 S.W.2d at 202.

Ordinarily, courts protect the separate legal identities of individual corporations, even if one corporation owns a part or all of the other. *Collet v. Am. Nat. Stores, Inc.*,

708 SW.2d 273, 283 (Mo. App. E.D. 1986). This general rule is not without exceptions, however. In certain instances, courts will make an exception and hold a parent corporation liable for the acts of a subsidiary. We first discuss piercing the corporate veil.

Piercing the Corporate Veil

Piercing the corporate veil is an equitable doctrine used by the courts to look past the corporate form and impose liability upon owners of the corporation – be they individuals or other corporations – when the owners create or use the corporate form to accomplish a fraud, injustice, or some unlawful purpose. *See generally Edward D. Gevers Heating & Air Conditioning Co. v. R. Webbe Corp.*, 885 S.W.2d 771 (Mo. App. E.D. 1994); *Ritter*, 987 S.W.2d at 384. To pierce the corporate veil, a plaintiff must prove the following three elements:

> (1) Control, not mere majority or complete stock control, but complete domination, not only of finances, but of policy and business practice in respect to the transaction attacked so that the corporate entity as to this transaction had at the time no separate mind, will or existence of its own; and
> (2) Such control must have been used by the defendant to commit fraud or wrong, to perpetrate the violation of a statutory or other positive legal duty, or dishonest and unjust act in contravention of plaintiff's legal rights; and
> (3) The aforesaid control and breach of duty must proximately cause the injury or unjust loss complained of.

Collet, 708 S.W.2d at 284; *see also Doe 1631 v. Quest Diagnostics, Inc.*, 395 S.W.3d 8, 18 (Mo. banc 2013)(applying the *Collet* test). Our focus here will be on the first element, regarding control.

There is no hard and fast rule for when a court will pierce the corporate veil; the inquiry is highly fact-specific and depends on the equities of the situation at hand.

However, mere identity of shareholders, directors, or officers between two corporations is insufficient to find an identity of interests between the two entities to pierce the corporate veil. *Mitchell v. K.C. Stadium Concessions, Inc.*, 865 S.W.2d 779, 784 (Mo. App. W.D. 1993). Likewise, merely showing that one has absolute control of a corporation does not of itself justify piercing the corporate veil. *Fairbanks v. Chambers*, 665 S.W.2d 33, 37-39 (Mo. App. W.D. 1984); *C.C. Dillon Co. v. Robinson*, 636 S.W.2d 380, 383 (Mo. App. E.D. 1982). One seeking to pierce the corporate veil needs to show both complete control and improper purpose. *Id*. Even though corporations are related and one has complete control over the other, there can be no piercing of the corporate veil without a showing of impropriety in the establishment or use of the corporate form sought to be disregarded. *Id.* The determination of whether there is a case for equitable relief, in the face of complete control by a parent over its subsidiary, is decided by the test of whether or not the arrangement involved is being used for a proper purpose. *Cent. Cooling*, 648 S.W.2d at 548; *Phelps v. Missouri-Kansas-Texas R.R. Co.*, 438 S.W.2d 181, 186 (Mo. 1968)(citing *May Dep't Stores Co. v. Union Elec. Light & Power Co.*, 107 S.W.2d 41 (Mo. 1937)). As our Missouri Supreme Court aptly summarized long ago:

> If any intercorporate affiliation is devised for or is being used to accomplish an improper or unlawful purpose, certainly equity does have the authority to tear down technical legal barriers and reach beyond them to impose liability or grant proper relief. If the purpose is lawful, and fair and equitable to those with whom it is intended to deal, legal forms and relationships should be observed. Men have the right to use legal forms which they believe to be helpful in accomplishing proper purposes. The question should not be merely instrumentality, but instrumentality for what purpose.

May Dep't Stores, 107 S.W.2d at 55.

Our Supreme Court recently reaffirmed its previous admonition that the parent-subsidiary separation should be "ignored with caution and only when the circumstances clearly justify it." *Doe 1631,* 395 S.W.3d at 18 (quoting *Cent. Cooling,* 648 S.W.2d at 548; s*ee also 66, Inc. v. Crestwood Commons Redevelopment Corp.*, 998 S.W.2d 32, 40 (Mo. banc 1999)(noting Missouri law recognizes the "narrow circumstances" in which the corporate veil can be pierced in order to hold the corporation's owners liable); *accord Fairbanks,* 665 S.W.2d at 37 ("special circumstances"). As the Court stated in *Central Cooling*:

> The doctrine of corporate entity is one of substance and validity; it should be ignored with caution, and only when the circumstances clearly justify it. The theory of the alter ego has been adopted by the courts to prevent injustice, in those cases where the fiction of a corporate entity has been used as a subterfuge to defeat public convenience or to perpetrate a wrong; it should never be invoked to work an injustice, or to give an unfair advantage.

Cent. Cooling, 648 S.W.2d at 548 (internal quotation omitted).

As seen in the *Central Cooling* case, the Court referenced an "alter ego" theory rather than "piercing the corporate veil." The phrase "alter ego" is often seen in Missouri jurisprudence, as is the phrase "mere instrumentality." *See, e.g., Gevers Heating & Air Conditioning,* 885 S.W.2d at 773 (referencing "alter ego" rule); *C.C. Dillon,* 636 S.W.2d at 383 (instrumentality). Indeed, "[t]he terminology used by courts in considering whether a parent corporation will be held liable for the actions of its subsidiary has not been a model of clarity." *Mobil Oil Corp. v. Linear Films, Inc.*, 718 F.Supp 260, 266 (D.Del 1989); *Berkey v. Third Ave. Ry. Co.*, 244 N.Y. 84, 94 (1926)(J. Cardozo noting problem of relationship between parent and subsidiary corporations is enveloped in "mists of metaphor"). Terms such as "alter ego," "instrumentality," "conduit," "adjunct,"

and "agent" are often deemed equivalent and interchangeable. *See, e.g., State ex rel. Shull v. Liberty Nat. Bank of Kansas City*, 53 S.W.2d 899, 902 (Mo. 1932)(using terms "mere conduit," "instrumentality," and "adjunct" interchangeably when discussing disregarding corporate entities); *C.C. Dillon*, 636 S.W.2d at 383 (using "alter ego" and "instrumentality" interchangeably as devices to pierce the corporate veil); *Real Estate Investors Four, Inc. v. Am. Design Group Inc.*, 46 S.W.3d 51, 56 (Mo. App. E.D. 2001)("adjunct" and "alter ego"); *Dwyer*, 889 S.W.2d at 904-05 (noting "instrumentality" test and "alter ego" test developed in Missouri jurisprudence interchangeable); *Mobil Oil*, 718 F.Supp at 266 (noting that terms "alter ego," "instrumentality," "agent," "disregarding the corporate entity," and "piercing the corporate veil" used interchangeably); Norwood P. Beveridge, *Piercing the Corporate Veil: The Oklahoma Law of Corporate Alter Egos, Adjuncts, and Instrumentalities*, 26 Okla. City U.L. Rev. 503, 506 (2001)(noting that "many very different terms are being used to describe the same doctrine of piercing the corporate veil). The precise title to be placed upon the relationship is unimportant. *Camelot Carpets, Ltd. v. Metro Distrib. Co.*, 607 S.W.2d 746, 750 (Mo. App. E.D. 1980); *see also* Beveridge, *supra*, at 506 (noting that there is no reason to believe that the different terms are distinguishable from each other). The contours of the theory remain the same, no matter the term. *Mobil Oil*, 718 F.Supp at 266. If a parent corporation completely dominates its subsidiary, and has created or is using the subsidiary corporation for some improper purpose, then the courts will disregard the corporate form of the subsidiary and hold the parent liable. *Camelot Carpets*, 607 S.W.2d at 750.

The use of the term "agent" in the context of piercing the corporate veil is unfortunate because it can cause confusion with pure agency theory. *Mobil Oil*, 718 F.Supp at 266 n.9; *Lowendahl v. Baltimore & O.R. Co.*, 287 N.Y.S. 62, 74 (1936). As we shall see, Missouri courts have not been immune from this confusion. The theories are separate and distinct, however, and used in distinctly different situations. *See generally Nat'l Plumbing Supply Co. v. Torretti,* 175 S.W.2d 947, 952 (Mo. App. 1943); *Japan Petroleum Co. (Nigeria) Ltd. v. Ashland Oil, Inc*., 456 F.Supp 831, 839-40 (D.Del 1978); *Phoenix Canada Oil Co. Ltd. v. Texaco, Inc.*, 842 F.2d 1466, 1476-77 (3rd Cir. 1988); *see also,* 38 A.L.R.3d 1102 §§3-4 (1971). Unfortunately, courts over the years have not always observed the distinction between these two separate bases for a parent corporation's liability. Restatement of Agency 2d, Appendix S 14M, Reporter's Notes at 68 (1958). "The result has been a weakening and muddying of the term 'agent.'" *Id*.

Again, the children here do not rely on piercing the corporate veil to hold Fluor liable. They did not plead such a theory, they did not submit a piercing-the-corporate-veil instruction, and they expressly disclaimed use of any such theory throughout trial and on appeal. In sum, they claim no impropriety in Fluor's establishment or use of its two subsidiaries. Instead, they urge an agency relationship as a means to hold Fluor liable.

Agency Theory

The law of agency is based on the fundamental premise that he who acts through another acts by or for himself. 2A C.J.S., Agency §1; 3 Am Jur 2d, Agency §2. As a general rule, one may "properly appoint an agent to do the same acts and achieve the same legal consequences as if [they] had acted personally." 2A C.J.S., Agency §§1 & 3. Stated simply, "an agency relationship exists when one person is authorized to represent

and act for another in dealings with third parties." 2A C.J.S., Agency §1 "[T]he agent steps into the shoes of the principal and acts for the principal pursuant to the grant of authority vested in him by the principal." *Id*. Stated more formally: "Agency is the fiduciary relation that arises when one person (a principal) manifests assent to another person (an agent) that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act." Restatement Third, Agency §1.01; *State ex rel. Ford Motor Co. v. Bacon*, 63 S.W.3d 641, 642 (Mo. banc 2002).

Because the fundamentals of agency law include the concept that the agent is a substitute for the principal, it is, accordingly, a consequence of the agency relationship that whatever an agent does in the lawful prosecution of the transaction entrusted to him is the act of the principal. 3 Am Jur 2d, Agency §2. "[W]hen one directs, orders, or knowingly authorizes another to perform an act on one's behalf, then one is liable for the harm proximately caused by that act." 2A C.J.S., Agency §419. "The principal should not be allowed to escape liability for an act done through the medium of an agent which, if done by the principal himself or herself, would have resulted in liability." *Id*. It is a fundamental rule of agency law that "the principal is bound by, and liable for, the acts which his agent does with or within the actual or apparent authority from the principal, and within the scope of the agent's employment or which the principal ratifies." 3 Am Jur 2d, Agency §270. This general rule of liability is based upon the principle that "a duty rests upon every person, in the management of his own affairs, whether by himself or by his agents, to so conduct them as not to injure another, and that if he does not do so, and another is thereby injured, he shall answer for the damage." *Id*. "This principle does

not work any injustice to the principal, for it is based upon the policy of protection of the third person and results from the consideration that it is the principal who makes it possible for the agent to inflict the injury." *Id.*

Although formerly corporations could not be held liable for torts, today it is well-settled that corporations can be held liable for a tort precisely as in the case of natural persons. 10 Fletcher §4877. Generally speaking, the rules governing liability of a principal for a tort committed by an agent are the same whether the principal is a natural person or a corporation, and whether the agent is a natural or artificial person. *Id*. "A corporation is liable, therefore, whenever a tortious act is committed by an agent within the scope of the agent's authority and in the course of the agent's employment." *Id*.

Missouri law is in accord with that of a number of other states that recognize that a traditional principal-agent relationship may be created between two corporations, whereby one corporation may be held liable for the activities of another corporation, such as its subsidiary. *Weitz Co. v. MH Washington*, 631 F.3d 510, 522 (8th Cir. 2011)(noting that Missouri law recognizes piercing the corporate veil, referred to there as "alter-ego" liability, and agency liability as separate, distinct causes of action); *see also Nat'l Plumbing Supply Co. v. Torretti*, 175 S.W.2d 947, 951 (Mo. App. 1943)(noting that one corporation may act as agent for another); *Bacon*, 63 S.W.3d at 642 (noting agency relationship may exist between a parent and its subsidiary); *Ritter*, 987 S.W.2d at 384-85 (conducting two separate analyses, one for piercing the corporate veil and one for agency, with two separate holdings); *see also, e.g., Satellite Cable Servs., Inc. v. N. Elec. Co-op., Inc.*, 581 N.W.2d 478, 481-82 (S.D. 1998)(noting "a parent corporation may be held accountable for the conduct of its subsidiary when an agency relationship exists between

them," and finding no need to decide whether the "mere instrumentality" exception to the rule of corporate separateness applied in case because ample evidence existed to establish that an agency relationship existed between parent and subsidiary); *Chrysler Corp. (Delaware) v. Chaplake Holdings, Ltd.*, 822 A.2d 1024, 1035 (Del. 2003); *Kissun v. Humana, Inc.*, 479 S.E.2d 751 (Ga. 1997); *Mobil Oil*, 718 F.Supp at 271. Under an agency theory, the court "may attribute the actions of a subsidiary company to its parent where the subsidiary acts on the parent's behalf or at the parent's direction." *C.R. Bard, Inc. v. Guidant Corp.*, 997 F.Supp. 556, 560 (D.Del. 1998). One corporation may assume the role of the second corporation's agent in the course of one or more specific transactions. But "a corporation does not become an agent of another corporation merely because a majority of its voting shares is held by the other." *Bacon*, 63 S.W.3d at 642 (quoting Restatement (Second) of Agency §14M).

Agency Distinguished from Piercing the Corporate Veil

The agency theory differs from piercing the corporate veil in theory and operation. Under an agency theory, the court attributes specific acts to the parent corporation, as principal, because of the parent's authorization of those acts. *Bard*, 997 F. Supp. at 560. Only the precise conduct instigated by the parent is attributed to the parent. *Id*. (internal quotation omitted). The rest of the subsidiary's actions still pertain only to the subsidiary. *Applied Biosystems, Inc. v. Cruachem, Ltd.*, 772 F.Supp. 1458, 1464 (D.Del 1991)(citing Lea Brilmayer & Kathleen Paisley, Personal Jurisdiction and Substantive Legal Relations: Corporations, Conspiracies, and Agency, 74 Calif.L.Rev. 1 (1986)). The parent corporation is held liable precisely because the subsidiary acted on behalf of or at the parent's direction. *Bard*, 997 F.Supp at 560. When legal liability is

predicated on principles of agency, courts do not ignore or set aside the existence and entity of the subsidiary. *Mobil Oil*, 718 F.Supp at 271; *see also Lowendahl*, 287 N.Y.S. at 74. Rather the separate corporate identity of the subsidiary is affirmed, and the two corporations remain distinct entities. *Id*. The opposite is true when courts pierce the corporate veil. *Mobil Oil*, 718 F.Supp at 271; *Lowendahl*, 287 N.Y.S. at 74. In those situations, courts hold parent companies liable because of their total control and their improper use of the subsidiary. In such a situation, courts set aside and ignore the subsidiary's corporate entity to hold the parent liable. *Mobil Oil*, 718 F.Supp at 271; *Lowendahl*, 287 N.Y.S. at 74. All activities – and liabilities – of the subsidiary become those of the parent. *Applied Biosystems*, at 1464 (citing Brilmayer & Paisley, *supra*).

One of the essential elements of agency relationship is that the principal has the right to control the conduct of the agent with respect to matters entrusted to him. *State ex rel. Elson v. Koehr*, 856 S.W.2d 57, 60 (Mo. banc 1993)(citing Restatement (Second) of Agency § 14 and adopting the Restatement definition of an agency relationship). Complete domination or control of the agent by the principal, however, is not required to establish an agency relationship. *Mobil Oil*, 718 F.Supp at 271. Nor is complete domination and control the underlying reason why courts hold a principal liable for the actions of its agent. A traditional agency theory focuses on the arrangement between the parent and the subsidiary, the authority given in that arrangement, and the relevance of that arrangement to the plaintiff's claim. *Bard*, 997 F.Supp at 560; *see also Bacon*, 63 S.W.3d at 642. Courts must avoid "the notion that a parent company can be held liable for the obligations of a subsidiary [under the agency theory] purely on the basis of

domination and control." *Bard*, 997 F.Supp at 560 (quoting *Mobil Oil*, 718 F.Supp. at 271 n. 15).

Ritter Agency Test

The children rely on the *Ritter-Sedalia-Blackwell* line of cases as the test in Missouri for establishing a traditional principal-agent relationship between two corporations.

In *Ritter*, our Court stated:

> In order to establish a principal-agent relationship between two corporate entities, there must be *such domination and control* that the controlled corporation has, so to speak, *no separate mind, will or existence of its own* and is but a business conduit for its principal. To hold a parent liable for its subsidiary's acts, the control must be actual, participatory and total.

