

PRELUDE

Crystal Geyer Water Company proposes to discharge “blowdown” water from its Project’s evaporative cooling towers that are to be located near the northeast corner of its bottling plant. Cooling tower water gets too concentrated with minerals during use to be recycled many times, gets dirty from dust that is absorbed during use, must be protected from corroding the metal pipes, must prevent scaling and biofilms (scum) that can clog pipes and equipment, and must have toxic biocides added to prevent air-borne Legionella disease from spreading in the neighborhood.

Crystal Geysers proposed in its 2017 EIR that it might use “Dolphin” type cooling towers which it claims do not need anti-scaling chemicals. But Crystal Geyer never disclosed how it would deal with and dispose of corrosion-inhibitor chemicals or biocide toxins in its cooling tower blowdown waters. Presumably, now that CGWC has announced it wants to discharge these blowdown waters to the City’s sewer system, these chemicals and toxins will become the City’s liability.

There are no mitigations in this EIR to require CGWC’s continued use of “Dolphin”-type cooling tower equipment. Such equipment has been known by some professionals in the field to be unreliable or to fail and be replaced by conventional chemical-based treatment systems.

(<http://hvac-talk.com/vbb/showthread.php?683791-Putting-the-Dolphin-to-Sleep-Once-and-For-All!>)

(<http://hvac-talk.com/vbb/showthread.php?70918-Dolphin-chemical-free-water-treatment/page2>)

It was the corrosion-inhibitor called hexavalent chromium (chrome 6) that caused the widespread disease and groundwater pollution in the infamous case against PG&E that led to Hinkley, CA practically becoming a ghost town in the following years.

This is that story made widely known by the movie in 2000, “Erin Brockovich”:

"ERIN BROCKOVICH" **(ANDERSON v PACIFIC GAS & ELECTRIC)**

"ERIN BROCKOVICH"
(ANDERSON v PACIFIC GAS & ELECTRIC)

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ONLINE AT:

http://www.awesomestories.com/movies/erin_brockovich/erin_brockovich_ch1.htm

PREFACE

*Mr. Masry's office has done an incredible job.
I don't know where he got this stuff,
ferreting out information
for the past several months
that will make your hair stand up on edge.*

*Walter Lack
January 4, 1994*

Pacific Gas & Electric (**PG&E**) was in trouble. Serious trouble. Four decades after the world's largest utility started dumping 370 million gallons of cancer-causing chemicals into unlined ponds in Hinkley, California, the company's actions had finally been uncovered. Uncovered by **Erin Brockovich** (a formerly unemployed, single mother of three working in a California law firm) who wanted to know what medical records had to do with a real estate file. What she found out led to the biggest settlement on record for a civil class action lawsuit.

CHAPTER 2
DEATH AND DESTRUCTION IN THE MOJAVE

Many people and domestic animals in the high desert town of Hinkley, California were getting sick. Some had died. Since residents depended on the local groundwater supply for all their needs, were the illnesses somehow related to PG&E's Gas Compressor Station located nearby?

On December 7, 1987 officials from the company advised the State of California they had detected levels of **hexavalent chromium** (chrome 6) in a groundwater monitoring well north of the compressor station's waste water ponds. The levels were ten times greater than the maximum amount allowed by law.

Known as a cancer-causing chemical since the 1920s, chrome 6 is especially dangerous to **lungs**. Since many of the Hinkley residents were reporting respiratory problems, a link to chrome 6 contamination seemed possible.

After PG&E reported the pollution to the government, company officials started a program to buy every piece of property in the community thought to be affected by the pollution. (That's what medical records had to do with real estate transactions.) It wasn't

long before PG&E had 75% of those houses and buildings destroyed. The company reported it was merely responding to vandalism.

CHAPTER 3 - MISLEADING STATEMENTS

PG&E distributed flyers discussing the company's use of "chromium" to local residents. Nowhere in the flyer was there any mention of the type of chromium PG&E had used. In fact, one could make a strong case that carefully selected words were deliberately misleading:

Chromium occurs in two forms. The form that is present in groundwater can cause health effects in high doses. The cleanup program, however, will result in chromium levels that meet the very conservative drinking water standards set by the EPA. In addition, the form of chromium that will be left on soils after irrigation is nontoxic. In fact, chromium in this form is a naturally occurring metal that is an essential ingredient in the human diet, one that is often included in multiple vitamin/mineral supplements.

