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Chromium 6 in L.A.'s Water

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The Real ERIN BROCKOVICH

DEADLY CHROMIUM 6 IN L.A.'S WATER

by Janet Allen

At first appearance, hers might appear to be the typical story of rags to riches, anonymity to fame... with nearly 10 years of grueling hard work in between. But there is nothing typical about Erin Brockovich, whose name has become an international household word since the movie based on her life became a box office sensation.

As I approached her spacious, luxurious home nestled nonchalantly amongst the hills of a quiet Agoura suburb, the front entrance was scattered with television equipment and looked as if perhaps a sequel were being filmed. A Channel Four crew had taken over the living room, preparing for an interview that would follow mine. No doubt, with *Erin Brockovich* having been nominated for five Academy Awards, media were clamoring to showcase the real-life inspiration for Julia Robert's brilliant theatrical portrayal. Will the real Erin Brockovich please stand up?

But the significance of the movie *Erin Brockovich* extends way beyond celebrity appeal, commercial success, artistic merit, and even its reality-based storyline: a powerful corporation, Pacific Gas & Electric (PG&E), was ordered to pay $333 million in damages to settle a class action lawsuit by the residents of Hinkley, California for polluting their town, homes, and bodies with the deadly carcinogenic chemical, chromium 6 or Cr(VI).

Beyond portraying those who died from the contamination, and those who have yet to die, the film alerted millions of Americans that this problem was not just an isolated incident affecting strangers, but may in fact be lurking in their own backyards. Chromium 6, like Erin Brockovich and her employer, attorney Edward Masry, has reached celebrity status itself, lassoing public attention and revealing itself as a sinister stowaway in numerous water wells and aquifer systems throughout California.

"During our era at Hinkley, it was unbeknownst to me that there was a chromium 6 problem in the Los Angeles area," states Brockovich. "The issue was first raised for us when the Burbank-Lockheed contamination case came out; that is when I started becoming consciously aware of contamination in our own backyard. Then when the L.A. City Council and Laura Chick started looking into it and got test results showing numerous places throughout L.A. had a Cr(VI) problem, it was further brought to our attention."

Brockovich, dressed casually in blue jeans and a white T-shirt, glances frequently at Masry as she talks. "It's a concern for me that it's been covered up again by the Los Angeles Regional Water Quality Control Board, who I was aware of even during my era of Hinkley. It's disturbing that it was only after the movie *Erin Brockovich* was released, and the L.A. City Council and DWP had gotten involved, that the water board fessed up that there were about 200 potential point sources for hex chrome, which is now up to 410 point sources, and I wouldn't be shocked if they found more. That information didn't just develop; it's been sitting around, and somebody's just now doing something about it. Our suspicion is, they've probably known for 20 years or more. I think they've coughed up to Burbank-Lockheed being a contributor to Cr(VI) problems in the aquifers since the '60s.

"Today, it has been outlawed in the State of California in cooling towers," Brockovich continues, "but the damage is done. It's very obvious that lots of people in and around the Burbank area and L.A. are identifying little clusters of cancer."

Although the Burbank-Lockheed lawsuit is now being handled by another firm, Brockovich and Masry initially organized a couple of town hall meetings to discuss the matter with 400 to 500 local attendees. The team then spoke to the L.A. City Council last September, and at another town hall meeting in North Hollywood with Tom Hayden.

"My frustration," says Brockovich, "is hexavalent chromium is a poison, and it's not supposed to be in your water. It's just as if somebody said, 'Well, you have rat poison in your water at .66ppb.' People understand it, because they understand that rat poison is a poison. No one understands the connection between hexavalent chromium and poison. So we get lost in all the technicalities, science doesn't really know [the long-term implications], and people certainly do get confused. I want to get past all the technical B.S. that confuses the lay person."

Crash Course in Chromium

Brockovich is right. The articles I'd seen published on this subject were baffling, throwing out facts and figures like disheveled pick-up sticks that only a bona fide mathematician could arrange into an understandable system.

Chromium 3 (also known as trivalent chromium), is not a health threat. Its evil cousin is Chromium 6 (or hexavalant chromium), which contaminated Hinkley. Estimates of total chromium (C3 and C6 together), and percentages of chromium 6 in total chromium vary widely. There are "standards" and "public health goals," the first being a legal mandate for "maximum contaminant levels," and the latter being merely an unenforceable recommendation. Different standards are set by the county, the state, and the Feds. Involved are the DWP (Department of Water & Power), the EPA (federal Environmental Protection Agency), the DHS (state Department of Health Services), the OEHHA (state Office of Environmental Health Hazard Assessment), and the MWD (Metropolitan Water District), each player needing to fulfill individual, specific duties and exerting varying levels of power and influence.