Ritter, 987 S.W.2d at 385 (emphasis added).

We believe this *Ritter* agency test is a flawed statement of traditional agency law, for three reasons: (1) it swallows the piercing-the-corporate-veil doctrine; (2) it developed out of piercing-the-corporate-veil jurisprudence; and (3) it runs counter to the agency test set forth by the Missouri Supreme Court in *Bacon*. That Missouri courts may have blurred the lines between, or confused the two theories of liability is no surprise; we would not be the first or only court to do so.

Swallows Piercing the Corporate Veil

To begin, notice how the *Ritter* test for agency is nearly identical to the first element of the *Collet* test for piercing the corporate veil, said element again being:

> (1) Control, not mere majority or complete stock control, but *complete domination*, not only of finances, but of policy and business practice in respect to the transaction attacked so that the corporate entity as to this transaction had at the time *no separate mind, will or existence of its own*

Collet, 708 S.W.2d at 284 (emphasis added). To pierce the corporate veil, a plaintiff must not only show complete domination, but he must also show that the corporate form was established or used for some improper purpose. Such is not the case with the *Ritter* agency test. As set forth in *Ritter*, a plaintiff could hold a corporation liable for another corporation's acts, such as the acts of its subsidiary, by merely showing complete domination and control. Indeed, this is what the children sought to do in this case. As we see it, this runs completely counter to, and renders meaningless, the longstanding, well-established doctrine of piercing the corporate veil. If the *Ritter* test correctly stated the test for corporate agency, Missouri would have no reason to have a distinct test for piercing the corporate veil.

Roots

Next, tracing the history of the *Ritter* agency test shows that the test developed from piercing-the-corporate-veil cases, not traditional agency cases. In setting out the standard for establishing a principal-agent relationship between two corporate entities, the *Ritter* court quoted the test set out in *Sedalia Mercantile Bank and Trust Co. v. Loges Farms, Inc.*, 740 S.W.2d 188 (Mo. App. W.D. 1987). *Sedalia* involved a parent-subsidiary relationship. The plaintiffs pursued an agency theory at trial, contending that the subsidiary acted on behalf of and as agent for the parent corporation. Our Western District, in assessing whether a principal-agent relationship existed, set out the test later enunciated and quoted by the *Ritter* court. *Sedalia*, 740 S.W.2d at 202-03. The Court then held that no principal-agent relationship existed between the parent corporation and its subsidiary because the plaintiffs failed to prove any pervasive involvement, or any sort of actual, participatory and total control on the part of the parent corporation. *Id*. at 203.

In setting out the agency test ultimately used in *Ritter*, and relied upon by the children in this case, the *Sedalia* court cited and quoted a Missouri Supreme Court case from 1969, *Blackwell Printing Co. v. Blackwell-Wielandy Co.*, 440 S.W.2d 433 (Mo. 1969), and William Fletcher's treatise, *Cyclopedia, Corporations*. The cited section of Fletcher's treatise, however, deals with piercing the corporate veil, as does the *Blackwell* case. The *Blackwell* court rejected the position that the defendant was the "alter ego" of a realty company, reasoning:

> A corporation is ordinarily an entity, separate and apart from its stockholders, and mere ownership of all the stock of one corporation by another, and the identity of officers of one with officers of another, are not alone sufficient to create identity of corporate interest between the two companies or to create the relation of principal and agent or to create a representative or fiduciary relationship between the two. Something more than majority stock control is required. *There must be such domination and control that the controlled corporation has, so to speak, no separate mind, will or existence of its own and is but a business conduit for its principal.* This was not shown.

Blackwell, 440 S.W.2d at 436-437 (internal citations omitted)(emphasis added).

Blackwell was a piercing-the-corporate-veil case; it was not a traditional agency case. But, for reasons unknown to this Court, the language from *Blackwell* was transformed in *Sedalia* and then *Ritter* into stating the test for a traditional agency relationship between two corporate entities. Perhaps it is part and parcel of the confusion created by the imprecise and interchangeable terminology. Maybe it is the language that mere ownership and identity of officers is "not alone sufficient to create identity of corporate interests between the two companies ***or*** to create the relation of principal and agent …." We suppose one could take the Court's language as saying one needs to show complete domination and control in order to establish a principal-agent relationship. Again, in our view, this swallows the doctrine of piercing the corporate veil. Moreover,

it is dicta at best. Whatever the reasons, we believe our courts have misapplied this language from *Blackwell* in those cases, such as *Sedalia* and *Ritter*, brought under traditional agency principles.

We further note that *Blackwell's* predecessors are also all piercing-the-corporate-veil cases. In setting out the above-quoted language, the *Blackwell* court cited *Turpin*, a Missouri Supreme Court decision from 1966.[50] *Turpin v. Chicago, Burlington & Quincy R.R. Co.*, 403 S.W.2d 233 (Mo. banc 1966). *Turpin*, in turn, quoted the federal case *Fawcett v. Missouri Pac. R.R. Co.*, 242 F.Supp. 675, 677-78 (W.D. La 1965), and *Fawcett* in turn quoted language from *Kentucky Elec. Power Co. v. Norton Coal Mining Co.*, 93 F.2d 923 (6th Cir. 1938). Although the courts in these three cases did not use the terminology "piercing the corporate veil," the courts in all three cases rejected attempts to hold a parent company liable because there was no showing of impropriety in the establishment or use of the subsidiary. Thus, we conclude the operative doctrine was piercing the corporate veil, and not traditional agency. This long history, with roots deep in piercing-the-corporate-veil jurisprudence, further supports our conclusion that Missouri courts have misapplied the language and statements of law contained in *Blackwell*.

Agency Test in Bacon

In addition to this flawed doctrinal development, the *Ritter* test for establishing a principal-agent relationship between corporations runs contrary to the teachings of our Missouri Supreme Court in *State ex rel. Ford Motor Co. v. Bacon*, 63 S.W.3d 641 (Mo. banc 2002).

[50] The *Blackwell* court, like the *Sedalia* court, also cited to a section of Fletcher's treatise dealing with piercing the corporate veil.

At its core, *Bacon* is a venue case. However, the case involved a parent corporation and its wholly-owned subsidiary, and it involved traditional agency theory. We therefore find the case pertinent. Plaintiffs in the underlying action against Ford predicated venue in Greene County because Ford Motor Credit Company, Ford's wholly-owned subsidiary, maintained an office in Greene County and acted as Ford's "agent for the transaction of its usual and customary business" there. Ford raised a defense of improper venue. *Bacon*, 63 S.W.3d at 642. To resolve the venue question, our Supreme Court noted it must determine whether Ford Credit was Ford's agent. *Id*. The Court then stated:

> "Agency is the fiduciary relation which results from the manifestation of consent by one person to another that the other shall act on his behalf and subject to his control, and consent by the other so to act." Restatement (Second) of Agency sec. 1 (1958); *State ex rel. Elson v. Koehr*, 856 S.W.2d 57, 60 (Mo. 1993). The Restatement specifically states, "A corporation does not become an agent of another corporation merely because a majority of its voting shares is held by the other." Restatement (Second) of Agency sec. 14M. Therefore, ***an agency relationship between a parent and its subsidiary may only be established if the elements of an agency relationship exist***. *Id*. at sec. 14.
>
> In *Elson*, this Court adopted the Restatement definition of an agency relationship, which sets out three essential elements:
>
> > 1) that an agent holds a power to alter legal relations between the principal and a third party;
> > 2) that an agent is a fiduciary with respect to matters within the scope of the agency; [and]
> > 3) that a principal has the right to control the conduct of the agent with respect to matters entrusted to the agent….
>
> *Elson*, 856 S.W.2d at 60 [quoting Restatement (Second) of Agency §§12-14]. The absence of any one of these three characteristics defeats the purported agency relationship.

Bacon, 63 S.W.3d at 642. (Emphasis added). As we see it, our Supreme Court had before it a parent corporation and its subsidiary. The theory advanced and analyzed was a

traditional agent relationship – not piercing the corporate veil. We conclude that the *Bacon* test is the test in Missouri for establishing a principal-agent relationship between two corporations.

The children here sought to hold Fluor liable under traditional agency principles merely because of its domination of and control of its subsidiaries. This is insufficient. Therefore, we hold that a principal-agent relationship was not established, and thus the parent company, Fluor, cannot be held liable for the actions of its subsidiaries under an agency theory purely on the basis of domination and control. The children did not plead and submit to the jury the elements of an agency relationship, as those elements are set out in *Bacon*. The children's theory is further flawed in that they seek to hold Fluor liable based on its own acts rather than based on the acts of its subsidiaries.[51]

Defendants insisted that the children's theory of liability was not a valid submission for either piercing the corporate veil or for traditional agency, and that, therefore, the trial court should have not submitted it to the jury. We grant their point. We acknowledge that the trial court's submission was supported by some existing Missouri cases. However, in our opinion, those cases misstate traditional agency law. We therefore will no longer follow *Ritter*. We reverse the judgment entered against Fluor on this theory of liability.

[51] The instruction submitting this theory is likewise flawed. See further, under our discussion of the jury instructions submitted in this case.

Trial Rulings

We next turn to defendants' allegations of error regarding the court's voir dire and evidentiary rulings. Defendants contend the trial court erred in denying their motion for a mistrial after counsel for the children mentioned the Missouri Victims' Compensation Fund during voir dire. Defendants next advance three points challenging the trial court's rulings admitting testimony of several of the children's expert witnesses. Lastly, defendants contend the trial court erred in excluding certain evidence.

Preservation

We begin our discussion of these allegations by emphasizing that an appellant must properly preserve their allegations of error in order to secure review on appeal. *Syn, Inc. v. Beebe*, 200 S.W.3d 122, 135 (Mo. App. W.D. 2006). Defendants here, in whole or in part, failed to preserve their allegations of error regarding these complained-of trial issues. Their failure to do so is fatal to their claims of error. A party must meet several requirements in order to preserve an issue for appellate review. For one, a party must raise an objection in the trial court. *See, e.g., Payton v. Union Pac. R. R. Co.*, 405 S.W.3d 1, 7 (Mo. App. E.D. 2013). We generally will not convict the trial court of error on an issue that was not put before it to decide. *Smith v. Shaw*, 159 S.W.3d 830, 835 (Mo. banc 2005); *Rouse v. Cuvelier*, 363 S.W.3d 406, 418 (Mo. App. W.D. 2012); *Lincoln Credit Co. v. Peach*, 636 S.W.2d 31, 36 (Mo. banc 1982). Moreover, a party must object in a timely fashion. *See, e.g., Letz v. Turbomeca Engine Corp.*, 975 S.W.2d 155, 168 (Mo. App. W.D. 1997). "A party should make any objection to the trial process at the earliest opportunity to allow the other party to correct the problem without undue expense or prejudice." *Sanders*, 364 S.W.3d at 207. If a party does not make an

objection at the time of the incident giving rise to the objection, we may deem the objection waived or abandoned. *Id.*; *Letz*, 975 S.W.2d at 168. Next, a party on appeal must base its claim of error on the same grounds raised in its trial objection. *See, e.g.*, *Gallagher v. DaimlerChrysler Corp.*, 238 S.W.3d 157, 168 (Mo. App. E.D. 2007). A point is preserved for appeal only if it is based on the same theory presented at trial. *Id.* A party may not advance a new objection on appeal. *Id.* Nor may the party alter or broaden the scope of the objection voiced at trial. *Hill v. City of St. Louis*, 371 S.W.3d 66, 75 (Mo. App. E.D. 2012). Rather, an appellant must maintain a consistent theory of objection. *Gallagher*, 238 S.W.3d at 168. "[A]llegations of error not presented to or expressly decided by the trial court shall not be considered in any civil appeal from a jury tried case." Rule 84.13(a); *Hill*, 371 S.W.3d at 75.

We lastly note that a party on appeal must develop the issue raised in its point relied on in the argument portion of their brief. *Smith v. Med Plus Healthcare*, 401 S.W.3d 573, 576 (Mo. App. E.D. 2013). Failure to support a point with relevant legal authority or argument beyond conclusory statements preserves nothing for appeal. *Carlisle v. Rainbow Connection, Inc.*, 300 S.W.3d 583, 586 (Mo. App. E.D. 2009). In such instances, we will deem the issue abandoned. *Med Plus Healthcare*, 401 S.W.3d at 576. To the extent that defendants' allegations of error are preserved, we emphasize that the complained-of decisions lie within the discretion of the trial court. *Callahan*, 863 S.W.2d at 867 (mistrial); *Moore v. Ford Motor Co.*, 332 S.W.3d 749, 756 (Mo. banc 2011)(admission or exclusion of evidence); *Swartz v. Gale Webb Transp. Co.*, 215 S.W.3d 127, 129-30 (Mo. banc 2007)(expert testimony). We will reverse a denial of a motion for mistrial only where there has been a manifest abuse of discretion. *Callahan*,

863 S.W.2d at 867. Similarly, we will reverse the trial court's ruling admitting or excluding evidence only if the trial court clearly abused its discretion. *St. Louis Co. v. River Bend Estates Homeowner's Ass'n*, 408 S.W.3d 116, 123 (Mo. banc 2013). A trial court abuses its discretion when its ruling is clearly against the logic of the circumstances then before the court and is so arbitrary and unreasonable that it shocks the sense of justice and indicates a lack of careful consideration. *Moore*, 332 S.W.3d at 756. "Appellate review of the trial court's exercise of discretion does not pivot on whether a reviewing court would have exercised its discretion in like manner, but whether the trial court abused its discretion." *Chapman v. St. Louis County Bank*, 649 S.W.2d 920, 921 (Mo. App. E.D. 1983). If reasonable persons can differ as to the propriety of the trial court's action, we then cannot say that the trial court abused its discretion. *River Bend Estates*, 408 S.W.3d at 123.

With these principles in mind, we turn to the trial court's voir dire ruling.

Voir Dire

In questioning the venire panel on the issue of punitive damages, counsel for the children informed the panel that half of any punitive damages awarded goes to the Missouri Victims' Compensation Fund.[52] He then inquired if anyone on the panel

[52] In full, counsel for children asked:

> Thank you, your Honor. What I would like to know is which side, if you're on the side of those people who are in favor of deterring corporations with punitive damages, deterring them from doing something wrong in the future by assessing punitive damages or like those who don't believe in doing that and believe that they should just be taken care of each time something happens again in the future. Can I see what thoughts any of you may have on that? Do you have any thoughts?
>
> Let me ask you another question. Some of the money – some people like the fact that 50 percent of punitive damages assessed go to the Missouri Victims' Compensation Fund. Other people don't like the fact that 50 percent or half of any punitive damages assessed go to the State of Missouri Victims' Compensation Fund. Anyone of those that may not believe or like the fact that these go to, half the punitive damages go to Victims' Compensation Fund? Does anyone have any feelings the other way?

disagreed with that distribution. Defense counsel remained silent. Five veniremembers asked follow-up questions about punitive damages and the fund. Children's counsel responded, answering their questions, expounding on the purpose of the fund, noting that distribution to the fund was a matter of law, and clarifying that plaintiffs receive the other half of the assessed damages. Defense counsel remained mute. Counsel did not raise an objection directed toward the discussion about the fund until over an hour later, during the court's afternoon recess, when counsel requested a mistrial. After hearing each side's arguments, the trial court denied defendants' request. The following morning, defendants filed a written motion for mistrial. The trial court expressed its concern, requested a written response from the children, and took the motion under submission. The court took up the motion the following morning and entertained lengthy arguments. After hearing those arguments and reviewing submitted caselaw and the transcript, the trial court denied defendants' motion.

Defendants contend the trial court should have declared a mistrial. They insist information regarding the fund should never be disclosed, because it is wholly irrelevant to any of the issues presented to the jury to decide, and because it is highly prejudicial in that it invites enhancement of the punitive-damage award to counteract the distribution to the fund. Defendants argue the children had no purpose for mentioning the fund other than to improperly engender sympathy and boost damages, and adamantly proclaim prejudice was "graphically" illustrated thirteen weeks later, when the jury awarded "exactly two times" the amount of punitive damages suggested by the children.

We do not condone counsel's line of questioning. Granted, counsel is afforded wide latitude in examining prospective jurors for possible bias and their state of mind

regarding the matter at hand. *Littell v. Bi-State Transit Dev. Agency*, 423 S.W.2d 34, 36-7 (Mo. App. 1967)(quoting 31 Am.Jur, *Jury*, s 139); *see also Ashcroft v. TAD Res. Intern.*, 972 S.W.2d 502, 507 (Mo. App. W.D. 1998)(holding trial court erred in preventing plaintiff from inquiring as to the bias and prejudice of the venire against the award of punitive damages). On the other hand, Missouri courts have long condemned as highly improper counsel's disclosure of extrinsic matters that, to counsel's knowledge, will tend to create prejudice against the other party. *See Welch v. Sheley*, 443 S.W.2d 110, 117 (Mo. 1969); *Scott v. W. Union Tel. Co.*, 109 S.W.2d 912, 914-15 (Mo. App. 1937). While true, we will not disturb the trial court's decision. Defendants did not timely object. Counsel clearly had the opportunity to object, and did object to other matters during this line of questioning, but as to the mention and discussion of the fund, defense counsel raised no objection. Instead, counsel remained silent, allowing the colloquy to continue.