Reading these words, one could reasonably think PG&E's hexavalent chromium was almost beneficial. As the plaintiffs' trial brief wryly commented, the flyer might have invited a person to "sprinkle some on your morning cereal."

Failure to properly identify the dangerous type of "chromium" it had dumped into the environment wasn't PG&E's only omission. The flyer made it sound like detection of contamination at the compressor station was a new development. It wasn't. PG&E first knew about plant contamination by at least 1965.

CHAPTER 4 – 22 YEARS LATE

PG&E records revealed people at the company were concerned about chrome 6 contamination of Hinkley's groundwater "by at least the summer of 1965." (Plaintiffs' Trial Brief)

Investigating what PG&E officials knew about the contamination - and when they knew it - Fox TV (local channel 11) ran a series on May 23, 24 and 26, 1994. Here is part of the verbatim transcript contained in the court's file for the May 23rd report:

Fox Reporter: *What did PG&E know and when did officials know it?*

[PG&E Representative]: *It wasn't discovered until 1987 when, through a routine environmental survey, which we do on all our sites such as this, the Company discovered it.*

Fox Reporter: *But this man, Victor Moore, worked at the Hinkley plant for more than 32 years and he says that a fellow worker found the contamination in 1965, across the street from the plant.*

The Fox Reporter then relates additional investigation results:

***Fox Reporter:** We wanted to talk to Moore's co-worker but the man has died of cancer. However Fox News has obtained PG&E test data on that same well, and it seems to back up Moore's claim. It shows that in September, 1965, PG&E found levels up to 400 times the EPA's current safety standard, and answers from a top PG&E official under oath for the current lawsuit, bolster that 1965 discovery date.*

Trying to understand this apparent inconsistency, the Fox Reporter pressed the issue:

***Fox Reporter:** We asked [the PG&E official] to explain that apparent 22-year contradiction.*

He says PG&E senior management wasn't told until 1987.

In other words, PG&E officials in Hinkley knew about the extraordinary levels of chrome 6 contamination, but senior management in San Francisco didn't?

The suggestion that senior management in San Francisco didn't know what was happening at Hinkley for 35 years is the biggest lie of all. (Plaintiffs' 6/6/94 Trial Brief)

Based on the evidence, high levels of chrome 6 contamination found in 1987 could not have been a surprise to the company, notwithstanding whether senior management knew. People and animals who lived in the area had been **breathing**, **ingesting**, and **absorbing** dangerous toxins into their bodies for decades.

Why did PG&E use so much chrome 6 at the Hinkley Compressor Station? And how did that chemical travel from plant facilities into the bodies of people who lived nearby?

CHAPTER 5 - THE COMPRESSOR STATION

Hinkley is located in the **Mojave Desert**, near the town of **Barstow**, California. It is not far off the famous **Route 66**, about 150 miles from Las Vegas. Surrounded by **beautiful scenery**, Hinkley is an important point on PG&E's natural gas pipeline as it travels from Texas to California.

The purpose of the Hinkley Compressor Station is best described by PG&E in the flyer it gave to neighbors of the plant.

The Hinkley Compressor Station was built in 1952 as part of the pipeline system that brings southwest natural gas to PG&E's service area. These PG&E gas lines serve Barstow and the surrounding area by delivering gas to Southwest Gas Company. The Station compresses one third of the natural gas required by PG&E's customers in northern and central California.

The purpose of the Compressor is to boost pressure and to send the natural gas northward. As part of the plant's operation, heat is generated during the gas compression process, and the heat is removed with cooling water. The water, in turn, is cooled by the passage through cooling towers."

Although this process sounds straightforward, operating just like thousands of other facilities with cooling towers around the world, PG&E did something else. Gas compression generates heat. That means the gas and the compressors have to be cooled with circulating water which, in turn, passes through cooling towers. To keep its cooling towers from corroding too fast, PG&E added a "corrosion inhibitor" to the cooling water from the day it first operated the plant. That **corrosion inhibitor** was chrome 6.

When the cooling water became saturated with undissolved solids (like chrome 6), PG&E discharged some of it into unlined earthen ponds located at the compressor station. That wastewater is referred to as "**blow down cooling water**." The amount of toxins contained in PG&E's completely unpurified blow down cooling water is shocking.