So, to summarize: There is a 100ppb Federal standard and a 50ppb California state standard for total chromium, while OEHHA has recommended a public health goal of 2.5ppb. What's worse, there's no standard or health goal at all specifically for Cr(VI). In addition, government officials have been relying on unreliable data that Cr(VI) makes up only 7% of total chromium, yet testing done in recent years in L.A. and Central California by the DWP and the Dept. of Health Services determined it was really 50-100% of total chromium.

It's become a game of bouncing numbers and statistics around like badminton birdies between officials, politicians, and activists in front of a confounded public. Except in this bureaucratic ping-pong tournament, people's lives are at stake, and every ball hit out of bounds or slammed into the net could translate into cancer clusters and dying children.

Tom Hayden on Clean-Up

"You don't want to get caught up in this technical debate," remarked former Senator Tom Hayden, who is on the forefront of cleaning up Cr(VI) contamination in L.A. "All you need to know is that they don't have health standards, and they're not required to use health standards in telling you whether drinking water is good for you. They're called the Dept. of Health Services, not the Dept. of Balancing Health vs. the Economy, so when they speak, the public is entitled to believe that they're talking about health. The problem is that it's misleading to the public.

"Remember, the state law, the underlying statute, actually says, in evaluating and setting standards for allowable levels of chromium in the water supply, that officials are entitled to take into account economic and technical feasibility issues," Hayden continued. "They don't have standards that are based solely on public health. They calculate it on the basis of projections of what it would cost to remove all the chromium substances from water, different treatment facilities, and so on. They calculate it on the basis of what it would cost to shut down wells and obtain clean water. Based on these considerations, they simply ruled that the level of Cr(VI) in the water is 'acceptable,' a very vague term."

This explains why government agencies and health officials over the last couple of decades been reluctant to get aggressive on toxic chemicals in drinking water. "The deeper core reason is that water is essential to the economy, to business, commerce and growth," explains Hayden. "It is the key to development, subdivisions, the expansion of power, the expansion of Southern California, so tough health standards on drinking water are an impediment. The developers and their friends lobby strenuously in favor of more studies or more flexible standards. If you talk to any of these water officials or health officials, you'll find the first words out of their mouths are always, 'Let's not panic the public.'

"If you shut the wells, it's an inhibition on growth. We would not have known about this contamination without the movie and the press coverage, but the danger is that nothing will be done about it because it's too deep a problem. It's a circular process to keep the public drinking the water and minimize panic that would throw the system of growth and development off track."

Chromium 6 in Your Water

Exactly what are the current levels of Cr(VI) in tap water in L.A. county? It depends on who you talk to. According to testimony by DWP's general manager David Freeman before the City Council, "Under current approved testing, we have not detected any chromium in our customers' drinking water above 10ppb, which is one-fifth of the state standard" (but four times the public health goal). According to Mel Blevins, the court-appointed water master for the upper L.A. River Area, including most of the San Fernando Valley, levels range from zero in areas that receive only Owens Valley water (although it's higher in arsenic), to 6ppb in Thousand Oaks, 10ppb in San Fernando Valley ground water, and 12 to 15ppb in Burbank, where contamination from Lockheed, Allied Signal, ITT and 20 to 25 other industries-created local hot spots that in places reach as high as 200 to 300ppb. Areas in Ontario, Bellflower, and parts of central, south, and east L.A. have also measured hot spots. According to Blevins, water systems with higher levels of Cr(VI) are first blended with other sources before being delivered to customers in order to reduce concentrations to safer levels.

Yet talk to Brockovich, and it's a different story. She is bothered that levels of Cr(VI) are dismissed simply because they are below the set standard. "I personally for years have taken hexavalent chromium samples, and on certain occasions I too got levels in Hinkley residents' drinking water at 10ppb," she told the City Council. "I also retook those samples within hours of that sample, followed my labs very carefully, came back the next day and took samples, and got different readings. The next day I saw readings of .12ppm" (parts per million are much higher readings than parts per billion). Emphasizing that such supposedly low levels may be deceptive or inconsistent, Erin suggests: "We'd like to force them to look for contaminants frequently, weekly testing as opposed to quarterly, every contaminant and its mother can run through your system quarterly. I think you might catch a lot of problems more quickly and be able to prevent a much greater disaster. Hinkley could have been prevented."