Defendants cited two cases to the trial court: *Giddens v. Kansas City S. Ry. Co.*, 937 S.W.2d 300 (Mo. App. W.D. 1996) and *Burke v. Deere & Co.*, 6 F.3d 497 (8th Cir. 1993). In *Burke*, the court reversed a jury verdict, in part because the jury was informed that a portion of any punitive-damage award would be paid into a civil trust fund administered by the court. *Burke* is a federal case applying Iowa law, and while instructive, it is not binding precedent. Moreover, the appellate court did not base its reversal solely on mention of the trust fund, as defendants advocate here. *Burke*, 6 F.3d at 513. The *Giddens* court upheld the trial court's grant of a new trial for improper closing argument designed to inflame the jury, even though no objection had been lodged

at trial. *Giddens*, however, dealt with closing argument, not voir dire, and the case did not involve the fund. *Giddens*, 937 S.W.2d at 306-07.

Now on appeal, the defendants point to *Henderson v. Fields*, 68 S.W.3d 455 (Mo. App. W.D. 2001), a case that did involve the fund.[53] In that case, plaintiff's counsel mentioned the fund during closing argument, and informed the jury that half of any money awarded went to the state and not the family. Counsel then immediately urged the jury to "send a message, be strong, take action." Defense counsel objected, but did not give a legal or factual basis for the objection, and thus did not preserve the matter for appellate review. While the court on appeal *ex gratia* found the counsel's comment regarding the fund improper, because it went beyond the evidence and instructions, in the end the appellate court could not say that manifest injustice had occurred in overruling the insufficient objection. The matter was not preserved for appellate review, and thus the appellate court did not disturb the verdict. The court simply was unwilling to convict the trial court of error for failing to sustain an insufficient objection. *Henderson*, 68 S.W.3d at 470-71.

We, too, are unwilling to convict the trial court of error under our circumstances. We further note that children's counsel did not allude to the fund again during the remaining voir dire. Counsel did not mention the fund during the ensuing three months of trial, and he did not refer to the fund thirteen weeks later, when making closing

[53] Defendants also cite several out-of-state cases holding that it is reversible error to inform juries about the allocation of a portion of punitive-damage awards to the state. *Honeywell v. Sterling Furniture Co.*, 797 P.2d 1019 (Ore. 1990)(holding trial court erred in instructing jury as to how any award of punitive damages would be distributed); *Ford v. Uniroyal Goodrich Tire Co.*, 476 S.E.2d 565 (Ga. 1996)(holding trial court erred in instructing the jury that a portion of any punitive damages awarded would go to state treasury). Defendants also cite to *In re Exxon Valdez*, 229 F.3d 790, 798 (9th Cir. 2000), for the proposition that "a jury deliberating on the amount of a damages award is not to consider where the funds that constitute that award will come from, or where they will end up." Again, these are not Missouri cases and thus are not binding precedent. *Henderson* is the only Missouri case cited by defendants or discovered by us that deals specifically with informing the jury about the fund.

arguments to the jury. Lastly, contrary to defendants' assertion, the jury did not award "exactly two times" the suggested amount of punitive damages. While the jury assessed more than requested, the jury did not simply double the suggested amount of punitive damages.

Generally, we will not reverse the denial of a mistrial except upon a showing that the trial court manifestly abused its discretion. *Callahan*, 863 S.W.2d at 867. The trial court gave extensive and measured consideration to the issue, and its ruling is not contrary to Missouri precedent.[54] Defendants have not persuaded us that the trial court abused its considerable discretion in denying their motion. We deny this point. We turn now to the trial court's evidentiary rulings.

Evidentiary Rulings

Defendants' first challenge the trial court's rulings regarding the testimony of Professor Henry Ordower and Professor James Fisher. Defendants contend these witnesses' testimony was riddled with legal conclusions about partnerships, and the rights, obligations, and liabilities of partners in general and the defendants in particular. They argue that the witnesses' testimony was not only improper and inadmissible, as encroaching on the court's duty to interpret documents and instruct on the law, but also that it was incorrect and led the jury astray. Defendants boldly assert the trial court "abdicated its duty to control the admission of evidence and instruct the jury on the law," and instead allowed the two witnesses to "poison the well" with improper opinions and impose their "own brand of justice" on the proceedings. They maintain that "the jury's

[54] Although we are dealing with voir dire here, and not closing argument, we note that the committee drafting Missouri's approved jury instructions takes no position on whether the interest of the State and fund can be argued to the jury. MAI 35.19, Committee Comment [H] (2012 Revision).

view of the applicable law and the defendants' relationships was irreparably tarnished and distorted by the court's abandonment of its function as evidentiary gatekeeper." Defendants' protests go too far. We begin by addressing defendants' allegations concerning Professor Ordower.

Professor Henry Ordower

Defendants challenge court rulings during two different portions of Professor Ordower's testimony – his testimony about partnerships in general and his testimony regarding the interpretation of the various partnership agreements.[55] Professor Ordower began his testimony by describing the considerations and decisions parties must make and take into account in deciding what format to use for their business. He explained that in the 1980s, when the Doe Run partnership was formed, one had basically two choices for a business entity – either a corporation or some type of a partnership, be it general or limited. Professor Ordower then generally described the benefits and disadvantages of forming a partnership, including that the partners are liable for the partnership's debts. The professor also generally considered the disadvantages of forming a corporation. And then, in response to a hypothetical posed by children's counsel, Professor Ordower outlined the responsibilities and liabilities of partners. Professor Ordower then moved on and testified specifically about the various partnership agreements and other contractual arrangements among the defendants. The trial court overruled defendants' various objections protesting that the professor's testimony constituted legal conclusions.

[55] Defendants also complain that the trial court repeatedly referred to the witness as "Professor," and accuse the trial court of abdicating its duty to control the admission of evidence. We doubt we have reached the point where simple courtesy and civility no longer have a place in our courtrooms. Henry Ordower is a professor of law at St. Louis University School of Law, and has been so for over thirty years. The trial court similarly referred to defendants' witnesses by their professional titles. We particularly note that the trial court referred to defense witness Benjamin Akande by the title "Doctor," in accord with that witness's doctorate degree. We reject this overstated complaint.

Defendants allege the trial court abused its discretion in allowing Professor Ordower to express opinions containing legal conclusions. In particular, they contend the court improperly permitted Professor Ordower to instruct the jury on substantive partnership issues, particularly the rights and liabilities of partners.[56] And they assert the trial court improperly permitted Professor Ordower to interpret the various documents, and to advise the jury of their supposed legal effect. In sum, defendants complain that the trial court permitted Professor Ordower to conduct a "flawed tutorial" for the jury on the law of partnerships and the interpretation of partnership documents. They maintain it was for the trial court, not the witness, to instruct the jury on the law and to examine the pertinent partnership documents to ascertain the respective rights, duties, responsibilities, and obligations of the various parties.

We deny this point, for a number of reasons. First, defendants objected to some, but not all of the now complained-of testimony. Thus, their point is not entirely preserved for our review. Next, although defendants complain about Professor Ordower's testimony regarding the general nature and workings of a partnership,

---

[56] As to Professor Ordower's general testimony regarding partnerships, defendants complain about the following statements:

1. All partners are directly liable for the debts of the partnership and for any injury that creates a liability to a third party.
2. When businesses become partners in a partnership, "their histories come along with them," and if they have debts, "they're now the responsibility of the partnership and all of its partners."
3. When a partner commits a tort, "[t]he partnership and each partner is fully responsible."
4. When a new partner joins the partnership, "he becomes liable for the partnership's history."
5. If partners use herbicides, and some might have been used before they became partners, and someone later gets sick, the partners have a long-term problem, and "there's no way they can terminate that liability, that responsibility, unless the injured party, who is now their potential creditor, lets them off the hook."
6. If corporations transfer an existing business to a partnership, "then the partnership would take on the liabilities of those two separate businesses."

Defendants did not object to statements 2 and 6. Defendants claim that these statements, "among others," were improper and that they "need not detail any more of this astonishing performance." This Court cannot review these "other" statements when defendants have neither bothered to point out what those statements are nor identify what specific ruling they are challenging.

defendants have not explained or shown how those statements were incorrect statements of law. Further, we disagree with defendants that the complained-of statements constituted impermissible "legal opinions," or that they usurped the court's prerogative to instruct the jury on each element of the children's case. Professor Ordower did not tell the jury what decision to reach. Rather, Professor Ordower provided useful background information regarding the nature of partnerships, the differences between corporations and partnerships, the benefits and disadvantages of each business relationship, and the responsibilities and liabilities of partners – all topics unfamiliar to the average layperson. Missouri law allows a qualified expert to testify to an opinion in a civil action if his or her "scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue." Section 490.065.1; *Hill*, 371 S.W.3d at 74; *see also George Weis Co., Inc. v. Dwyer*, 956 S.W.2d 335, 339-40 (Mo. App. E.D. 1997); *Wulfing v. Kansas City Southern Ind.*, 842 S.W.2d 133, 153-54 (Mo. App. W.D. 1992)(holding that expert testimony on complex procedural matters, industry standards, and highly technical statutes and regulation is permissible to allow the jury to evaluate the conduct of the parties, even though the testimony covers matters of law) (case overruled on other grounds by *Executive Bd. of Missouri Baptist Convention v. Carnahan*, 170 S.W.3d 437 (Mo. App. W.D. 2005)).

In fact, defendants themselves called an expert to similarly testify. Defendants called Dr. Benjamin Akande, Professor of Economics and Dean of the School of Business and Technology at Webster University, as an expert to testify as to corporate and partnership structure, as well as the role, oversight, and responsibilities of parent corporations with respect to wholly-owned subsidiaries. Dr. Akande described generally

the features and benefits of a corporation, including that the corporate structure affords limited liability for the owners, and that a shareholder's liability is limited to only the liabilities and assets of the organization. He also explained that a corporation could be an owner and investor in other corporations and that corporations could also invest in businesses that are in a different line of business. He described how corporate entities operate, including how they relate with parent and subsidiary corporations. The children contend that Dr. Ordower's testimony was needed in light of Dr. Akande because the defendants continually obscured the difference between corporations and partnerships, misled the jury as to the nature of the partnership, and urged that Doe Run was a separate legal entity from its partners. Indeed, Dr. Akande testified that the partnership committee functioned and operated like a corporate board of directors. He described Massey and DRIH as "investors." He described Fluor as merely a "parent," an "owner," and an "investor," that served in a more tangential, oversight capacity by receiving reports from its subsidiaries and approving budgets. He specifically testified that the partnership committee did not operate the smelter. And he also specifically opined that Fluor, Massey, and DRIH were not responsible for the day-to-day operations of the smelter.

We discern no meaningful distinction in the nature of testimony provided by Dr. Akande and that of Dr. Ordower. Based on the evidence and documents supplied to him, Dr. Akande expressed his opinions and explained defendants' version of the business organizations at play. Dr. Ordower did the same for the children. Both experts were disclosed and deposed prior to trial. Given all these circumstances, we cannot find an abuse of discretion on the part of the trial court in allowing Professor Ordower's testimony.

As to defendants' complaint about Professor Ordower's interpretation of the various agreements, and their charge that the professor distorted, manipulated, and mischaracterized those agreements, thereby misleading the jury, this was a matter for cross-examination, rebuttal evidence, and argument.

Although defendants protest that it was for the court, not the witness, to instruct the jury on substantive partnership issues and the meaning of the various agreements, the real crux of their complaint is that the court allowed plaintiffs, through Professor Ordower, to "brainwash" the jury, from the very first day of trial, with the notion that defendants bore responsibility for "historic liabilities." They charge that Professor Ordower's "flawed polemic" on partnership responsibilities and the meaning of the partnership documents set the predicate for the court's erroneous instructions allowing plaintiffs to blame defendants for every "historic" lead emission that had occurred since the smelter opened in 1892. They insist the jury, led astray by Professor Ordower's misleading, inadmissible opinions and mischaracterizations, imposed upon defendants the consequences of every perceived misdeed that had ever occurred at the smelter.

Again, defendants' argument is ill-founded. The children did not submit their case on the theory of assumed liabilities. Liability here was limited to the times defendants held their respective partnership interest. Just because the jury awarded a large verdict does not mean that they held defendants liable for "every perceived misdeed," as defendants contend. Defendants have not demonstrated an abuse of discretion on the part of the trial court in allowing Professor Ordower's testimony, and we discern none. The court did not "abdicate" its responsibility to control the admission

of evidence, as defendants charge. Rather, the trial court gave careful consideration to the testimony and the defendants' challenges to that testimony. We deny this point.

Professor James Fisher

Defendants make much the same argument regarding Professor James Fisher. They allege the trial court abused its discretion in allowing the professor to express opinions containing legal conclusions, ethical mandates, and "good business practices."

The children designated Professor Fisher, a marketing and business ethics professor at St. Louis University, to testify on the topics of "corporate structure, interrelationship of defendants, liability, and responsibility for wrongful conduct." At his deposition, Professor Fisher stated children's counsel asked him to address issues having to do with business ethics and responsibility.

Defendants first contend that Professor Fisher was not qualified to give his proposed opinions because he was "not a lawyer," and had "no expertise in environmental or regulatory matters." Defendants' bare contention is supported only by conclusory argument and is unsupported by any authority, save for a cursory citation to the statutory section dealing with expert witnesses. Consequently, we hold that defendants have abandoned their argument. *See, e.g.*, *MedPlus Healthcare*, 401 S.W.3d at 575-76 (holding point deemed abandoned where appellant cited no authority and failed to develop issue raised in point relied on).

Defendants also argue that the trial court allowed the professor to mislead the jurors about defendants' obligations. They complain that the court, in allowing Professor Fisher's testimony, authorized the professor to create a new list of legal duties for corporations – ranging from "do no harm" to a mandatory buyout of neighborhood

properties – and to testify that defendants breached those duties. They argue that the trial court should have excluded Professor Fisher's "ethical" testimony because the jury may have assumed that breach of an ethical obligation equates to a violation of the applicable legal standard.

Defendants' argument suffers from several different flaws. To begin, their assertion regarding the confusion caused by Professor Fisher's testimony is speculative. More critically, however, is the fact that the complained-of testimony is either largely unpreserved or constitutes cumulative testimony. As such, defendants state no grounds upon which to predicate reversal. *Gateway Foam Insulators, Inc. v. Jokerst Paving & Contracting, Inc.*, 279 S.W.3d 179, 189 (Mo. banc 2009)(holding appellant can show no prejudice, and thus no grounds for reversal, from the admission of allegedly inadmissible evidence if the challenged evidence was cumulative to other evidence admitted without objection).

Defendants first specifically complain about Professor Fisher's testimony that corporations have a responsibility "to do no harm, to communicate honestly, and even openly, and not to use [their] knowledge to disadvantage the public." Defendants, however, did not object to this testimony. Defendants also take issue with Professor Fisher's testimony that Fluor had a primary responsibility for the lead pollution in Herculaneum, and that Fluor had "a duty of care to take responsible and effective action not to do harm. To be honest. To be a good communicator." Defendants next take issue with Professor Fisher's testimony that corporations should "never" choose concerns about class-action suits over protecting the neighbors, and that a buyout in Herculaneum was "doable" and that not doing it was an unreasonable choice. The trial court admitted

this testimony over defendants' objections. However, once again, this testimony is cumulative.

Defendants next complain that Professor Fisher wandered afar from ethical considerations and, despite his lack of legal training, opined that the risk of legal action by the Herculaneum community was one of the liabilities undertaken by the partners when the partnership was formed. Defendants also assert the trial court should have disallowed the professor's statement that Massey acquired those same liabilities when it received its partnership interest. Again, although defendants objected at trial, this complained-of testimony was entirely cumulative to other testimony.

Lastly, defendants challenge Professor Fisher's various criticisms of defendants. Fisher criticized defendants for attempting to "avoid," "reduce," or "put off" expenditures in order to increase profits. He criticized Fluor's emphasis on "profit" and its "ruthless prioritization" of spending. Fisher stated that Doe Run's refusal to rent homes to families with children was a "way of avoiding liability," and he stated that it was "outrageous" for a corporation not to report the results of air monitoring to the people in the community. He criticized Doe Run's communications with the community as "clearly misleading," as "light and breezy" to mask the gravity of the situation, and as "trying to make Doe Run appear as a good corporate citizen." Again, defendants did not object to any of these complained-of statements. Moreover, the vast majority of the objections at trial were solely on grounds that such testimony was "speculative" – a ground not argued on appeal. Furthermore, the complained-of testimony is cumulative of other testimony, either of other parts of the professor's own testimony or that of other witnesses. Obviously such evidence is damaging to the defendants. And Professor Fisher's opinions

are pointed. However, these circumstances do not render the evidence inadmissible. Defendants were free to cross-examine Professor Fisher, adduce their own rebuttal evidence, and challenge the professor's opinions in closing arguments.