Even more shocking were the amounts of residue left on the soil after PG&E sprayed contaminated wastewater into the air. After the water dried, soil-containing chrome 6 was free to blow in the wind where it could be inhaled by living things.

CHAPTER 6 - TONS OF CHROME 6

In the flyer PG&E distributed to neighbors of the compressor station, the company talks about adding chromium to the cooling process:

Small amounts of chromium were commonly added by industries to cooling towers to prevent corrosion and scaling.

"Small amounts" wouldn't cause neighbors who owned ranches and dairy farms to worry much. But here is how the plaintiffs' trial brief describes actual amounts used by PG&E:

By 1966 an estimated 65 tons of chromate-based corrosion inhibitors were discharged into the unlined ponds

while the Sun's High Desert Bureau relates what those levels actually meant to the people breathing the air and ingesting the water:

A biochemist said concentrations of highly toxic chromium VI in the groundwater basin reached peak levels of 1,000 to 5,000 times the safe limit for drinking water and more than 50,000 times the safe level for inhalation.

PG&E didn't line the ponds until 1972. The company sent 750,000 additional gallons of chrome 6 wastewater every month to the ponds for another six years.

Once the toxic material was in the unlined ponds, there was nothing to stop it from migrating to the wells that supplied nearby homes, farms and ranches.

CHAPTER 7 – PG&E POISONS THE GROUNDWATER

What happened to the chrome 6 once it was discharged to the unlined ponds or sprayed onto the soil? Following the normal process of nature, called the "**hydrologic cycle**," the toxic material (now called "the plume") was free to travel from where it was (in the ponds) to where it should never have gone (**to the groundwater**).

Once it was in the aquifer that supplied Hinkley residents with all their water, nothing stopped the toxic material from getting into the peoples' wells. Wherever the plume traveled, the corresponding wells in its path were contaminated.

When PG&E knew the levels of chromium 6 were high, how did the company interact with the citizens of Hinkley? What did they tell them about swimming in their pools? About bathing in their homes? About watering their animals and plants? Knowing full well how much chrome 6 the company had used for so many decades, PG&E told neighbors of the plant to

...avoid drinking your well water, but it is safe to use for all other domestic purposes such as bathing and watering animals and plants.

It is difficult to comprehend how anyone could have made such a statement in light of the facts.

CHAPTER 8 – DECEPTION REIGNS

Before it issued the flyer, PG&E met with the people of Hinkley on April 25, 1988.

During the meeting, defendant (PG&E) told citizens that there was "No risk at current levels" and "Generally, site groundwater is good and suitable for drinking and agriculture."

(Plaintiffs' Trial Brief)

Company officials made notes of the April meeting. They

...arrogantly characterized the audience in internal memos as "Residents," "Local Politicos," and Tort Law Suits."

(Plaintiffs' Trial Brief)

Knowing the Water Board wanted a Risk Assessment to be completed:

Defendant's Blackboard Notes for a meeting on the contamination blatantly state that it wants the Risk Assessment to support the lack of public health or environmental risk.

(Plaintiffs' Trial Brief)

It would be pretty difficult to reach such a conclusion when the pollution was so massive.

How did PG&E officials respond to direct questions posed by the citizens of Hinkley who attended the meeting? What about the "green swimming pool water" at their homes?

Was it safe for children to swim in green water? Here's how company representatives responded:

- It was okay for people to swim in a pool where chrome 6 concentrations were higher than EPA limits
- It was fine to swim in the pools because chlorine and other pool chemicals "kill any contaminants in the pool, including chromium"
- The "water supply was completely safe and there were no toxic problems with their water."

One official even "represented that he and his children would gladly drink their well water."

As a result, the people of Hinkley who lived in the path of the contaminated plume continued to use the groundwater and remained on their property where they continued to be exposed to dangerous levels of a cancer-causing chemical.

Until the lawsuit.

CHAPTER 9 – SEVENTY-SEVEN PLAINTIFFS SUE

It isn't easy to uncover the truth about contaminated groundwater. No one from the polluting company is going to hand over documents containing proof of what happened. In a busy law firm, people are managing day-to-day issues on pending cases. The thought of starting a massive contamination case can be a daunting prospect.

