Environment

Cleaning up a noxious California brew

The name Stringfellow sounds quaint, even rustic, but in California it identifies a 22-acre hazardous-waste site east of Los Angeles. It is the state's top priority for cleanup under the federal "Superfund" law. Between 1956 and 1972, lagoons and ponds at the Stringfellow Acid Pits received about 34 million gallons of liquid wastes that included spent acids, heavy metals and pesticides. Several times since then, heavy rain has caused the lagoons to overflow, contaminating groundwater and threatening nearby residential areas.

Last month, the U.S. Justice Department and the state of California sued 25 companies and 6 individuals to recover the cost of the cleanup, which may be as much as $43 million. Assistant attorney general Carol E. Dinkins said, "This is probably the largest and most significant hazardous waste case the U.S. government has ever filed." Of the more than 200 companies that dumped toxic wastes at Stringfellow, the 18 named in the suit contributed almost 85 percent of the total.

And in a related development last week, the House Energy and Commerce committee voted to cite former Environmental Protection Agency official Rita M. Lavelle for contempt of Congress because of her refusal to testify about alleged mismanagement within the EPA. Lavelle has been accused of delaying the use of federal funds at the Stringfellow site last summer to avoid helping the U.S. Senate campaign of Edmund G. (Jerry) Brown Jr. She also allegedly participated in meetings dealing with Stringfellow despite having been employed at one time by a company that dumped waste at the site. The Federal Bureau of Investigation is also continuing its perjury and conflict-of-interest investigations (SN: 2/26/83, p. 132).

An abandoned asbestos mine problem

Three years after first warning residents of a Globe, Ariz., trailer park that asbestos contamination at the site presented a serious health hazard, the Environmental Protection Agency has temporarily relocated 130 people living in the park. The EPA will spend a month examining the site before proposing a "permanent solution." Action was delayed because EPA officials were uncertain whether the "Superfund" law, governing cleanup of toxic waste dumps, included mining wastes. The asbestos fibers come from an abandoned mine next to the trailer park.

Dioxin problems in Dow country

Midland, Mich., home of the Dow Chemical Co., may have a dioxin contamination problem, depending on whose data are believed. Earlier last month, an Environmental Protection Agency study accused Dow of contaminating a river near its manufacturing complex with the most dangerous form of dioxin. "People should not eat fish from the river," said Howard Zar, EPA staff scientist. Several forms of dioxin — a waste product from herbicide manufacture — were traced to Dow and also found in caged fish placed in the river below the wastewater outfall.

Dow officials, however, reported subsequently that their own recent soil tests showed dioxin levels well below those considered safe under federal guidelines. Dow has also argued that scientists have not yet determined what level of dioxin is harmful to humans. Dow president Paul F. Oreffice has said that the only known damage to humans is a kind of rash, which eventually disappears. In 1981, the company persuaded EPA officials to tone down the language in a confidential draft EPA report on dioxin contamination. All conclusions that Dow's factories were the primary source of the toxic waste were deleted.

Recently surfaced Dow internal documents, available as a result of several lawsuits involving Dow, tell a different story. The documents reveal that company scientists have been concerned about the potential hazards of dioxins since the 1960s.

Astronomy

Ohio radiotelescope stays put for now

The radiotelescope of the Ohio State University Radio Observatory (formerly the Ohio State-Ohio Wesleyan Radio Observatory), which is threatened with losing its place to stand, will remain where it is for some months to come, according to an announcement by John Kraus, director of the observatory. The land on which the telescope stands, in Delaware, Ohio, was owned by Ohio Wesleyan University, which recently sold it to an organization called the Green Highlands Ohio General Partnership. Ohio State University officials professed surprise at the sale, and embarked on last-minute maneuvers to save the observatory (SN: 2/12/83, p. 101).

A Committee to Save the Telescope formed by George Foster, chairman of the boards of Autech Corp. and Foster Air Data Systems, Inc., and Roy Chope, director of Accuray Corp., has been doing the negotiating. Talking to the GHOGP as "businessmen to businessmen" in the words of Robert S. Dixon, assistant director of the observatory, they have persuaded the GHOGP to agree not to enforce a contract provision that would have required the telescope to be removed from the property by Aug. 31.

At first things looked bleaker. The GHOGP made an offer to sell OSU 10 acres around the telescope for $2 million. As the GHOGP had bought the land from OWU for $2,000 an acre, the Committee to Save the Telescope thought the price excessive. Consideration was given to moving the telescope, and more than 1,000 acres in various tracts were offered by several individuals either for free or on long-term lease at $1 per year. The most suitable site seems to be 80 acres a few miles west of the present location offered by John Kravec, a physician practicing in Worthington, Ohio. Moving is still an option if the other negotiations, which could take up to a year, Kraus thinks, are unsuccessful.

Dixon points out two considerations that may be influencing the GHOGP toward a more cooperative attitude: they need a zoning variance for the property, and that has to be voted in a popular referendum. Adverse publicity could hurt their cause. And OSU, as an organ of the state, could invoke eminent domain, and then the question of a sale and on what terms would be decided by a court.

A second black hole candidate

A lot of astrophysicists believe that there are black holes at the centers of quasars, active galaxies and various other highly energetic phenomena in the sky. Such opinions are based on long chains of theoretical reasoning. Observationally there was for a long time only one candidate for a black hole, the X-ray source Cygnus X-1. Lately a second, LMC X-1, located in the Large Magellanic Cloud, a small galaxy that is a satellite to our own, has been found.

At the recent meeting in Baltimore of the American Physical Society, Ann Cowley of the University of Michigan in Ann Arbor, one of the discoverers of LMC X-1, reported that there is new photometric evidence to confirm the dynamical evidence that there is a black hole there. Both Cyg X-1 and LMC X-1 are binary stars in which one partner is visible and the other is a condensed dark object. Knowing the visible star's spectral class gives an estimate of its mass. The motions of the system can then be used to estimate the mass of the dark member. If the dark star's mass is more than a certain amount, it ought to be a black hole.

In the case of Cyg X-1, a normal star might fit, Cowley says, although its X-ray emission gives astronomers an additional reason for suspecting a black hole. In LMC X-1 the mass definitely points to a black hole. In such a case the black hole's gravity should distort the visible star, making it egg-shaped. As an egg-shaped star goes around its orbit, the face it presents to the earth will vary in size, and the intensity of its light will vary correspondingly. Cowley says two Dutch astronomers (van Klees and van Paradijs) have seen this.