In sum, defendants will not be heard to complain when they did not object, when they objected on grounds other than those now asserted, or when they complain of cumulative evidence. We deny this point.

Dr. George Rodgers, Dr. Carl Hansen, and Robert Johnson

For their next evidentiary point, defendants assert the trial court abused its discretion in admitting "damage evidence" offered by three of the children's experts – Dr. George Rodgers, Dr. Carl Hansen, and Robert Johnson. Dr. Rodgers, a pediatric toxicologist, testified about the effects of lead on children. Dr. Hansen, a vocational rehabilitation expert, estimated the children's lost earning capacities. Mr. Johnson, an economist, calculated the children's lifetime earnings losses. Defendants contend the experts' opinions were not based on competent evidence but instead were "riddled" with "layers of speculation and conjecture" about the blood lead levels the children may have had as small children, the effects of lead exposure on children's IQs, the children's diminished educational and occupational prospects, and the children's projected lifetime earnings losses. In sum, defendants complain that the children built their compensatory damage model by stacking the "speculative musings" of these different experts to manufacture multi-million-dollar damage claims for each child.

Defendants complain about various aspects of each witness's testimony. Defendants, however, failed to object at trial to the testimony of which they now

complain. We also note that much of the complained-of testimony came in during defendants' cross-examination of the witnesses. We deny this point.

Stock Sale Agreement

For their last evidentiary point, defendants allege the trial court abused its discretion in excluding the 1994 Stock Sale Agreement because the agreement and its accompanying schedules were relevant. The agreement is the one between Fluor and DRAC, for Fluor's sale of St. Joe to DRAC. Defendants attempted to use the documents during their cross-examination of Professor Ordower, and then later sought to introduce the documents during the punitive-damage portion of the trial. The trial court excluded the documents in both instances.

Defendants contend generally that the agreement and its accompanying schedules were relevant to challenge their liability for actual and punitive damages, and the assessment of an amount for punitive damages. In particular, they contend the evidence was relevant in two instances: first, to show the sale of liabilities; and second, to show the presence of a multi-million dollar reserve on St. Joe's books for environmental projects and expenditures.

As to the sale of liabilities, defendants argued at trial that the stock-sale agreement was relevant to show that Doe Run was subject to liabilities associated with both the current and prior conduct of the lead business, and that those liabilities be they personal injury, environmental, or otherwise continued with St. Joe, and then transferred to DRAC as part of the sale. Defendants advance little to no argument along these lines on appeal. Rather, they now simply allege, in cursory fashion, that the agreement was "relevant to show the relationship of the parties and the parties' treatment and understanding of the

responsibilities of those involved in the operation of the smelter." They contend that the agreement would have "completed the historical narrative of the smelter," and that the agreement was relevant "to the disposition of [the partnership] interests, the provision for environmental issues relating to smelter operations, and the continuation of St. Joe's responsibility for the smelter." This is the sum total of defendants' argument. Consequently, because they failed to carry forth their complaint from trial, and because they failed to support their position with argument beyond conclusions, defendants have abandoned this issue.

As to the environmental reserve, defendants on appeal argue that the reserve's existence directly rebuts the children's contention that defendants refused to spend money on environmental projects, that they were insensitive to environmental issues, and that they disregarded the safety of the Herculaneum community. Thus, defendants contend the information was directly relevant to their liability for punitive damages. They additionally submit that the presence of a 24.8 million dollar reserve warranted consideration by the jury in assessing punitive damages. Defendants did not advance these arguments at trial. There, defendants stated simply that they wanted to read into the record that portion of the agreement showing a reserve for environmental projects among the liabilities going to DRAC, in order to show that money was left in the company for meeting environmental actions underway as well as for future environmental issues. Defendants have not preserved this issue for our review. We will not convict the trial court of error on arguments not put before it.

We further critically note that defendants failed to demonstrate what prejudice they suffered from the trial court's exclusion of the agreement. In order to obtain a

reversal based on the exclusion of evidence, an appellant must demonstrate that the excluded evidence would have materially affected the merits of the cause of action. *Williams v. Trans States Airlines, Inc.*, 281 S.W.3d 854, 872 (Mo. App. E.D. 2009); *Byers v. Cheng*, 238 S.W.3d 717, 726 (Mo. App. E.D. 2007); Section 512.160.2; Rule 84.13(b). In other words, the appellant must demonstrate resulting prejudice by showing that the outcome of his case would have been different had the excluded evidence been admitted. *Williams*, 281 S.W.3d at 875; *McGuire v. Kenoma, LLC.*, 375 S.W.3d 157, 185 (Mo. App. W.D. 2012). Defendants, however, failed to argue prejudice. They only advance a bare assertion concluding that exclusion of the evidence was "prejudicial error." Because defendants failed to articulate and demonstrate prejudice, grounds for reversal do not exist, even if they had defendants preserved the issue for our review. We deny this point.

Jury Instructions

We next turn to defendants' allegations regarding the compensatory-damage verdict directors.[57] The children proffered four such verdict directors: one submitted their domination theory as to Fluor; the other three submitted their partner theory as to Massey, DRIH, and Fluor, respectively.[58]

The trial court held a lengthy instruction conference – at defense counsel's office, on a Sunday, no less. Defendants raised numerous objections, and the trial court entertained extensive arguments by both parties. Defendants' mischaracterization, declaring that the trial court "summarily" overruled their objections, is ludicrous.

[57] Defendants also challenge the punitive-damage verdict directors. We address that challenge separately, in conjunction with our discussion of punitive damages.

[58] Each child submitted identical instructions, the only difference being the insertion of the particular child's name.

Defendants claim the trial court erred in submitting all of the verdict directors. Because of our holding rejecting the children's domination theory, we need not address defendants' allegations of error regarding the instruction submitting that theory.[59] Thus, we confine our discussion to defendants' complaints about the partner verdict directors.[60]

---

[59] However, we note that the instruction does not attribute the actions of an agent to the principal, nor follow the *Bacon* elements. Rather, the instruction simply ascribes blame to Fluor, the purported principal. Thus, the instruction does not properly submit an agency theory. The instruction read:

> On the claim of plaintiff (insert child's name) for compensatory damages for personal injury against defendant Fluor Corporation, your verdict must be for plaintiff (---) if you believe:
>
> First, defendant DRIH and Leadco Investments, Inc. were partners of the Doe Run Company Partnership, and
>
> Second, before March 26, 1994, the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Third, before March 26, 1994, the Doe Run Company Partnership knew or had information from which it, in the exercise of ordinary care, should have known that the adjacent Herculaneum community was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Fourth, with respect to the Doe Run Company partnership, defendant Fluor Corporation had actual, participatory, and total dominion and control of partners DRIH and Leadco Investments, Inc. and exercised such dominion and control so DRIH and Leadco Investments, Inc. had no separate mind, will, or existence of their own but were mere conduits for defendant Fluor Corporation, and
>
> Fifth, defendant Fluor Corporation, in the exercise of that dominion and control, allowed plaintiff (--), a resident of Herculaneum, to be exposed to unsafe levels of lead which originated from the smelter operations before March 26, 1994, and
>
> Sixth, defendant Fluor Corporation was thereby negligent, and
>
> Seventh, such negligence directly caused or directly contributed to cause damage to plaintiff (--).

[60] The partner verdict directors for Massey and DRIH were identical in all respects except for the particular defendant's name and the ending date of the particular defendant's involvement in the partnership. The verdict directors, with the challenged phrase in italics, read:

> On the claim of plaintiff (--) for compensatory damages for personal injury against defendant A.T. Massey Coal Company [DRIH], your verdict must be for plaintiff (---) if you believe:
>
> First, defendant A.T. Massey Coal Company [DRIH] was a partner of the Doe Run Company Partnership, and
>
> Second, while defendant A.T. Massey Coal Company [DRIH] was a partner of the Doe Run Company Partnership, the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Third, at that time, the Doe Run Company Partnership had information from which it, in the exercise of ordinary care, knew or should have known that the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and
>
> Fourth, the Doe Run Company Partnership *allowed plaintiff* (---), a resident of Herculaneum, *to be exposed to unsafe levels of lead* which originated from the smelter operations before April 5, 1989 [March 26, 1994], and

Defendants fault those instructions in two respects. First, they contend the phrase "allowed plaintiff … to be exposed to unsafe levels of lead," contained in the fourth paragraph of the instructions, was impermissibly vague and resulted in a roving commission. Second, defendants contend the instructions imposed liability on them for the operation of the smelter and for lead released before they were partners.

Standard of Review

We review *de novo* the question of whether the jury was properly instructed. *Klotz v. St. Anthony's Med. Ctr.*, 311 S.W.3d 752, 766 (Mo. banc 2010). For us to reverse a jury verdict for instructional error, the party challenging the instruction must show: (1) that the instruction as submitted misled, misdirected, or confused the jury; and (2) that prejudice resulted from the instruction. *Fleshner v. Pepose Vision Inst., P.C.*, 304 S.W.3d 81, 90-91 (Mo. banc 2010). "Prejudicial and reversible error occurs when an

---

Fifth, the Doe Run Company Partnership was thereby negligent, and

Sixth, such negligence directly caused or directly contributed to cause damage to plaintiff (---).

The partner verdict director for Fluor differed slightly in the third and fourth paragraphs, in that it ascribed liability to Fluor based on Fluor's knowledge and negligence, rather than the partnership's knowledge and negligence. The instruction, with the challenged phrase in italics, read:

On the claim of plaintiff (--) for compensatory damages for personal injury against defendant Fluor Corporation, your verdict must be for plaintiff (---) if you believe:

First, defendant Fluor Corporation was a partner of the Doe Run Company Partnership, and

Second, while defendant Fluor Corporation was a partner of the Doe Run Company Partnership, the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and

Third, at that time, defendant Fluor Corporation had information from which it, in the exercise of ordinary care, knew or should have known that the adjacent community of Herculaneum was contaminated with unsafe levels of lead which originated from the smelter operations, and

Fourth, defendant Fluor Corporation *allowed plaintiff* (---), a resident of Herculaneum, *to be exposed to unsafe levels of lead* which originated from the smelter operations before May 26, 1990, and

Fifth, defendant Fluor Corporation was thereby negligent, and

Sixth, such negligence directly caused or directly contributed to cause damage to plaintiff (---).

instruction is proffered to the jury that gives the jury a roving commission." *McNeill v. City of Kansas City*, 372 S.W.3d 906, 909 (Mo. App. W.D. 2012).

Roving Commission

Defendants first fault the partner verdict-directing instructions because they did not specify the conduct that constituted the breach of duty necessary to support the children's negligence claims. They contend the phrase "allowed plaintiff … to be exposed to unsafe levels of lead" was too open-ended and vague, and left it to the "whim" of the jurors to decide for themselves the conduct they could consider in deciding whether to hold defendants liable. Defendants insist that the instructions should have specified what defendants did or did not do to "allow" the exposure or make them liable to the children.

Defendants complain that the verdict directors ill-defined the negligent act upon which the children could base liability, but they do not explain how the submitted instructions "misled, misdirected, or confused the jury." In evaluating alleged instructional error, when faced with a claim that the instruction is vague, "the issue is whether the phrase as used in the verdict director was misleading in the context of the evidence at trial." *Klotz*, 311 S.W.3d at 767. Throughout the trial here, the children's evidence centered on how defendants allowed the community's children to be exposed to unsafe levels of lead. Defendants, through their insufficient briefing, have failed to demonstrate grounds upon which to predicate reversal. *See generally Fleshner*, 304 S.W.3d at 90-91 (listing required showings to obtain reversal on instructional grounds).

Furthermore, in the context of this case, we find that the sought-after additions – specific negligent acts – constitute evidentiary detail. A proper verdict-directing

instruction submits only the ultimate facts, not evidentiary details. *Twin Chimneys Homeowners Ass'n v. J.E. Jones Const. Co.*, 168 S.W.3d 488, 497-98 (Mo. App. E.D. 2005); *see also* Rule 70.02(b).[61] Simplicity is the key component to instructing a jury in Missouri. 2 Mo. Prac., Methods of Prac.: Litigation Guide §15.2 (4th ed. updated 2012). The guiding philosophy of MAI is that the jury should be given simple, concise instructions that ask them to decide the ultimate factual issues in the case. Mo. Civil Trial Practice §12.1 (MoBar 3rd ed. 2002); 2 Mo. Prac. §15.2; *see also* Dennis E. Egan, *Jury Instructing in Missouri*, 35 Journal of Missouri Bar 440, 441(1979); Missouri Approved Jury Instructions, *1963 Report to Missouri Supreme Court*, XL (7th ed. 2012); *Edgerton v. Morrison*, 280 S.W.3d 62, 66-67 (Mo. banc 2009)(noting basic premise of MAI is to submit only ultimate issues and avoid evidentiary detail). It is expected that lawyers will supply in their closing arguments all of the details of the evidence and how those details fit into the legal framework given to the jury by the court. Mo. Civil Trial Practice §12.1; 2 Mo. Prac. §15.2.

No precise, universally applicable definition exists that explicitly differentiates evidentiary facts from ultimate facts. *Stalcup v. Orthotic & Prosthetic Lab, Inc.*, 989 S.W.2d 654, 658 (Mo. App. E.D. 1999). Courts determine on a case-by-case basis which facts are ultimate facts, to be included in the instruction, and which facts are evidentiary detail, to be excluded from the instruction. *Ostrander v. O'Banion*, 152 S.W.3d 333, 336-37 (Mo. App. W.D. 2004). The decision ultimately depends on the specific theory relied on by the party offering the instruction. *Id.* at 336.

[61] Rule 70.02(b) mandates that when an Missouri Approved Instruction is modified, as was the case here, then "such modifications or such instructions shall be simple, brief, impartial, free from argument, and shall not submit to the jury or require findings of detailed evidentiary facts."

Although the purpose of MAI is to hypothesize the ultimate issue without evidentiary detail, the submission must not be so barren of fact that it allows the jury "unbridled power to speculate and find liability based on a vague, abstract 'roving commission' that lacks sufficient clarity to assure that the verdict is based on proper evidentiary considerations established on the record, but rather invites the jury to construct a theory of liability on its own." Egan, *supra,* at 440. The term "roving commission" is a catchall term, used to describe any number of different types of faulty instructions that "allow the jury – due to various inclusions or omissions – to rove onto forbidden ground … to reach its verdict." *Id*. at 443. For instance, a jury instruction may be considered a roving commission "when it is too general or where it submits a question to the jury in a broad, abstract way without any limitation to the facts and law developed in the case." *See generally Coon v. Dryden*, 46 S.W.3d 81, 93 (Mo. App. W.D. 2001). And an instruction is a roving commission if it fails to advise the jury what acts or omissions of the party, if any, found by it from the evidence would constitute liability. *McNeill*, 372 S.W.3d at 910. "To avoid a roving commission, the court must instruct the jurors regarding the specific conduct that renders the defendant liable." *Id*. On the other hand, when a plaintiff's theory of the case is supported by the evidence and the instruction submits ultimate facts that define the plaintiff's theory of negligence, the instruction is not a roving commission. *Smith v. Kovac*, 927 S.W.2d 493, 498 (Mo. App. E.D. 1996).

A contention similar to defendants' was made in *Stone v. Duffy Distrib.*, 785 S.W.2d 671 (Mo. App. S.D. 1990). There, the plaintiff claimed that the submitted contributory-negligence instruction, positing that he "failed to follow the instructions of

his doctors," gave the jury a roving commission because it failed to submit his exact act or omission. The court rejected the claim, noting that detailed evidence existed concerning the instructions that the doctors gave plaintiff. Much evidence also existed concerning the plaintiff's actions in following, or failing to follow those instructions. The court reasoned that to hypothesize the details of the evidence on those issues in the instruction would be precisely what Rule 70.02(e) condemns. In the end, the court found that the instruction hypothesized the ultimate facts average jurors would reasonably believe they had to find from the detailed evidence.[62] *Stone*, 785 S.W.2d at 678.

Ostrander v. O'Banion, 152 S.W.3d 333 (Mo.App. W.D. 2004) is likewise helpful. There, a patient brought a medical-malpractice action against her doctor for negligence in removing her gallbladder. The doctor challenged the verdict-directing instruction, which directed a verdict in favor of the patient on a finding that the doctor "placed a surgical clip in a position that extended partially across the common hepatic bile duct of plaintiff."[63] The doctor argued that the instruction should have required the jury to find that he either failed to identify or that he misidentified the biliary anatomy before he placed the surgical clip partially across the common bile duct. He contended that failure to submit the issue in this manner enabled the jury to find for the patient by

[62] The instruction in *Stone* read, with the challenged phrase in italics:

> In your verdict you must assess a percentage of fault to plaintiff Bobby Joe Stone, whether or not defendants were partly at fault, if you believe:
>
> First, plaintiff Bobby Joe Stone *failed to follow the instructions of his doctors*, and
>
> Second, plaintiff Bobby Joe Stone was thereby negligent, and
>
> Third, such negligence of plaintiff Bobby Joe Stone caused or directly contributed to cause any damage plaintiff may have sustained.