Law firms taking on such claims have to be dedicated and willing to front enormous amounts of money to uncover the smoking guns. People in the firm must be willing to give years of their lives to the case. Those same people also know they will probably experience "withdrawal" when the case is over - even if they win. It's sometimes hard to walk away from a big case that has been the main focus of a person's professional life.

Erin Brockovich and her boss, **Ed Masry**, rose to the occasion. (Follow these links to see the real people, not the actors.) When 77 initial plaintiffs filed their lawsuit against PG&E in 1993, it was the direct result of a monstrous effort by this dedicated legal team. People who drank polluted water, and breathed contaminated air, wanted answers. As Walter Lack, whose firm took over lead responsibilities for the litigation, told the trial judge on January 4, 1994:

They want to know the truth. That's really what they want in this lawsuit because they are dying, some of them. They want to know what was done to them as they grew up and raised their families."

(P. 16/17 of court transcript)

Some of the plaintiffs were upset because they believed PG&E did not respect them. As one of the plaintiffs told the Fox Reporter during the May 24, 1994 news report:

They thought they were dealing with a bunch of dumb hicks, that's what I think.

It takes little more than a belief like that to spur a group of injured people into action.

Except, as PG&E claimed, not all the people were injured. It was one thing for PG&E to acknowledge its chrome 6 had contaminated the property around the compressor station. It was quite something else to agree the contamination had caused actual harm. Fear of harm - like fear of cancer - is not an injury. At least it wasn't before this case. (Anderson, et al v Pacific Gas & Electric - San Bernardino Superior Court file BCV 00300).

And plaintiffs' settlement demand was hard for PG&E to comprehend: \$250 million. Even the trial judge called it

...a rather shocking sort of an offer.

Turns out, PG&E would have saved a huge amount of money on settlement and defense costs had they accepted the plaintiffs' demand early in the case.

CHAPTER 10 – THE BATTLE

As lawyers for both sides fought, the case grew. Eventually 648 plaintiffs joined the lawsuit. (That did not account for all the people who had lived in the Hinkley area over the years - some of whom were not part of the case but are sick today.) The legal teams reviewed about 1 million documents and took several hundred depositions.

As PG&E's own documents were starting to stack the liability decks against it, company officials received the worst possible news from the trial court. The "fear of cancer" claim (referred to as "preconception injuries" in the case) would go to the jury. PG&E had filed a motion to strike all claims for "preconception" injuries. Its lawyers had argued such injury claims were speculative.

Maybe so (goes the argument for plaintiffs), but people who drank polluted water and breathed contaminated air get one day in court. Even if they aren't actually sick on the day of trial, how would they ever recover if they got sick in the future?

Arguments like this are made all the time during trials. This time, however, the court's ruling was quite different:

Public policy can rightly be said to be found in the concept that the public interest in a pure water supply gives rise to a special relationship to one who pollutes that supply in some substantial fashion. However, there may be no public policy to be served if the pollution occurs at a time and in a manner when no one knows, or ought to know, that the acts now complained of endanger the public. The existence of facts necessary to make the determination of any such special relationship, as well as the factual background to determine whether public policy principles should be applied, are triable issues best left to the trier of fact.

(Judge LeRoy Simmons' Opinion, 6/13/94)

Put simply, if PG&E didn't realize that its discharge of chrome 6 would cause harm to the public, it may not have violated public policy. On the other hand, if it knew - or should have known - the result would be different. Since it is the jury's job to determine facts - and the above issues are fact issues - the jury would decide whether plaintiffs could recover for such injury claims. Not a great prospect for PG&E. Any hope of a "cheap settlement" was eliminated when Walter Lack told the court and defense counsel:

We are not going to go away for eight figures.

CHAPTER 11 – PG&E IS IN TROUBLE

By July and August of 1994, with the preconception win in their pockets, plaintiffs literally bombarded PG&E with six inches of motions to compel production of documents and more detailed answers to interrogatories. Their lawyers knew what they were doing; they had done the investigative background work; they were prepared; they knew their case. What they needed from PG&E were the details: The facts and figures of how much chrome 6 was used; how and when it was discharged; when the wells were first tested; how much concealment from the citizens of Hinkley was really going on.

Under the circumstances, it seems reasonable that PG&E's lawyers must have gone to their client for a heart-to-heart discussion. Assuming such a meeting took place, it probably went something like this:

Look. You folks are in a no-win situation here. You have contamination all over the place caused by a known carcinogen. You discharged tons of chrome 6 and it polluted the area.

