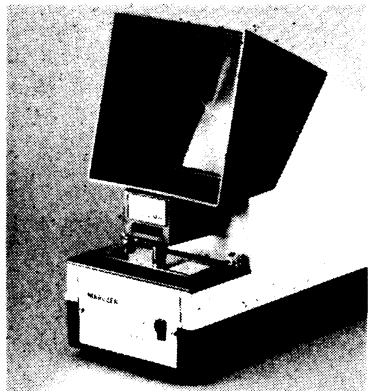


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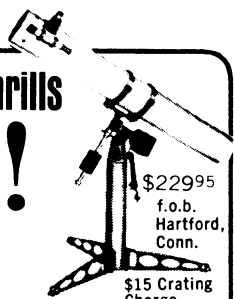
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Challenger researchers report: a vast layer of evaporite minerals and rock salt, some 8,000 feet thick, stretching from the midpoint of Africa's southwest coastline all the way up to Nigeria—a residue equal to a tenth of all the dissolved salt in the rest of the oceans of the world. Though the influx of water after a while caught up with the evaporation rate, ending the period of salt deposition, continued poor circulation led to another, even longer, period of stagnation. The scientists believe, in fact, that it lasted all the way until the schism was complete, when

what is now Brazil had been pulled away from beneath the bulge of Africa.

Besides its historical contributions, Leg 40 of the DSDP may have made a valuable economic one. Core samples from the drilling operations revealed a vast accumulation of extremely thin layers of organically rich sediment, each less than .01 inch thick. "Several of the major producing oil fields in the onshore and shallow offshore areas of West Africa," says a DSDP spokesman, "have tapped their liquid hydrocarbons in sediments of identical age and similar rock type." □

Catalysts may do more harm than good

Environmental Protection Agency Administrator Russell E. Train last week suspended the statutory auto emission standards for the 1977 model year and requested the Congress to further extend a set of interim standards, because of sulfuric acid production by exhaust catalysts needed to meet the standards. "At some point," Train concluded, "catalysts may begin to do more harm by creating sulfuric acid, than good, through additional control of hydrocarbons and carbon monoxide."

The use of add-on catalytic converters has long been criticized as a clumsy way of controlling pollution because of their cost, fragility, inefficiency and the absolute need for unleaded gasoline. The National Academy of Sciences, in particular, has warned that overcommitment to catalyst technology could forestall development of more promising types of engines that would be intrinsically less polluting (SN: 4/28/73, p. 276). Only very recently, however, has firm evidence of an additional health hazard caused by the catalysts come to light, Train said.

In January, when President Ford asked for certain legislative modifications of the Clean Air Act, the question of sulfuric acid generation did not arise, so that the present EPA proposals represent a slackening of even those relaxed standards. The law, for example, would require emission of carbon monoxide to fall to 3.4 grams per mile by 1977. The President had requested enactment of an interim standard of 9.0 grams per mile through 1981. Now EPA says emissions should remain at the present level of 15 grams per mile until 1980, when the 9.0 interim standard would be applied. The hydrocarbon standard remains 1.5 grams per mile until 1980.

The dilemma stems from an apparently inherent trade-off between various types of pollution involved in use of catalysts. As exhaust hydrocarbons and carbon monoxide pass through the catalyst chamber, they are further oxidized to carbon dioxide, water and other relatively harmless products. But sulfur

dioxide in the exhaust also become oxidized, forming a sulfate that mixes with the water to produce a fine mist of sulfuric acid. Thus a car with a catalyst may give off 35 times as much sulfuric acid per mile as a noncatalyst car, and if air pumps were added—in order to meet the stricter standards—the sulfuric acid production might double.

Train's decision to let implementation of catalyst technology remain about where it is thus represents a compromise between pushing ahead with the catalysts, incurring unknown risks from sulfuric acid, or backing up, removing or "poisoning" catalysts altogether, and thus doubling or tripling emission of other pollutants. (Train noted that should sulfuric acid suddenly be viewed as an extreme hazard, all the catalytic converters in the United States could be made nonfunctional practically overnight by having people use a couple of tanks of leaded gasoline in their catalyst-equipped cars.)

Predictably, the decision was seen as disastrous by environmentalists and insufficient by industry spokesmen. The National Clean Air Coalition (representing the Sierra Club, Friends of the Earth, the American Public Health Association and others) claimed the suspension condemned city-dwellers to "lives of pollution-aggravated disease." They urged removal of sulfur from gasoline. William D. Eberle, president of the Motor Vehicle Manufacturers Association, urged that all emission-control standards be frozen at present levels through 1981, and said that the EPA proposals would lead to "significant fuel economy penalties."

While Train admits "this is a sobering, in some ways a disappointing occasion," he says the added time should allow manufacturers to introduce new engine technologies that do not require catalysts and that research will establish more definite limits on the presently unknown effect of sulfuric acid pollution. In the meantime, no alternative, such as gas desulfurization, would be adequate, he said. □