[63] In total, the verdict director read, with the complained-of phrase in italics:

> Your verdict must be for the plaintiff if you believe:
>
> First, defendant *placed a surgical clip in a position that extended partially across the common hepatic bile duct of plaintiff*; and
>
> Second, defendant was thereby negligent; and
>
> Third, as a direct result of such negligence, plaintiff sustained damage.

virtue of the adverse result because the instruction did not submit the act or omission complained of, as required. *Ostrander*, 152 S.W.3d at 337.

The appellate court rejected the doctor's claim. In so doing, the court noted that under the patient's theory of negligence, supported by her experts, it was always a breach of duty to place the clip on the common bile duct. Although there may be different reasons how or why the clip was placed, the reasons for the improper placement ultimately made no difference. It was the ultimate act of placing the clip across the duct that was the breach. The specific theory of negligence presented by the plaintiff's two experts, and the ultimate issue to be decided by the jury was whether the defendant placed the hemoclip across plaintiff's common bile duct. Thus, the verdict director accurately presented the issue to be decided by the jury. *Id*. at 339.

Defendants bring to our attention the recent decision of our Western District, *Minze v. Missouri Dep't of Public Safety*, 2014 WL 1364940 (April 8, 2014), an employment-discrimination case in which the court found that the verdict director submitting plaintiff's retaliation claim constituted an impermissible roving commission. The instruction hypothesized that the defendant "took adverse action" against the plaintiff, and that a causal relationship existed between the complaint and the "adverse action."[64] Similar to defendants' argument here, the State in *Minze* argued that the instruction constituted a roving commission because the instruction failed to set forth specific acts constituting retaliation, thereby allowing the jury to consider actionable and

[64] In full, the instruction read, with the complained-of phrases in italics:

> Your verdict must be for the Plaintiff and against Defendant MMDPS if you believe:
> First, Plaintiff complained of employment discrimination based on sex; and
> Second, Defendant MMDPS *took adverse action* against her; and
> Third, a causal relationship existed between the complaint and *the adverse action*; and
> Fourth, as a direct result of such conduct, Plaintiff sustained damage.

non-actionable behavior in the aggregate. The court, relying on *Scanwell Freight Express STL, Inc. v. Chan,* 162 S.W.3d 477, 482 (Mo. banc 2005), agreed. In *Scanwell*, our Supreme Court found the verdict director fatally defective because by using the word "including," a word of enlargement and not limitation, the instruction made actionable the aggregate of all of the defendant's conduct – both that which was actionable and that which was not. *Scanwell*, 162 S.W.3d at 482. The *Minze* court found that the proffered instruction suffered from the same infirmity because by using only the words "adverse action," the instruction impermissibly enlarged the scope of conduct for the jury's consideration beyond that which was actionable. The court further found that the term "adverse action" was not given proper "flesh and meaning" during the course of the trial. We find that *Minze* and *Scanwell* actually support our decision.

The ultimate issue to be decided in this case was whether defendants allowed the children to be exposed to unsafe levels of lead. In the context of this case, the defendant's various acts and omissions were evidentiary detail. Be it defendants' failure to warn, to buy out the homes, to contain emissions, to honestly communicate to the town, or any other of defendants' acts or omissions, the end result is the same – the act or omission allowed the children to be exposed to unsafe levels of lead. The term "allowed" was sufficiently given "flesh and meaning" during the trial, and unlike the *Minze* and *Scanwell* instructions, does not include both actionable and non-actionable conduct. The submission was entirely responsive to the negligence pleaded in the children's petition and established at trial. We hold that the verdict directors did not constitute a roving commission.

"Historic" Liabilities

Defendants next fault the verdict-directing instructions as improperly permitting the jury to hold defendants liable for the release of lead and the operation of the smelter before defendants were partners, rather than properly limiting liability to conduct of the partnership and operation of the smelter during the period of time each particular defendant was a partner. Specifically, defendants point to the fourth paragraph of the verdict director, which asked the jury to consider whether the defendant allowed the children to be exposed to unsafe levels of lead "which originated from the smelter operations:" (1) "before April 5, 1989" for Massey; (2) "before March 26, 1994" for DRIH; and (3) "before May 26, 1990" for Fluor. (Emphases added). Essentially, defendants view the instructions as "open ended." In defendants' view, by simply stating "before" and then giving the ending date of each defendant's partnership interest, the instruction permitted the jury to hold defendants responsible for any conduct occurring and any lead emitted at any time before the stated date, including the time before defendants were partners. Defendants assert the instructions should have included both the beginning and the ending dates of each defendant's respective partnership interest, and expressly referred to conduct between those dates.

Defendants' argument – that they are being held responsible for conduct predating their time in the partnership – strikes a familiar refrain that we have already addressed. Although the instructions could have been more artfully drafted to include the beginning date of each defendant's partnership interest, we cannot conclude that the instructions permitted the jury to hold defendants responsible for the release of lead and operation of the smelter before they were partners. Why would we conclude that the jurors imposed

pre-partnership liability when defendants failed to point to any argument where children's counsel requested such? Rather, children's counsel focused his argument on the defendants, as partners, and their knowledge of the contamination, their appreciation of the danger of lead, and their deceit and failure to reasonably act given these circumstances. We also note that defense counsel in his closing argument repeatedly reminded the jury, without objection, to focus on the partnership periods. Most critically, as we discussed earlier, the verdict directors, in the second and third paragraphs, cautioned the jury to assess each defendant's conduct and liability while a partner. Given all these circumstances, we hold that the verdict directors, when viewed in their entirety, effectively limited liability to the time of each defendant's respective partnership interest.

To conclude, the trial court did not err in submitting the complained-of partner verdict directors. We deny defendants' points, and turn to their allegations of error with respect to punitive damages.

Punitive Damages

Defendants challenge the submissibility of the children's claim for punitive damages. They also assign error in the verdict directors submitting the issue of punitive damages to the jury.

The children sought separate punitive-damage awards against each defendant. They sought punitive damages against Fluor based on Fluor's own knowledge and conduct. They sought punitive damages against Massey and DRIH based on the knowledge and conduct of the partnership.

Submissibility

Defendants allege the trial court erred in denying their motions for directed verdict and for judgment notwithstanding the verdict with respect to the children's claim for punitive damages. Defendants contend the children failed to demonstrate conduct that would justify punitive damages. They argue that the alleged negligent conduct here – "allowing" children to be exposed to lead – is simply not tantamount to the intentional wrongdoing necessary to support punitive damages.

As to Fluor, defendants argue that Fluor was only a partner for one day, and maintain that the children did not show any conduct during that day that could support punitive damages. They argue that there was no evidence that any lead emitted on that day injured any child, and thus insist that the children's claim for punitive damages against Fluor was based on the historical activities of the smelter, with little regard to the actions of Fluor or the period of Fluor's partnership. Defendants argue that the only possible act on that one day that could constitute the culpable mental state necessary to justify punitive damages would be Fluor's failure to buy homes or relocate the smelter – and defendants argue that the children provided no authority, other than the testimony of Dr. Fisher, that Fluor had any legal duty to buy out the smelter's neighbors. They contend that "allowing" the neighbors to remain in their homes hardly qualifies as the kind of "outrageous, officious" conduct sufficient to warrant punitive damages.

As to Massey and DRIH, defendants insist that because the children chose to submit separate punitive-damage claims against Massey and DRIH, rather than a joint submission, then the children were required to prove separate culpability of each defendant. They contend that the children presented no evidence of actionable

misconduct by Massey and DRIH. Indeed, defendants frequently note that Massey and DRIH were "inactive," "silent," "passive" partners, which were not involved in the smelter's day-to-day operations. Defendants further argue that even if Missouri law permits punitive damages to be assessed against Massey and DRIH based on the partnership's conduct, the children still failed to make a submissible case because they failed to show conduct during the respective partnership periods that could support punitive damages. Defendants argue that the partnership could not have reasonably been held to have known that its conduct during the five months of Massey's partnership was creating a high risk of injury because the blood levels during that time were "far below" the level the CDC considered elevated. Defendants also argue that Doe Run was in compliance with the implementation plan in place, in an attempt to reduce lead emissions, which belies the notion that the partnership was engaged in intentional wrongdoing during Massey's partnership period.

Defendants likewise argue that Doe Run's conduct during DRIH's partnership time does not justify punitive damages. They contend that the steps Doe Run took to address elevated blood levels, and its continued efforts to reduce lead emissions after the CDC changed the blood lead standard in 1991, all preclude a finding that the partnership exhibited the requisite mental state for punitive damages. They contend that Doe Run's many actions refute any notion of complete indifference or conscious disregard on the part of Doe Run. They tout their outreach to the community, and their efforts to raise awareness about the blood lead levels, the dangers of lead, and the ways to reduce lead risks to children. They also refer to their efforts to address emissions and counteract the effects of prior lead emissions with such programs as the soil-remediation program, the

free vacuums, and the home-repurchase program. And they cite their compliance with the state implementation plans and regulatory requirements, their ongoing cooperation with regulatory authorities in addressing environmental matters, and their persistent efforts to meet the national ambient air quality standards. Citing to *Alcorn*, they argue that punitive damages are simply not available against a party that complied with an ongoing regulatory program. *Alcorn v. Union Pac. R.R. Co.*, 50 S.W.3d 226 (Mo. banc 2001)(overruled on other grounds by *Badahman v. Catering St. Louis*, 395 S.W.3d 29 (Mo. banc 2013)).

"There must be some element of outrage to justify punitive damages." *Burnett v. Griffith*, 769 S.W.2d 780, 789 (Mo. banc 1989)(citing to Restatement (Second) of Torts, section 908(1) Comment b (1979)). Further, punitive damages require a willful, wanton or malicious culpable mental state on the part of the defendant. *Burnett*, 769 S.W.2d at 789. A plaintiff can establish this requisite culpable mental state by showing either that the defendant committed an intentional wanton, willful, outrageous act or that defendant acted with reckless disregard for the plaintiff's rights and interests. *Peel v. Credit Acceptance Corp.*, 408 S.W.3d 191, 209 (Mo. App. W.D. 2013); *Burnett*, 769 S.W.2d at 787. Plaintiffs must prove their claim for punitive damages by clear and convincing proof. *Rodriquez v. Suzuki Motor Corp.*, 936 S.W.2d 104, 110 (Mo. banc 1996). Thus, to make a submissible case for punitive damages, a reasonable juror must be able to conclude, from the evidence and the inferences drawn therefrom, that the plaintiff established with convincing clarity that the defendant's conduct was outrageous because of evil motive or reckless indifference. *Drury v. Missouri Youth Soccer Ass'n, Inc.*, 259

S.W.3d 558, 573 (Mo. App. E.D. 2008); *see also Gilliland v. Missouri Athletic Club*, 273 S.W.3d 516, 520 (Mo. banc 2009).

"Ordinarily punitive damages are not recoverable in actions for negligence, because negligence, a mere omission of the duty to exercise care, is the antithesis of willful or intentional conduct." *Hoover's Dairy, Inc. v. Mid-America Dairymen, Inc./Special Products, Inc.,* 700 S.W.2d 426, 435 (Mo. banc 1985)(internal quotation omitted). "But an act or omission, though properly characterized as negligent, may manifest such reckless indifference to the rights of others that the law will imply that an injury resulting from it was intentionally inflicted." *Id.* "Or there may be conscious negligence tantamount to intentional wrongdoing, as where the person doing the act or failing to act must be conscious of his conduct, and, though having no specific intent to injure, must be conscious, from his knowledge of surrounding circumstances and existing conditions, that his conduct will naturally or probably result in injury." *Id.* Punitive damages can be awarded in a negligence action when the defendant knew or had reason to know that a high degree of probability existed that the action would result in injury. *Hoover's Dairy,* 700 S.W.2d at 436.

Whether sufficient evidence exists to support an award of punitive damages is a question of law, which we review *de novo*. *Gilliland,* 273 S.W.3d at 520. In reviewing the submissibility of punitive damages, we view the evidence and all reasonable inferences drawn therefrom in the light most favorable to submissibility. *Id.* We disregard all evidence and inferences that are adverse thereto. *Drury,* 259 S.W.3d at 573. Only evidence that tends to support the submission should be considered. *Id.*

We first address defendants' claim that because the children submitted separate punitive-damage claims as to each defendant rather than a joint award against all partners, then the children were required to prove the separate culpability of each defendant.

Defendants provided no authority mandating proof of separate culpability. They rely principally on a federal case applying Missouri law, *Blue v. Rose*, 786 F.2d 349 (8th Cir. 1986). There, a federal court held that an award of punitive damages in one sum against partners was proper where the tortious act by one partner was committed within the scope of partnership authority and business. The court, however, did not hold that this was mandated. To the contrary, the court expressly recognized that "in some cases the evidence might support separate findings of punitive damages in varying amount against partners jointly sued and that the jury should be instructed accordingly." *Blue*, 786 F.2d at 353.

Indeed, defendants' proposition runs counter to well-established principles of agency and partnership law. As previously noted, in Missouri, all partners are jointly and severally liable for everything chargeable to the partnership. Section 353.150. And Missouri law holds a partnership liable for the acts of one of the partners in the ordinary course of the partnership's business or with the authority of his copartners. Section 358.130. This section expressly provides that the partnership is liable for "any penalty" that may be incurred. Section 358.130. Under Missouri law, punitive damages are intended as a penalty as their purposes is to punish and deter. *Rodriquez*, 936 S.W.2d at 110; *Alcor*, 50 S.W.3d at 248 (punitive damages are imposed as punishment for and deterrence of bad conduct). And Missouri recognizes that partners are vicariously liable

for punitive damages based on acts of their copartners done in the course of partnership business. *Rogers v. Hickerson,* 716 S.W.2d 439, 447 (Mo. App. S.D. 1986). Several other states have also so recognized. *See, e.g., Shetka v. Kueppers, Kueppers, VonFeldt & Salmen,* 454 N.W.2d 916, 918-19 (Minn. 1990); *Meleski v. Pinero Int'l Rest.,* 424 A.2d 784, 790-92 (Md. App. 1981); *Spencer v. Steinbrecher,* 164 S.E.2d 710, 716 (W.Va. 1968). This liability attaches even if partners did not participate in, ratify, or have knowledge of the activity giving rise to the award of punitive damages. *Rogers,* 716 S.W.2d at 447.

Given that the partnership is liable for penalties incurred by a partner for acts done in the course of the partnership's business, including punitive damages, and that partners are liable for everything chargeable to the partnership, proof of individual culpability is not required. Furthermore, separate instructions were especially warranted here, where Massey and DRIH were partners at different times.

Defendants' contention that the children did not prove conduct sufficient to support an award of punitive damages is unavailing. Defendants argue that their community outreach and their various programs to address emissions and counteract the effects of prior lead emissions all belie the notion that the partnership was operating with complete indifference and conscious disregard of the neighborhood children. Defendants did not raise this argument at the trial court, and therefore it is not preserved for appeal. Rule 72.01(a); *Johnson v. Allstate Indem. Co.*, 278 S.W.3d 228, 233 (Mo. App. E.D. 2009)(holding argument against submissibility not preserved for appeal because it was not raised as a specific ground in defendant's motion for directed verdict). Moreover, in citing evidence in their favor, defendants ignore our standard of review. We further note

that defendants' position now on appeal is directly contrary to that taken in their motions for directed verdict and for JNOV. In those motions, defendants expressly argued that there was no evidence that they were involved with any direct communications with Herculaneum residents at all, for any reason.

Defendants at trial, and now on appeal, protest that they certainly could not be subject to punitive damages when they were doing everything that was required by the EPA and the DNR. They contend that the partnership's ongoing cooperation with federal, state, and local authorities in addressing environmental matters precludes a finding that Doe Run exhibited the requisite mental state for punitive damages. Relying on *Alcorn*, they argue that punitive damages are simply unavailable against a party that complied with an ongoing regulatory program intended to address the very issues on which plaintiffs base their claims. In defendants' view, their purported conformity with the regulatory process negates any conclusion of intentional wrongdoing.

Alcorn is readily distinguishable on its facts. There, an Amtrak train collided with a car at a railroad crossing that had neither flashing lights nor a crossing gate. Union Pacific Railroad, the railroad which owned the tracks and crossing, had notice of serious sight obstructions and several near misses at the crossing. Nearly a year prior to the accident, the State identified the crossing as needing improvement. And three months before the Alcorn collision, the State authorized the railroad to perform a preliminary engineering plan and cost estimate for the crossing. Rather than spending its own money, the railroad waited for public funds to upgrade the crossing. The car passenger sued both Amtrack and Union Pacific. The jury awarded punitive damages against Union Pacific.