Brockovich should know. "Pacific Gas & Electric used hexavalent chromium as an anti-corrosive rust inhibitor, running it through their system, then dumping the waste water into unlined ponds, which contaminated the aquifer. In the 1960s, it may have been the best product on the market, but there has to be corporate responsibility.

"PG&E had the technology, the manpower, and the money to make a difference, and they chose not to," she says. "They knew the Cr(VI) was there, they had the ability to stop it and clean it up; they didn't. That's the act that's wrong. Our intention has never been to destroy corporate America, but they do have a responsibility."

Sitting quietly until now, listening patiently while Erin took the lead, Ed Masry finally bursts forth with the vigor and passion of a man with a cause. He sounds like a prosecutor, opinionated and confident, and not afraid to pepper his statements with expletives and insults directed at the offending party.

"PG&E contaminated hundreds of millions of gallons of aquifer drinking water in this state. To this day, as we sit here, there's never been an administrative hearing, they have never paid one cent in fines, nobody has done a damn thing to them except Erin Brockovich bringing the case, spearheading it, and making them pay $333 million. But it wasn't the government who did that, and I think that's unfortunate."

Masry's got a bone to pick with water master Blevins. "Now, I would like Blevins to answer the question: When did he first know that there was Cr(VI) in our drinking water, the quantities, and why didn't he tell anybody? He should have gone to the court immediately and reported it."

"The state law actually says, in evaluating and setting standards for allowable levels of chromium in the water supply, that officials are entitled to take into account economic and technical feasibility issues." —Tom Hayden

The Other Point of View

Intrigued, I called Mel Blevins at his downtown L.A. office. A former senior engineer with the DWP for 42 years, and water master for the last 22, Blevins has dealt with regulatory, technical, and legal matters over his long career, teaching ground water contamination courses at USC and UCLA. A mild-mannered, friendly fellow, Blevins made some surprising statements, such as: "I don't think the government or anyone else is aware of chemicals that get in through the water supplies and what impact that might have."

Asked when he first learned about Cr(VI) in L.A.'s water., Blevins responded, "Maybe early August of 1999." At that time, the Dept. of Health Services required a special report called an "impaired groundwater source" that involved a "really detailed analysis of all the different kinds of chemicals that might be in the groundwater. And in the process, they came across the hexavalent chromium matter."

Blevins' felt the whole issue had been misrepresented and overblown in the public's minds. "The Erin Brockovich film, unfortunately, just misled people. And all of a sudden, everybody's believing everything's going to hell in their water supply, and it's not true."

Blevins stated that he didn't think the water from contaminated wells caused the Hinkley residents to develop health problems. When asked how he thought they got their health problems, he replied: "I'm not really sure, but it wasn't from drinking the water. I think that PG&E was close by, they used heavy concentrations of hexavalent chromium in their cooling towers, and some of the air and the gases around could have been part of the package as well."

Chromium 6 Research

Blevins seemed to be disturbingly unaware of the vast body of medical research that has been conducted on the effects of Cr(VI) on the human body. I pored over a 70-page paper sent to me by Pankaj Parekh of the EPA in Washington D.C., entitled "Toxicological Review of Hexavalent Chromium," dated August 1998. Parekh states that it was "used by the EPA scientific body to evaluate chromium 6 in drinking water to come up with a recommendation of a health goal of 100ppb." Section 7, titled "References," covers pages 51-64 and is an alphabetical listing of 174 independent studies on the effects of chromium on human health. Shouldn't the head of the Chromium Task Force have known about these?

One study in the EPA's report in particular caught my eye. Zhang and Li's 1987 "cross-sectional study of 155 villagers reported the effects of environmental contamination of well water adjacent to a chromium alloy plant. Reported effects at this dose (20mg/L) included oral ulcers, diarrhea, abdominal pain, indigestion, vomiting, leukocytosis, and presence of immature neutrophils."

In addition, a 1997 research study entitled "Toxicity and Carcinogenicity of Cr(VI) in Animal Models and Humans," pages 431-442, published in Critical Reviews in Toxicology, also examined the ingestion of Cr(VI). "There are reports to suggest that environmental exposure to Cr leads to adverse health effects. For example, a fourfold increase in leukemia in Woburn, MA, was attributed to children consuming hexavalent Cr in the drinking water at levels two times above the state drinking water standard of 50ppb."

The paper went on to indict chromium 6 in a number of cancers, citing "suggestive evidence that hexavalent Cr

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