You knew it was "out" in wells by 1965. You didn't stop using it. You didn't tell your neighbors you were sending carcinogens their way. And then, when you finally DID tell them, you said it was okay for them to keep using the water for all purposes except for drinking. Well, it wasn't okay.

Now you have given us this case to defend for you. Our only reasonable defense is lack of damages: not all the plaintiffs are sick - only SOME of them are sick. The rest are scared they're GOING to be sick. That's speculation, isn't it? Except the trial judge hasn't thrown it out as speculation. He says it's a jury question. Well, let me tell you what a jury is going to do with THAT issue after they hear how you dealt with your unsuspecting neighbors.

So - let's see if we can get this thing away from a jury and into the hands of some arbitrators at Judicial Arbitration and Mediation Services [JAMS]. At least there you'd have a chance of getting through this without ruining your reputation in the community and avoiding a verdict that will forever embarrass your company.

It's interesting to speculate whether a discussion like that took place. It is more than coincidental, however, that by September 19, 1994 the parties reached an agreement to arbitrate/mediate. The agreement pulled the case out of the trial court - where a jury

would have decided it - and placed it into the hands of **Justice John K. Trotter** and **Judge Daniel H. Weinstein**, two outstanding retired jurists.

The case still had a long life ahead of it, but at least the parties had formulated a reasonable way to work through the claims of more than 600 people.

CHAPTER 12 – TRIAL & SETTLEMENT

Once the parties agreed on an orderly way to arbitrate the case, about 36 claims were tried. The process took nearly two years. The plaintiffs' lawyers had to:

- Prove medical causation
- Deal with missing evidence that had been lost or destroyed
- Reconstruct a complex hydro-geological water system
- Prove the extent of PG&E's inappropriate conduct

At the end of the arbitration trial, the plaintiffs reached a global settlement with PG&E which:

- Compensated all the named plaintiffs in the amount of \$333 million
- Required PG&E to clean up the environment
- Required PG&E to stop using **chromium 6**.

The case has become a landmark for other plaintiffs whose "preconception" injuries would previously have been completely disregarded.

The plaintiff lawyers did their homework. They weren't afraid to take on a monstrous case requiring mountains of work. They fearlessly took on the biggest publicly owned utility in the world and shook it so hard the company had no choice but to write the big check.

But someone had to get the case started. Someone had to dust off a languishing file and actually DO an investigation. Someone had to talk to the clients and gather enough information to make everyone's "hairs stand on edge." Someone like **Erin Brockovich** is always needed to bring a giant to its knees.

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**NOTE:** All quotes taken from the *Anderson vs. PG&E* case - Superior Court for the County of San Bernardino, Barstow Division - File BCV 00300

## CHAPTER 11 – USED & RECOMMENDED SOURCES

A "primary source" is the best place to get first-hand information. A person who experiences an event, and gives an account of it, is a source of primary information. Maps, photographs, drawings, videotapes, diaries, letters, manuscripts and other similar items can be primary sources.

Someone who interprets primary sources - like a scholar, for example - is creating a secondary source. (See Yale University's web site for a good understanding of the differences between primary and secondary sources.)

It is our policy to link to primary source material whenever possible. That is the reason most of our links are to worldwide national archives, museums, universities, military and government sites as well as other institutions like historical societies and libraries. It is our aim to provide a virtual trip to reliable places where primary sources are maintained. We frequently link to scholarly sources as well. All links serve as footnotes to our stories.

Where helpful, we link to scholarly narratives that explain the subject, or issue, in more detail. Scholarly-narrative links - when we use them - usually appear near the end of our stories, when the reader is more prepared to explore them.

Each recommended link, embedded in the story, takes you directly to the source of the footnoted information. If you would like to visit the main page of the linked site, or to further explore its content, eliminate everything in the URL after the ".edu, .gov, .org," etc., and then press "enter." That will take you to the main site where you can then search for whatever additional information you may need.

We have thoroughly researched appropriate links. Wherever possible, people who really know the subject matter have reviewed the stories for accuracy. Our main objective is to help our visitors find their way to some of the best on-line information regarding the profiled subjects - and to have fun at the same time. We hope you have enjoyed your visit.

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