The Missouri Supreme Court reversed. In reaching its decision, the Court restated several factors that weigh against submission of punitive damages as circumstances in which (1) prior similar occurrences known to the defendant have been infrequent; (2) the injurious event was unlikely to have occurred absent negligence on the part of someone other than the defendant; and (3) the defendant did not knowingly violate a statute, regulation, or clear industry standard designed to prevent the type of injury that occurred. *Alcorn*, 50 S.W.3d at 248 (quoting *Lopez*, 26 S.W.3d at 160). The case turned on the last of these factors – compliance with the law and industry standards.[65] The Court noted that no clear evidence existed that the railroad knowingly violated an applicable regulation or statute by failing to upgrade the crossing. The Court also noted that the railroad was in the process of upgrading the crossing at the behest of the state, and there was no showing that the railroad failed to cooperate with the state in its efforts or that the railroad in any way violated an applicable regulation or resisted the regulatory process. In the end, the Court reasoned that conformity with the regulatory process negated the conclusion that the railroad's conduct was tantamount to intentional wrongdoing. *Alcorn*, 50 S.W.3d at 249.

Here, in contrast to *Alcorn*, the children presented a multitude of actions and inactions by the defendants to support their claim for punitive damages. Moreover, even though defendants maintain they were in compliance with regulatory programs, the children presented remarkable evidence to the contrary. According to the children's

[65] As to the first factor regarding prior similar occurrences, the Court noted that while serious sight problems existed and previous incidents occurred at the crossing, passive warning devices were in place that the railroad believed satisfied its duty to the public. As to the second factor regarding others' negligence, the Court noted that the jury found that 25 percent of the fault for Alcorn's injuries was attributed to Amtrak's negligence. Thus the Court did not consider whether this second factor weighed against submission of a punitive-damage claim. *Alcorn*, 50 S.W.3d at 248.

evidence, the defendants hid information from regulators, resisted regulatory changes, and never complied with industry standards for ambient air quality standards. The other two factors also weigh in favor of submissibility. There is a long history in this country of lead poisoning occurring from lead smelters; and the lead poisoning in this case would not have happened absent the defendants' negligence. We find *Alcorn* inapposite.

We hold that the children's claim for punitive damages was submissible against all defendants. The children presented sufficient clear and convincing evidence that Fluor, as well as the partnership during both Massey's time and DRIH's time as a partner, acted with either evil motive or a reckless disregard for the children's interests, knowing that a high degree of probability existed that their actions would result in injury. The jury could find Fluor's actions outrageous, even on the one day it was a partner. Fluor, knowing that the lead emitted from the smelter was contaminating the surrounding neighborhood and poisoning the children, failed to sound an alarm. The partnership likewise knew the dangers of lead. They knew that the children were breathing in levels of lead in the air that violated federal standards, and they knew that the children were living amidst toxic dust and soil. They knew that the blood lead levels in the surrounding neighborhood were extremely high. Yet, knowing this, the partnership continued to release the toxins and hid the dangers and extent of contamination from regulators and the public. More than that, they misled the public. They delayed installation of emission-control measures. They did only token remediation programs. They refused to buy out homes. They deflected blame and responsibility to the parents. And their reason for doing so was readily apparent – the economic costs of being sued and of complying with government mandates. In short, the defendants placed their ability to turn a profit

above the well-being of children. We are neither offended nor surprised by the jury's conclusion. The jury could rightly find such actions outrageous.

We turn now to the instructions submitting the children's punitive-damage claims.

Instructions

The court, at the children's request, submitted a punitive-damage verdict director to the jury for each defendant.[66] The instructions were substantially similar, save for the

---

[66] Each child used the same three verdict directors, the only difference being the insertion of the particular child's name. The verdict director submitting the claim for punitive damages against Fluor reads:

> If you find in favor of plaintiff (---) and against defendant Fluor Corporation under Instruction Number ___ [domination compensatory verdict director for the particular child] and ___ [partner compensatory verdict director for the particular child], and if you believe that:
>
> First, defendant Fluor Corporation allowed plaintiff (---), a resident of Herculaneum, to be exposed to unsafe levels of lead which originated from the smelter operations before March 26, 1994, and
>
> Second, before March 26, 1994, defendant Fluor Corporation knew or had information from which it, in the exercise of ordinary care, should have known that such conduct created a high degree of probability of injury, and
>
> Third, defendant Fluor Corporation thereby showed complete indifference to or conscious disregard for the safety of others,
>
> then in Verdict _, you may find that defendant Fluor Corporation is liable for punitive damages.
>
> You may consider risk of harm to others in determining whether defendant Fluor Corporation's conduct showed complete indifference to or conscious disregard for the safety of others.
>
> If you find that defendant Fluor Corporation is liable for punitive damages in this stage of the trial, you will be given further instructions for assessing the amount of punitive damages in the second stage of the trial.

The verdict directors submitting the claims for punitive damages against Massey and DRIH are the same, save for the company name and applicable date. They read:

> If you find in favor of plaintiff (---) and against defendant A.T. Massey [DRIH] under Instruction Number ___ [partner compensatory verdict director for the particular child], and if you believe that:
>
> First, the Doe Run Company Partnership allowed plaintiff (---), a resident of Herculaneum, to be exposed to unsafe levels of lead which originated from the smelter operations before April 5, 1989 [March 26, 1994], and
>
> Second, before April 5, 1989, the Doe Run Company Partnership knew or had information from which it, in the exercise of ordinary care, should have known that such conduct created a high degree of probability of injury, and
>
> Third, the Doe Run Company Partnership thereby showed complete indifference to or conscious disregard for the safety of others,
>
> then in Verdict _ , you may find that defendant A.T. Massey [DRIH] is liable for punitive damages.

defendant's name and respective partnership date. The instruction for Fluor was based on the knowledge and conduct of Fluor; the instructions for Massey and DRIH were based on the knowledge and conduct of the partnership.

Defendants fault all three verdict directors, and thus claim the trial court erred in submitting those instructions. They first criticize all three instructions for the use of the term "allowed," and for directing the jury that they could find the defendants liable for punitive damages if they found the defendant "allowed" the plaintiff to be exposed to unsafe levels of lead. Defendants repeat the same argument as they did with the compensatory-damage verdict directors, contending they were roving commissions. They maintain that the instructions should have posited specific conduct or acts on which punitive damages could be based. We have already addressed and rejected this argument.

The defendants next fault the instructions as permitting the jury to impose punitive damages on defendants for activities and lead emissions at the smelter that predated defendants' participation in the partnership. Defendants failed to develop an argument in support of their complaint, advancing only a conclusory argument, which simply references their previous argument with regard to the compensatory-damage verdict directors. Moreover, defendants speculate that the punitive-damage verdict directors are not limited to the activities and emissions for which they are responsible. But this argument ignores the explicit limitation that existed in the compensatory-damage verdict directors that limited defendants' liability to negligence during the respective

---

> You may consider risk of harm to others in determining whether the Doe Run Company Partnership's conduct showed complete indifference to or conscious disregard for the safety of others.
>
> If you find that defendant A.T. Massey [DRIH] is liable for punitive damages in this stage of the trial, you will be given further instructions for assessing the amount of punitive damages in the second stage of the trial.

partnership periods. The punitive-damage verdict directors referenced their corresponding compensatory-damage verdict director, and the jury received those instructions at the same time. Further, the jury was told to only consider the defendants' liability for punitive damages after concluding that they bore responsibility for actual damages. And, of course, we view the questions of error and prejudice by considering the instructions as a whole, not by parsing the separate phrasing of each instruction. Defendants point to nothing in the record, by way or argument or a question from the jury, that would cause us to conclude that the jury considered conduct for which the defendants bore no responsibility in assessing punitive damages. We deny this contention as well.

Defendants next fault the instructions for Massey and DRIH as permitting the imposition of separate punitive damages on Massey and DRIH based on conduct of the partnership instead of requiring the jury to find that the individual defendants themselves each engaged in conduct supporting the imposition of punitive damages. We have already addressed defendants' contention that because the children pursued separate punitive-damage awards against each defendant, they were required to prove the separate culpability of each defendant. For those same reasons, we deny defendants' allegation of instructional error.

Reversal of Punitive Damages Awarded Against Fluor

Despite our holdings, we must reverse the punitive damages awarded against Fluor because the instructions required the jury to consider undifferentiated conduct, and we cannot conclude that the jury's finding of liability was based solely on Fluor's conduct as a partner.

The children submitted their punitive-damage claim against Fluor based on the conduct of Fluor both as a partner and as a dominating principal.[67] The punitive-damage verdict directors referenced Fluor's liability for actual damages under both theories, requiring the jury to have found Fluor liable on both the partner claim and the domination claim in order to find Fluor liable for punitive damages. In setting out the elements necessary for punitive damages, the verdict directors did not distinguish between Fluor's conduct as a dominating principal and its conduct as a partner. The instruction further required the jury to find that Fluor "thereby" showed complete indifference to or conscious disregard for the safety of others. Read in context, this "thereby" can only refer to Fluor's undifferentiated conduct as a partner and as a dominating principal. Moreover, the instruction referred to the ending date of the Doe Run Company partnership – March 26, 1994. The instruction did not refer to the one day Fluor was a partner. Although Fluor's time as a partner is encompassed by the phrase "before March 26, 1994," the instruction directed the jury to consider conduct beyond Fluor's time as a partner. Thus, the instruction directed the jury to consider Fluor's undifferentiated conduct as a partner and as a dominating principal in finding Fluor liable for punitive damages. We presume the jury followed the instructions.

Our reversal of the punitive-damage awards is necessary because of the failure of the verdict directors to distinguish between Fluor's liability as a dominating principal and its liability as a partner. [68] We have struck the domination claim as based on an incorrect

---

[67] The punitive-damage verdict director is set out on page 150, at footnote 66.

[68] The punitive-damage assessment instruction also failed to distinguish between Fluor's conduct as a partner and its conduct as a dominating principal. The jury was instructed:

> In addition to any compensatory damages you assessed in Verdict [compensatory verdict], you may assess against defendant Fluor Corporation an additional amount as punitive damages in such sum as you believe will serve to punish defendant Fluor Corporation for the conduct for which you found that defendant Fluor

statement of agency law. As a result, Fluor's liability for punitive damages is predicated on Fluor's conduct as a partner. But, given instructions requiring the jury to consider undifferentiated conduct, we cannot conclude that the jury would have found Fluor liable for punitive damages based only on Fluor's conduct as a partner. Although we have found children's partner theory and the issue of punitive damages submissible against Fluor, given the instructions submitted, this does not equate to a finding of liability for punitive damages. And we cannot determine from the record whether the jury would have found liability for punitive damages based solely on the partner theory. We therefore must reverse the punitive-damage awards and remand to the trial court for further proceedings. We acknowledge that the evidence to be adduced on remand is likely to be much the same as that adduced at trial. In establishing Fluor's liability for punitive damages under the partner theory, the children may adduce a broad range of evidence to establish Fluor's complete indifference to or conscious disregard for the safety of others. *See Charles F. Curry & Co. v. Hedrick*, 378 S.W.2d 522, 536 (Mo. 1964).

We find no infirmity as to the compensatory-damage award. The parties submitted the compensatory-damage instruction and verdict form to the jury without any request for apportionment among the defendants. Indeed, as partners, defendants are jointly and severally liable for torts committed by a partner acting within the scope and ordinary course of the partnership's business. Further, the instruction asked the jury to

---

> Corporation is liable for punitive damages and will serve to deter defendant Fluor and others from like conduct.
>
> You may consider risk of harm to others in determining whether defendant Fluor Corporation's conduct showed complete indifference to or conscious disregard for the safety of others. However, in determining the amount of any punitive damage award, you must not include damages for harm to others who are not parties to this case.
>
> If punitive damages are assessed against more than one defendant, the amounts assessed against such defendants may be the same or they may be different.

assess a single sum dependent on the children's injuries, not dependent on an individual defendant's conduct.[69] In assessing punitive damages, the jury considered both forms of Fluor's tortious conduct, and awarded a sum of money to punish that conduct. In assessing compensatory damages, however, the jury did not consider Fluor's conduct and the two theories of liability, but instead considered the actual damages the children did and would suffer, and assessed a sum of money to fairly compensate the children for that damage. The children were damaged from their exposure to unsafe levels of lead. As we have held, substantial evidence supported the partner theory as to all defendants. And we know, by virtue of the punitive-damage verdict director, that the jury found Fluor liable on the partner theory. Finally, defense counsel acknowledged in oral argument before this Court that one theory alone could uphold the compensatory-damage award against Fluor. In light of these circumstances, we affirm the compensatory-damage award as to Fluor.

Post-Trial Motions for Reduction of Awards

Following the jury's verdicts, the defendants unsuccessfully attempted to have the trial court reduce the compensatory damages, as well as the punitive damages.

---

[69] The court instructed the jury:

> If you find in favor of plaintiff [insert child's name] and against one or more defendants, then you must award plaintiff [---] such sum as you believe will fairly and justly compensate plaintiff [---] for any damages you believe he sustained and is reasonably certain to sustain in the future that his exposure to unsafe levels of lead directly caused or directly contributed to cause.

The verdict form, in part, read:

> We, the undersigned jurors, assess the compensatory damages of plaintiff [insert child's name] at $ _____.

Compensatory Damages: Remittitur

Defendants first argue that the trial court erred in denying their motion for remittitur of compensatory damages. Defendants claim the verdicts are excessive because they include an "enhancement" for lost earnings, as testified to by Hansen, and a component for "loss of IQ," as testified to by Rodgers. Defendants argue that Hansen's testimony lacked foundation and that Rodgers testimony was "speculative and unfounded."

Generally, the determination of damages is primarily for the jury. *Emery v. Wal-Mart Stores, Inc.*, 976 S.W.2d 439, 448 (Mo. banc 1998); *Delacroix v. Doncasters, Inc.*, 407 S.W.3d 13, 36 (Mo. App. E.D. 2013). However, if the trial court finds that the jury's verdict is excessive because the amount exceeds fair and reasonable compensation for the plaintiff's injuries and damages, the trial court may enter a remittitur order, reducing the damage award. Section 537.068.

The trial court enjoys broad discretion in deciding whether remittitur should be ordered. *Emery*, 976 S.W.2d at 448. We review for abuse of that discretion, and will interfere only when the verdict is so grossly excessive that it shocks the conscience of the court and convinces us that both the trial judge and the jury have abused their discretion. *Emery*, 976 S.W.2d at 448. We should exercise our power to interfere with the judgment of the jury and the trial court with hesitation and only when the verdict is manifestly unjust. *Fust v. Francois*, 913 S.W.2d 38, 49 (Mo. App. E.D. 1995). On review, we consider the evidence in the light most favorable to the trial court's order. *Badahman v. Catering St. Louis*, 395 S.W.3d 29, 39 (Mo. banc 2013). Here, this means we consider the evidence in the light most favorable to the verdict. *Id.* And we disregard any

contrary evidence. *Delacroix*, 407 S.W.3d at 36. This court does not weigh the evidence; therefore our inquiry is limited to determining whether the jury's verdict is supported by substantial evidence. *Id*.

No precise formula exists to determine whether a verdict is excessive. *Evans v. FirstFleet, Inc.*, 345 S.W.3d 297, 303 (Mo. App. S.D. 2011). Each case must be examined on its own facts. *Id*. Typically, courts examine a number of factors, including: (1) loss of income, both present and future; (2) medical expenses; (3) plaintiff's age; (4) the nature and extent of plaintiff's injuries; (5) economic considerations; (6) awards given and approved in comparable cases; (7) the superior opportunity for the jury and the trial court to evaluate plaintiff's injuries and other damages. *Emery*, 976 S.W.2d at 408.

Defendants do not address – or even set out – these factors. And they again ignore our standard of review, whereby we view the evidence in the light most favorable to the verdict. Defendants have thus failed to properly brief this issue. Defendants' argument is predicated on the rejection of evidence to which they raised no objection during trial. Essentially, defendants seek a reweighing of the evidence. Indeed, defendants spend the vast majority of their argument under this point restating their assertions that the complained-of testimony was speculative, full of conjecture, and lacking foundation. Defendants acknowledge that the amount awarded was within the range of the evidence presented by the children. Considering the factors set out above, and viewing the evidence favorable to the verdict, defendants have failed to show that the verdicts are manifestly unjust, such that the trial court abused its discretion in denying remittitur. The children presented ample evidence of the effects of their injuries on their

education and employability, demonstrating a loss of both current and future income. We deny this point.

Punitive Damages

Defendants pursued three avenues in their attempt to reduce or eliminate the punitive-damage awards: a motion for reduction of the awards as unconstitutionally excessive, a motion for remittitur, and a motion to amend the judgment.

We need not fully address the trial court's denial of defendants' motion to amend the judgment. Defendants by that motion sought to reduce the punitive-damage awards against DRIH, as being duplicative of the awards against Fluor. That request is now moot. Defendants on appeal also allege that the trial court erred in denying their motion because the punitive-damage awards against all defendants were duplicative of each other. Defendants contend that all three awards were based on the same conduct during overlapping time periods of smelter operations. Defendants did not seek relief on this ground in their motion to amend. The issue is therefore not properly preserved for appeal. We further note that defendants presented us with cursory and conclusory arguments, simply pointing this Court to other portions of their brief. It is not the function of this Court to go in search of a party's argument. Having failed to develop their argument, the defendants have abandoned the issue. We deny the point, and turn to the constitutional and statutory grounds for reducing the awards.

