

LADIES NIGHT MEETING

NATURAL HYDROCARBON SEEPAGE IN THE MARINE ENVIRONMENT

By W. E. Sweet, Jr.



Hydrocarbon seepage within or into the marine environment occurs at many places around the world. The kind of hydrocarbon varies from a heavy asphalt to a light gas.

Seepsites in Mexico, Venezuela, Trinidad, and the Gulf of Mexico shelf have been investigated. Biota in the immediate vicinity of a seep in many instances show very little change from what could be expected in a comparable environment where no seepage occurred. The difference is surprisingly small in some instances, and in one instance occurs in an opposite sense to that expected. Seeps are aerially restricted by their very nature. Partially because of this, they do not have a wide deleterious effect upon the environment. In small amounts they may be beneficial. In Trinidad the mollusc Pitar dione shows a preference for zones of seepage. They may be attracted by the increase supply of bacteria or bacterial nutrients.

Studies have indicated that fresh water runoff from heavy rains in California caused more immediate and long range problems than did the Union oil leak. Runoff waters from hurricane Agnes appear to have had major disastrous effects upon the biota in Chesapeake Bay. However, as with the various hydrocarbon spills and natural seeps the damages suffered are not irreversible. Even if conditions never entirely return to the status quo a new or modified environment occurs into which old or perhaps new biota adapt. The world is dynamic and change is the order of the universe. Only man tries to stem the tide of environmental evolution and in the end he can but slow it down or divert it momentarily. Nature is self polluting, but fortunately it is also self purging. In a broader overview we should abandon the angry approach to ecological disaster and spend more time finding ways of helping nature in its continual recycling process.

BIOGRAPHICAL DATA:

Full Name	William Edward Sweet, Jr.
Date of Birth	19 May 1925
Place of Birth	Peace Dale, Rhode Island
Marital Status	Married, 2 children
Present status	Research Associate, Texas A & M University
Military	1943 - 1946 - U.S. Navy - S.W. Pacific Theater
Education	1951, B.S. Geology, Tufts University 1957, M.S. Geology, Texas A & M University 1961 - 1963 Graduate work - Geology, Brigham Young University 1968 - 1972, Ph. D. Oceanography, Texas A&M University
Experience	1952, U.S.G.S. 1952 - 53, Geological, Well Services, Co., Abilene, Texas 1953 - 55, Narragansett Marine Laboratory, University of Rhode Island

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