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Laboratories check deadly wastes

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HAYWARD — Industries in the East Bay produce sheet metal, epoxy resins, machine tools and Eva Gabor wigs.

They also release such toxic byproducts as cyanide, arsenic and trichloroethylene. Even tiny amounts of these and other chemicals and heavy metals can cause severe damage particularly if they flow into the Bay or seep into the groundwater.

Federal, state and local governments have erected a barricade of laws and regulations to control industrial pollution. But the bureaucrats aren't out checking wastewater for parts per million of beryllium.

That job falls to such independent laboratories as Trace Analysis Laboratory of Hayward .

Syd Furman, a chemist with a doctoral degree who has served on the Union City school board for 16 years, has owned the laboratory since 1979. When he bought it, the laboratory did a lot of work helping industries with quality control by analyzing ingredients. It still does, but more and more of Trace's business is in the field of waste.

"Hazardous waste is a tremendously growing business," Furman said during a tour of his laboratory.

And even though the Trace laboratory is small, employing only five chemists and a secretary, it has landed some big accounts.

Trace does all of Pacific Gas and Electric Co.'s polychlorinated biphenyl (PCB) testing in Alameda County. Tiny vials of oil that may be contaminated with PCB, a potent carcinogen, arrive from PG&E every day — and can arrive at any hour. Trace employees share a special beeper for PG&E and other large clients, and someone is on call at all times so whenever a transformer leaks, the oil can be analyzed immediately and appropriate clean-up action taken.

Furman said he pulled beeper duty last Thanksgiving, Christmas and Easter — and was called all three times.

The state agency whose job it is to ensure safe drinking water, the Water Quality Board, does not routinely test industrial or municipal wastewater before it flows into the groundwater or the Bay, but leaves that job to private laboratories such as Trace or to in-house laboratories maintained by some large factories. Until earlier this year, these laboratories needed to be certified by the Water Quality Board, but drastic budget cuts have caused it to drop its certification process.

The board still spot checks industrial and other discharges at random, but these tests are much less frequent than in the past.

"Budget cuts have decreased our ability to be in the field," said Steve Morse, an engineer with the Water Quality Board's Oakland office.

So barring the occasional spot check, an industry with its own in-house laboratory is responsible for testing its own wastewater and for supplying the data to the Water Quality Board.

Furman said a laboratory that issues a fraudulent wastewater report can be hit with a $10,000 fine. But many people remain skeptical about what polluters tell them about their own pollution, and that's one reason corporations hire independent laboratories.

Furman said that when PG&E tells a homeowner that the oily sludge that spilled onto his lawn does not contain PCB, it's a lot more convincing to say the analysis was done by Trace.

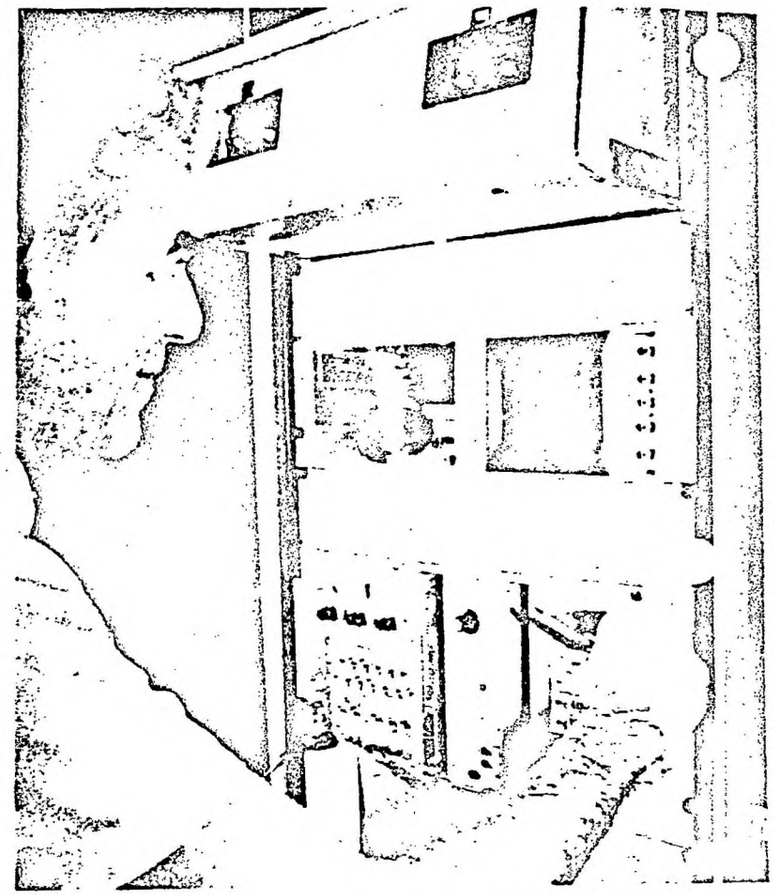
Trace has an atomic absorption machine that can analyze the insides of a cell, and a gas chromatograph that cost $15,000 and is kept warm all the time in case a man from PG&E hustles in with some suspect oil. Trace has a portable sampling device that looks like an industrial vacuum cleaner and can be dropped down a manhole to take samples every hour.

Furman's favorite device, the computer-assisted X-ray fluorescence analyzer, occupies two rooms and works by shooting a sample full of X-rays and displaying the results as a series of graphs and ridges.

Since Trace is a general purpose laboratory, Furman said he uses the machines to analyze the hair of people and horses, to help Exxon identify heavy metals that can botch up its refinery and to locate the volcanic sources for Indian arrowheads.

It's a great business, Furman said, but not one which is easy for a young chemist to start — unless he has a lot of money.

The X-ray analyzer alone costs $500,000.



Jay Solmonson — staff photo

Syd Furman owns Trace Analysis, a laboratory that helps industries by analyzing toxic wastes.

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