Constitutionality of Punitive-Damage Awards

Defendants contend the trial court should have reduced the punitive-damage awards as unconstitutional because the awards were so excessive that they violated their due-process rights. Defendants claim the awards are unconstitutional because they are

grossly excessive, they bear no reasonable relationship to defendants' conduct, they are substantially disproportionate to the compensatory-damage awards, they vastly exceed the amounts requested by the children, they are well beyond any punishment of which they may have had notice, and because they are unprecedented in Missouri law.

Punitive damages may properly be imposed on a tortfeasor to further a state's legitimate interests in punishing unlawful conduct and deterring its repetition. *BMW of N. Am., Inc. v. Gore*, 517 U.S. 559, 568 (1996); *Letz*, 975 S.W.2d at 177. Punishing a tortfeasor through an award of punitive damages is an exercise of state power that must comply with the Due Process Clause of the Fourteenth Amendment. *Honda Motor Co., Ltd. v. Oberg,* 512 U.S. 415, 434 (1994); *Letz*, 975 S.W.2d at 177.[70] And the Due Process Clause prohibits the imposition of "grossly excessive" or "arbitrary" punishments on a tortfeasor. *State Farm Mut. Auto. Ins. Co. v. Campbell*, 538 U.S. 408, 417 (2003); *Peel v. Credit Acceptance Corp.*, 408 S.W.3d 191, 211 (Mo. App. W.D. 2013). A grossly excessive punitive damage award violates a tortfeasor's substantive right of due process in that it furthers no legitimate purpose and constitutes an arbitrary deprivation of property. *State Farm*, 538 U.S. at 417; *Peel*, 408 S.W.3d at 211.

"Imposing punitive damages requires that a proper balance be struck." *The Fireworks Restoration Co., LLC v. Hosto*, 371 S.W.3d 83, 91 (Mo. App. E.D. 2012). "The award must be enough to ensure that the tortfeasor is adequately punished and

[70] The constitutional concerns are both procedural and substantive. *Letz*, 975 S.W.2d at 177. Procedurally, due process requires that adequate standards and controls be in place to prevent a punitive-damage award from becoming an arbitrary deprivation of property. *Barnett v. LaSociete Anonyme Turbomeca France*, 963 S.W.2d 639, 662 (Mo. App. W.D. 1997)(overruled on other grounds by *Badahman v. Catering St. Louis*, 395 S.W.3d 29 (Mo. banc 2013)). Proper jury instruction and review of a jury award by the trial court and an appellate court generally satisfies due process. *Letz*, 975 S.W.2d at 177. Substantively, a punitive-damage award cannot be so "grossly excessive" in relation to the state's interest in punishment and deterrence that it enters into the "zone of arbitrariness" that violates the Due Process Clause of the Fourteenth Amendment. *Id*; *Barnett*, 963 S.W.2d at 662.

deterred from future similar conduct; yet, the award must not be grossly excessive." *Id.* (citing *BMW*, 517 U.S. at 568). "No precise constitutional line or simple mathematical formula exists with regard to determining whether a punitive damage award is grossly excessive." *Peel*, 408 S.W.3d at 211. Each case must be assessed on its own facts. *Scott v. Blue Springs Ford Sales, Inc.*, 176 S.W.3d 140, 144 (Mo. banc 2005)(Teitelman concurring); *see also Estate of Overbey v. Chad Franklin Nat'l Auto Sales North, LLC*, 361 S.W.3d 364, 373 (Mo. banc 2012). To satisfy due process, the amount of punitive damages should reflect the extent of the defendant's offense and be related to the resulting actual or potential harm. *Letz*, 975 S.W.2d at 177 (citing *BMW*, 517 U.S. at 575). The United States Supreme Court has set out three guideposts, commonly referred to as the "*Gore* guideposts," when reviewing whether a punitive-damage award comports with due process: (1) the reprehensibility of the defendant's misconduct; (2) the disparity between the harm or potential harm suffered by the plaintiff and the punitive-damage award; and (3) the difference between the punitive damages awarded by the jury and the civil penalties authorized or imposed in comparable cases. *BMW*, 517 U.S. at 574-75; *Estate of Overbey* 361 S.W.3d at 372. We review the trial court's determination of the constitutionality of the punitive-damage award *de novo*. *Hosto*. 371 S.W.3d at 91; *State Farm*, 538 U.S. at 418.

Defendants here do not separately address the awards, but instead address the awards against all defendants in the aggregate. In that respect, they have inadequately briefed this issue. Defendants have not provided us grounds to separately impugn the awards against Massey and DRIH. To the extent defendants do address the awards against Massey and DRIH, their argument is simply a rehash of their prior argument,

claiming that punitive damages were not warranted against these defendants because they were merely "passive" partners in the partnership, and during their respective partnership periods, the smelter purportedly operated in compliance with the state implementation plan approved by the State of Missouri and the EPA.

These shortcomings aside, given the constitutional implications we will nevertheless review the surviving damage awards against Massey and DRIH. The jury assessed three million dollars in punitive damages per child against Massey, and two million dollars per child against DRIH. Upon consideration of the Supreme Court's guideposts, we conclude that the awards pass constitutional muster.

The degree of reprehensibility of defendant's conduct is the most important indicium of the reasonableness of a punitive-damages award. *BMW*, 517 U.S. at 575; *State Farm*, 538 U.S. at 419; *Estate of Overbey*, 361 S.W.3d at 373. Punitive damages should reflect the enormity of the offense. *BMW*, 517 U.S. at 575. Some wrongs are more blameworthy than others. *Id*. For instance, "trickery and deceit" are more reprehensible than negligence. *Id*. at 576 (citing *TXO Prod. Corp. v. Alliance Res. Corp.*, 509 U.S. 443 (1993)). An incident that is recidivistic can be punished more harshly than an isolated incident. *BMW*, 517 U.S. at 577. Repeated instances of wrongful conduct can demonstrate that "strong medicine" is required to deter further repetition. *Id*. at 576-77. In assessing reprehensibility, we must consider whether: the harm was physical rather than economic; the tortious conduct evinced an indifference to or a reckless disregard of the health or safety of others; the conduct involved repeated actions or was an isolated incident; and the harm resulted from intentional malice, trickery, or deceit, or mere accident. *State Farm*, 538 U.S. at 419; *Hosto*, 371 S.W.3d at 92.

Again, the punitive-damage awards against Massey and DRIH are based on the partnership's knowledge and conduct. At this point, little else needs to be said in that regard. We find the partnership's conduct highly reprehensible. The harm suffered by the children was both physical and economic. Defendants' conduct was deceitful, involved repeated actions, and evinced an indifference and reckless disregard of the health and safety of the children. Defendants' claim on appeal that any reprehensibility factor is "minimal" ignores the evidence that the jury obviously accepted.

We turn, then, to the second *Gore* guidepost, and assess the relationship between the punitive-damages award and the harm that has either occurred or is likely to result from the defendants' conduct. The United States Supreme Court "has been reluctant to identify concrete constitutional limits on the ratio between harm, or potential harm, to the plaintiff and the punitive damages award." *State Farm*, 538 U.S. at 424; *Peel*, 408 S.W.3d at 410. No rigid benchmarks or mathematical formulas exist. *State Farm*, 538 U.S. at 424-25. Rather, the precise award in any case "must be based on the peculiar facts and circumstances of the defendant's conduct and the harm to the plaintiff." *State Farm*, 538 U.S. at 425; *Estate of Overbey*, 361 S.W.3d at 373. A reasonable relationship must exist between the award and the harm likely to result from the defendant's conduct as well as the harm that actually occurred. *TXO*, 509 U.S. at 460; *Letz*, 975 S.W.2d at 179. High-ratio punitive-damage awards are sometimes necessary in order to have a sufficient deterrent effect. *Scott*, 176 S.W.3d at 144 (Teitelman concurring)(citing *Kemp v. Am. Tel. & Telg. Company*, 393 F.3d 1354 (11th Cir. 2004)(upholding 2,172:1 punitive to compensatory ratio) and *Mathias v. Accor Econ. Lodging, Inc.*, 347 F.3d 672 (7th Cir. 2003)(upholding 37:1 ratio)). A compelling and strong state interest in deterring

environmental pollution may also warrant a large punitive-damage award, even in the absence of highly reprehensible conduct. *Johansen v. Combustion Eng'g, Inc.*, 170 F.3d 1320, 1338-39 (11th Cir. 1999)(upholding punitive-damage award one hundred times greater than compensatory award against mine operator where acidic water escaped and damaged nearby property).

Here, the jury awarded compensatory damages averaging $2,426,699 per child. The jury assessed three million dollars in punitive damages per child against Massey, and two million dollars per child against DRIH. Thus, the verdicts represent a ratio of punitive sanction to average compensatory award of 1.24-to-1 for Massey and less than 1-to-1 for DRIH, both relatively low ratios. Given defendants' egregious acts and the harm, both actual and potential, suffered by the children, we find the punitive-damages awards to be reasonably related to the compensatory-damage awards.

Lastly, we consider the third *Gore* guidepost and compare the punitive-damage awards and the civil penalties that could be imposed for comparable misconduct. The parties cite provisions of Missouri's air-conservation and hazardous-waste laws. Those provisions authorize fines up to $10,000 per day for air-pollution violations and up to $50,000 per day for hazardous-waste violations. Section 260.425.3(6) and 643.151.3. If defendants were penalized under these statutes, for a violation on each day of their partnership period, Massey would face a fine of 1.56 to 7.8 million. DRIH would face a fine of 18 to over 90 million dollars.

Defendants argue no Missouri precedent has allowed punitive-damage awards for what defendants maintain was "passive" behavior. Defendants are correct in one respect.

This case is unprecedented. No other case in Missouri involves the knowing poisoning of children over an extended period of time.

Considering all relevant factors, including the state's interest in deterring and punishing conduct such as that exhibited by defendants, we hold that the punitive-damage awards in this case is neither "grossly excessive" nor "arbitrary" and does not violate the Due Process Clause. We deny this point.

Remittitur of Punitive-Damage Awards

Lastly, defendants contend the trial court erred and abused its discretion in denying their motion for remittitur of punitive damages.[71]

"Generally, the decision to award punitive damages is peculiarly committed to the jury and the trial court's discretion, and the appellate court will only interfere in extreme cases." *Smith v. Brown & Williamson Tobacco Corp.*, 275 S.W.3d 748, 810 (Mo. App. W.D. 2008)(internal quotation omitted). Section 510.263 allows the trial court to order remittitur of punitive damages "based on the trial judge's assessment of the totality of the surrounding circumstances." As with a compensatory-damage award, the trial court has broad discretion to remit a punitive-damage award if, "after reviewing the evidence in support of the jury's verdict, the court finds that the jury's verdict is excessive because the amount of the verdict exceeds fair and reasonable compensation for plaintiff's injuries

[71] Remittitur and a constitutionally reduced verdict, though potentially achieving the same result, are in theory different. A remittitur is a substitution of the court's judgment for that of the jury regarding the appropriate award of damages. *Johansen*, 170 F.3d at 1331. The court orders a remittitur when it finds that the jury's award is excessive and unreasonable on the facts. *Id.*; Section 537.068. In other words, the court may order remittitur relief when the jury awards a verdict that is simply "too bounteous" under the evidence. *Moore v. Missouri-Nebraska Exp., Inc.*, 892 S.W.2d 696, 714 (Mo. App. W.D. 1994). A constitutional reduction, on the other hand, is a determination that the law does not permit the award. *Johansen*, 170 F.3d at 1331. Unlike a remititur, which is discretionary with the court, a court has a mandatory duty to correct an unconstitutionally excessive verdict so that it conforms to the requirements of the due-process clause. *Id.*

and damages." Section 537.068; *Hill*, 371 S.W.3d at 80. This Court will not disturb the trial court's decision to deny remittitur of punitive damages unless the trial court abuses its discretion. *Hill*, 371 S.W.3d at 80. The trial court will be said to have abused its discretion "when the punitive damage award is so disproportionate to the factors relevant to the size of the award that the award reveals improper motives or a clear absence of the honest exercise of judgment." *Call v. Heard*, 925 S.W.2d 840, 849 (Mo. banc 1996). As previously noted, the amount of punitive damages must somehow be related to the wrongful act and the resulting actual or potential injury, although there is no fixed mathematical relation between the amount of actual damages and the amount of punitive damages awarded. *Id*. "Only when the amount is manifestly unjust will appellate courts interfere with or reduce the size of a verdict." *Smith*, 275 S.W.3d at 810 (internal quotation omitted).

No bright-line test exists to determine if a punitive-damage award is excessive. *Barnett v. LaSociete Anonyme Turbomeca France*, 963 S.W.2d 639, 662 (Mo. App. W.D. 1997)(overruled on other grounds by *Badahman*, 395 S.W.3d at 40). We evaluate punitive-damage awards on a case-by-case basis. *Smith*, 275 S.W.3d at 810. Missouri courts have identified a nonexclusive list of factors to consider in determining whether the trial court abused its discretion in denying remittitur of a punitive-damage award: (1) the degree of malice or outrageousness of the defendants' conduct, which has been deemed a critical factor; (2) aggravating and mitigating circumstances; (3) the defendant's financial status, as an indication of the amount of damages necessary to punish the defendant; (4) the character of both parties; (5) the injury suffered; (6) the defendant's standing or intelligence; (7) the age of the injured party; and (8) the

relationship between the two parties. *Call*, 925 S.W.2d at 849; *Smith*, 275 S.W.3d at 811. On review, we view the evidence in the light most favorable to the trial court's decision. *Badahman*, 395 S.W.3d at 39.

Given our disposition, we need only address the trial court's denial of remittitur as to the punitive-damage awards against Massey and DRIH. Defendants in their motion argued for remittitur because Massey and DRIH did not operate the smelter, but rather were silent, passive partners. Defendants also claimed remittitur was warranted because the awards were unprecedented and more than requested. They complained that the award against Massey was based on improperly-admitted evidence of the financial condition of Massey's parent company.[72] Lastly, defendants boldly asked for remittitur because, simply, the children were not really hurt. They brazenly stated:

> The nature of Plaintiffs' alleged injuries also supports substantial remittitur of these punitive damage awards. Even accepting as true Plaintiffs' characterization of their own injuries, the objective evidence established that Plaintiffs are healthy, well-functioning members of society who have not suffered any debilitating injuries as a result of any Defendants' conduct.

We find no abuse of discretion in the trial court's denial of remittitur. The defendants knew of lead's danger, they knew they contaminated Herculaneum with lead dust. They hid the truth from the regulators. They misled the town about the children's peril. They caused grave and permanent injuries to the children. They did all this because of their pursuit of profits at any cost. We affirm the punitive-damage awards against Massey and DRIH.

[72] Defendants raised no point on appeal charging error on the part of the trial court in admitting this evidence. And the defendants lodged no objection to the evidence at trial.

Conclusion

We affirm the compensatory-damage awards, totaling $38,527,186, in their entirety. We affirm the punitive-damage awards of $48 million against Massey and $32 million against DRIH in their entirety. But we reverse the punitive-damage awards against Fluor. We remand the case for further proceedings.

Lawrence E. Mooney

LAWRENCE E. MOONEY, PRESIDING JUDGE

ROY L. RICHTER, J., and
KURT S. ODENWALD, J., concur.

APPENDIX A
Exposure History and Lead Level Testing Results for Children

Gabe Farmer: Gabe was born in January of 1986. He lived in Herculaneum from the time he was born until 1987. He returned in January of 1989, when he was three, and continued to live in Herculaneum through 1994.[73] Gabe was tested in March 1994, when he was 8 years old. His level was 9, almost five times the national average. This level would have been higher when Gabe was younger. The most likely levels of lead in Gabe's blood, from birth to age seven, were: 17.3, 19.7, 18.6, 31, 31.2, 28.2, and 17.[74]

Jeremy Halbrook: Jeremy was born in 1984, and moved to Herculaneum in October of 1986, when he was about 2 years old. He continued to live in Herculaneum through March of 1994. Jeremy was tested in October of 1995, when he was one month shy of his eleventh birthday. His level then was 12, six times the national average. Like Gabe, this level would have been higher when Jeremy was younger. The likely levels of lead in Jeremy's blood, starting at age two through age six, were: 20.9, 25.2, 22.1, 19.6, and 17.7.

Heather Glaze: Heather was born in 1987, and moved to Herculaneum in September of 1988. She lived in Herculaneum, right across street from plant, for two years, until August of 1990 when she moved away. She returned to Herculaneum when she was about seven years old. Heather was tested when she was between eight and nine

[73] Many children, like Gabe, continued to live in Herculaneum past March of 1994. Dr. Rodgers specified that date, however, because that was the end of the partnership period of ownership.

[74] Dr. Jill Ryer-Powder, a toxicologist, testified as to the most likely blood lead concentration for four children who did not have blood lead levels drawn before the age of seven: Gabe Farmer, Heather Glaze, Jeremy Halbrook, and Patrick Blanks. Dr. Ryer-Powder arrived at her values using a computer model called the Integrated Exposure Uptake Biokinetic Model, IEUBK for short, established by the United States Environmental Protection Agency. The user of this computer model inputs various environmental parameters, such as the concentration of lead in soil, air, water, and food, as well as the maternal blood lead level and the bioavailability of lead in dirt and dust. The model then calculates a likely blood lead level for children at specific age levels up through age 6.

years old. Her level then was 13.2, which Dr. Rodgers described as "very high" for a child of Heather's age. When one year old, Heather likely had a level of 16.5 or 27; and when two years old, she likely had a level of 18.3 or 30.2.[75]

Preston Alexander: Preston was born in June of 1989. His mother lived in Herculaneum while pregnant with him. Preston lived directly across the street from the smelter, from the time of his birth through 1994. Preston was tested two times in 1992, when he was between three and four years old. His levels then, for tests done two months apart, were 16.9 and 16.5. Preston was tested again when he was between six and seven years old. His level then was "very high," at 15.1.

Bryan Bolden: Bryan was born in June of 1989. His mother lived in Herculaneum while pregnant with him. Bryan lived in Herculaneum until September of 1990, when he was about 15 months old. He returned to Herculaneum three years later, in July of 1993, when he was four, and remained in Herculaneum through 1994. Bryan was tested twice in the fall of 1995, when he was between six and seven years old. His levels were 22.6 and 20, described by Dr. Rodgers as "extremely high" and ten times the national average. The levels would have been higher when Bryan was younger.

Nathan Davis: Nathan was born in November 1987. He moved to Herculaneum in May of 1989 and lived there through 1994. Nathan was first tested in 1992, when he was between four and five years old. His levels were 19, 20.5, 16, and 20. These "very high" levels would have been even higher during his toddler years, when lead levels would have peaked.

[75] The differences in results are attributed to Dr. Ryer-Powder running two models with two different soil sample levels. When using the higher level, the blood lead levels came out as 27 and 30.2.

Tiffany Bolden: Tiffany, the younger sister of Bryan, was born in May of 1990. Her mother lived in Herculaneum while pregnant with her. Tiffany left Herculaneum when four months old and returned in July of 1993, when she was three. Tiffany was first tested in October and November of 1995, when she about five-and-one-half years old. Her levels were 22.8 and 23 – "extremely high".

Ashley Shanks: Ashley was born in 1986, and moved to Herculaneum in August of 1991, when she a little less than five years old. She lived in Herculaneum through 1994. Ashley was tested in June of 1992, when she was six years old. Her level was 10.2, more than twice the national average.

Patrick Blanks: Patrick was born in July of 1990, and lived in Herculaneum through 1994. Patrick was not tested during the first seven years of life. Patrick's likely levels of lead, starting from birth through age seven, were: 19.5, 22.5, 21.7, 21, 18.3, 16.3, and 14.6.

Lauren Shanks: Lauren, the younger sister of Ashley, was born in 1990. She too moved to Herculaneum in August of 1991, when she was about 9 months old. Like her sister, she lived in Herculaneum through 1994. Lauren was tested in June of 1992, when she was twenty months old. Her level was 10.8, also more than twice the national average.

Isaiah Yates: Isaiah was born in September of 1992. He lived right across the street from plant from the time he was born through 1994. Isaiah was tested in March of 1994, when he was only eighteen months old. His level was 13, described by Dr. Rodgers as "very high."

Matthew Heilig: Matthew was born in August of 1994, after the partnership period, as were the four remaining children that follow. Matthew was tested in October of 1995, when he was only 14 months old. His level was 24.

Austin Manning: Austin was born in March of 1997. He moved to Herculaneum when he was three months old, and continued living there until 2002. Austin was tested in September of 2001, when he was between four and five years old. His level was 16.

Jonathan Miller: Jonathan was born in August of 1995. He moved to Herculaneum in January of 1999, when he was a little over four years old. Jonathan was tested ten months later, in November of 1999. His level was 14.

Jesse Miller: Jesse, the younger brother of Jonathan, was born in March of 1998. Like his brother, he moved to Herculaneum in January of 1999, when he was ten months old. He was tested in November of 1999. His level was 16.1.

Sydney Fisher: Sydney was born in July of 2000. Her mother lived in Herculaneum while pregnant with her. Sydney was tested in August of 2001, when she was thirteen months old. Her level was 18.

APPENDIX B
The Children's Diagnoses

As noted, each child was diagnosed with ADHD. There are three types of ADHD: (1) inattentive type only, where patients have problems with inattention only; (2) hyperactivity-impulsivity type only, which is rare; and (3) combined type, where patients have all the above - inattention, hyperactivity, and impulsivity. The combined-type of ADHD is the most common type of ADHD, and is the most pervasive and the most impairing. Dr. Rodgers opined that each child also suffered IQ loss due to their exposure to lead. In all, the children were diagnosed as follows:

Gabe Farmer:	moderate ADHD, predominantly inattentive type; adjustment disorder with some depressive mood symptoms; asthma
Jeremy Halbrook:	severe ADHD, combined type; developmental motor coordination disorder; learning disorder; asthma
Heather Glaze:	moderate ADHD, combined type; anxiety; depression
Preston Alexander:	ADHD, predominantly inattentive type; cognitive disorder; asthma
Bryan Bolden:	ADHD, combined type; asthma
Nathan Davis:	ADHD, combined type; asthma
Tiffany Bolden:	ADHD, combined type; asthma
Patrick Blanks:	ADHD, combined type; significant academic and cognitive deficiencies; memory performance weakness; neuropsychiatric disorder; anxiety disorder; depression; antisocial personality; insomnia; IQ loss
Ashley Shanks:	ADHD; anxiety

Lauren Shanks:	moderate ADHD, combined type; adjustment disorder with mixed anxiety and depressive mood symptoms
Isaiah Yates:	ADHD, predominantly inattentive type; adjustment disorder with depressive and mood symptoms; asthma
Matthew Heilig:	ADHD, combined type; significant academic and cognitive deficiencies; neuropsychiatric disorders, including mood disorder and depression; insomnia; psychosomatic illness manifesting as chronic headaches; sensorineural hearing loss; asthma; IQ loss
Austin Manning:	ADHD (diagnosis made from records after Austin's death). Tragically, Austin died in a house fire after moving away from Herculaneum.
Jonathan Miller:	mild ADHD, predominantly inattentive type
Jesse Miller:	severe ADHD, combined type; cognitive disorder; developmental motor coordination disorder; written expressive disorder
Sydney Fisher:	ADHD, combined type

APPENDIX C
Historical Background of Doe Run Partnership

The Doe Run partnership was formed in November of 1986. Prior to that time, in April of 1981, Fluor had acquired St. Joe Minerals Corporation.[76] St. Joe, now a wholly-owned subsidiary of Fluor, continued to operate the Herculaneum smelter as it had done for decades. Five years later, on November 1, 1986, St. Joe and Homestake Lead Company of Missouri formed a general partnership called The Doe Run Company. Over the life of the partnership, the two original partners transferred or sold all or part of their interest in the partnership. The transfers on the St. Joe side of the partnership are all to various subsidiaries – all within the Fluor corporate family. The first such transfer occurred nearly two years into the partnership, in October of 1988, when St. Joe transferred much of its partnership interest to its subsidiary Massey.[77] The partnership at this point thus consisted of partners Homestake, St. Joe, and Massey.

Five months later, Massey assigned all of its partnership interest to its wholly-owned subsidiary DRIH. The partnership at this point consisted of partners Homestake, St. Joe, and DRIH. On May 25, 1990, Fluor purchased Homestake's entire interest in the partnership. At this point, the partnership consisted of partners St. Joe, DRIH, and Fluor.[78]

---

[76] Specifically, Fluor's wholly-owned subsidiary, Fluor Acquisition Corporation, merged with St. Joe Minerals after acquiring all of the shares of stock of St. Joe Minerals. Fluor Acquisition Corporation was the surviving entity and was renamed St. Joe Minerals Corporation.

[77] Section 6.02 of the partnership agreement permitted a partner to transfer its interest in the partnership to any of its wholly-owned affiliates. An "affiliate" defined by partnership agreement as "any company which shall for the time being be directly or indirectly controlled by, or under common control with a partner."

[78] When Fluor acquired Homestake's interest, Fluor, Homestake, St. Joe, DRIH, and Leadco agreed to continue the partnership.

Later that same day, for tax purposes, Fluor transferred its newly-acquired partnership interest to its wholly-owned subsidiary, Leadco Investments, Inc. (Leadco). At this point, the partnership consisted of partners St. Joe, DRIH, and Leadco, all subsidiaries of Fluor.

Nearly four years later, in January of 1994, Leadco merged with St. Joe, with St. Joe as the surviving entity, leaving a partnership consisting of partners St. Joe and DRIH. Two months later, St. Joe bought out DRIH, leaving St. Joe, a wholly-owned subsidiary of Fluor, as the exclusive and sole owner of the smelter. Shortly thereafter, in April of 1994, Fluor sold all its stock in St. Joe to DR Acquisition Corporation.

Thus, during the eight-year life of the partnership, Fluor was a partner for part of one day (May 25, 1990); Massey was a partner for five months (October 31, 1988, to April 4, 1989); and DRIH was a partner for just under five years (April 4, 1989, to March 25, 1994). Although Fluor was a partner for only a short time, its subsidiaries in one form or another, be it wholly-owned or a tiered sub-subsidiary, were partners throughout the entire partnership period, from formation in 1986 to termination in 1994.

APPENDIX D
Summary of Fluor's Influence over the Partnership

A partnership committee ran the partnership until 1990. The committee consisted of six members, with each partner having the right to appoint up to three representatives to serve on the committee. Initially, all three St. Joe representatives on the partnership committee were St. Joe employees. That soon changed. By February of 1988, St. Joe had appointed three high-ranking Fluor officials to be its representatives: Leslie McCraw, then president of Fluor; Robert Guyett, the CFO; and Vincent Kontny, a high-ranking officer and later president of Fluor. The insertion of Fluor personnel into partnership committee roles, while not improper, signaled a change in Fluor's involvement with the partnership. Although not a partner until 1990, Fluor was extensively involved in partnership affairs prior to that time, to the exclusion of named partners St. Joe, Massey, and DRIH.

To begin, partner DRIH was essentially an entity and partner in name only. As noted in Appendix C, DRIH became a partner in April of 1989. DRIH was a newly-created entity, having just been created two weeks prior to becoming a partner in Doe Run. Massey created DRIH as a "wholly-owned subsidiary tax company," for the purpose of receiving the partnership interest. DRIH had no assets prior to acquiring the partnership interest. DRIH had no employees, no offices, no phones, and did not conduct any business other than acquiring the partnership interest from Massey. Defense counsel at trial admitted that DRIH had no employees and was not a smelter operator, and stated that the plaintiffs could have left DRIH out and "just sued Fluor." Of all the partnership committee meeting minutes produced at trial, not a single one refers to partner DRIH, the

partner with the largest partnership interest during the time period of April 1989 to January 1994.

DRIH is not the only entity and partner name absent from partnership minutes. From the fall of 1987 forward, minutes of the partnership committee meetings never mention St. Joe, even though it was a named partner through the end of the partnership in 1994. Instead, the minutes consistently and repeatedly refer to Fluor as being the partner. Others, including a Homestake representative and chairman of the partnership committee, also repeatedly referred to Fluor as part of the partnership. A business analysis, conducted in 1989 at the behest of the president of Doe Run, described the Doe Run Company as "a joint venture of Fluor Corporation and the Homestake Mining Company." Correspondence about partnership affairs flowed in and out of Fluor. Approval for partnership projects came from Fluor. In fact, Fluor's approval was always necessary – a partnership project could not go forward without Fluor's approval. Fluor received the partnership cash distributions. Fluor was the entity that informed Homestake about the transfer of partnership interests. Partners St. Joe, Massey, and DRIH are rarely, if ever, mentioned or involved in partnership matters.

Two letters written in 1989 by Les McCraw, president of Fluor, are especially telling of Fluor's involvement in the partnership. Writing the president of Homestake in January of 1989, shortly after St. Joe transferred part of its partnership interest to Massey, Mr. McCraw stated:

> We would like to confirm our prior discussion, in which we indicated that this transfer will not cause any changes in our prior or current operational, or partnership relationships, with respect to Doe Run or Homestake. Specifically, we have no plans to make any changes, as a result of this transfer, in our representation on the Doe Run Partnership or Finance/Audit Committees.

> I know we agree that the Doe Run Partnership has been a huge success, and we certainly would not cause any changes which might adversely affect what has been a winning formula.

Mr. McCraw wrote this letter on Fluor corporate letterhead, and signed it "Les McCraw, President." Mr. McCraw never indicated or referred to himself in any other capacity or position other than president of Fluor. Indeed, he held no other position. Professor Henry Ordower, in examining the letter, noted that Mr. McCraw's use of the pronoun "we" throughout the letter meant that he was referring to the corporation on whose letterhead it was written – Fluor.[79]

Mr. McCraw again wrote the president of Homestake in October of 1989, this time informing him that Paul Allen would be replacing Vince Kontny as a representative of St. Joe on the partnership committee. In so doing, Mr. McCraw announced a more "proactive role" on the part of Fluor, stating:

> "Subsequent events have convinced us that we need to take a more proactive role in the management of Doe Run."

Mr. McCraw again wrote this letter on Fluor corporate letterhead, and signed the letter as president of Fluor. In commenting on this letter, Professor Ordower again explained that in using the term "we," Mr. McCraw meant Fluor.

The partnership committee stopped meeting and ceased to exist in 1990, when Fluor acquired Homestake's partnership interests and then transferred that partnership interest to Leadco. At that time, partners St. Joe, Leadco, and DRIH executed an amended partnership agreement and agreed to make Leadco the managing partner of the partnership. Leadco purportedly had full direction and control of the conduct, business, and affairs of the partnership, subject to certain express exceptions. Or at least this is

[79] Again, Professor Ordower is a Professor of Law at St. Louis University School of Law who testified on behalf of the children.

what the newly-amended partnership agreement provided. However, Leadco was much like DRIH – an entity in name only. Created for tax purposes—to reduce Fluor's Missouri state income taxes—Leadco had no offices, no phones, and no employees. The children presented evidence that despite this designation of Leadco as managing partner, and despite the fact that Leadco, St. Joe, and DRIH were the named partners, Fluor continued to be extensively, if not exclusively, involved in running the partnership.

"100% Fluor" – that is how Fluor considered and represented the Doe Run partnership once it purchased Homestake's partnership interest. Fluor issued a news release at that time, headlined: "FLUOR BECOMES 100 PERCENT OWNER OF DOE RUN." The press release noted that the acquisition gave Fluor "full and controlling ownership of its lead investment." Jeffrey Zelms, president of the Doe Run Company, explained that the partnership committee became unnecessary and stopped meeting when Fluor acquired Homestake's interest because Fluor "became 100% owners of Doe Run … there was a partnership, but Fluor subsidiaries were the partners." Fluor represented itself as owning Doe Run on more than one occasion. Notably, in Doe Run's 1990 and 1991 reports to the Herculaneum community detailing the environmental performance of the smelter, Doe Run expressly stated: "In 1990, Fluor became the sole owner of The Doe Run Company."

Fluor not only considered itself the owner of Doe Run, it treated Doe Run as another subsidiary. In an October 1990 memo to in-house counsel and other Doe Run employees, Robert Guyett, Fluor's senior vice-president and chief financial officer, urged corporate treatment of Doe Run, stating:

> As an overall comment the partnership concept is not appropriate. Even though technically Doe Run is a partnership, our ownership is Corporate.

> Therefore, all our oversight, etc., should follow the more normal corporate form like our other operations (Massey and Fluor Daniel). …

He also referred to Fluor as being "Doe Run's corporate owner," and in concluding, stated: "Doe Run should be looked at as a Corporation."

The children presented evidence showing that Fluor controlled and kept a tight rein on Doe Run's budget. Jeffrey Zelms, president of Doe Run, was authorized to independently approve expenditures to a certain dollar amount without further oversight or authorization. After Fluor became a "100% owner," it lowered that dollar amount to just $200,000. Moreover, that partnership approval had to come from a representative of "Fluor Corporation" – not from a representative of St. Joe, Leadco, or DRIH, the named partners, but from a representative of Fluor. Professor Ordower noted that once Fluor purchased Homestake's interest, DRIH, Leadco, or St. Joe were never asked for and never authorized any expenditure. Rather, it was always Fluor that approved Doe Run's expenditures.

Lastly, others—such as employees of Doe Run—also considered Fluor as the entity in charge. In June of 1990, an employee of Doe Run sought clarification from Fluor on Fluor's goals for Doe Run. Professor Ordower noted that in all the documents he reviewed, he never saw Doe Run discuss St. Joe's goals for the partnership; he never saw any letter from Doe Run seeking advice from Leadco; he never saw any letter where Doe Run sought advice from, or discussed DRIH and its goals for the partnership. Professor Ordower further noted that of all the letters he saw from Doe Run, all were directed to Fluor. This correspondence included letters from Paul Allen who routinely and consistently reported to Fluor's president about environmental matters at the Herculaneum smelter. Professor Ordower explained that this was the type of information

Mr. Allen would tell the president of Fluor, because Fluor was responsible for the operation of the smelter.