

300 ADEQUACY OF TECHNOLOGY FOR POLLUTION ABATEMENT

VOLUME VI. SOLID WASTES (FIRST EDITION, 1963; 49 PAGES)

Chapter 1. Solid Wastes in Refinery Operations.
Chapter 2. Solids in Natural Waters.
Chapter 3. Sludges Containing Water and Solids.
Chapter 4. Sludges Containing Oil and Solids.
Chapter 5. Sludges Containing Oil, Water, and Solids.
Chapter 6. Biological Treatment and Sanitary Sewage Sludges.
Chapter 7. Miscellaneous Solid Wastes.
Chapter 8. Dewatering and Deoiling.
Chapter 9. Biological Decomposition of Solid Wastes.
Chapter 10. Incineration.
Chapter 11. Land Disposal.
Chapter 12. Miscellaneous Disposal Procedures.
Chapter 13. Solid Waste Disposal Plants.
Index (pages 50 and 51).

I have also brought a bibliography of publications (this bibliography may be found in the committee file) which have resulted from research conducted largely by oil company technologists on the disposal of water-borne wastes. This research covers the years 1929 through 1962. I thought you might wish to include this bibliography in the record.

During the little more than 10 years that have elapsed since the Federal Clean Air Act was passed in 1955, industry expenditures on conservation research and pollution control equipment exceeded \$220 million for air, and exceeded \$150 million for water.

During 1966, the oil industry increased its budget substantially, and will spend more than \$43 million on air conservation alone. These are investment figures only; we do not have figures on operating costs, but they have been substantial.

It is true, as your panel's report states, that technical and economic limitations still face the Nation in its efforts to abate pollution. I would like to tell you about some of these limitations from the standpoint of the oil industry.

As far as water pollution abatement at oil industry facilities is concerned, technology and procedures are well advanced. Progress here will result more from steady capital investment than from research.

In the producing area, the industry's record of brine disposal has been one of encouraging progress. This progress has been made as a result of long-term cooperative efforts between oil producers and State regulatory agencies. This is despite the fact that oil producers in the United States must dispose of 24 million barrels of brine every day. Put another way, an average of three barrels of brine must be disposed of for every barrel of oil drawn from the ground.

While some areas of the brine disposal problem are still not satisfactorily solved, particularly those involving marginally profitable producers, our problem today is mainly economic rather than technical. We were quite proud to hear Secretary Udall's statement, before the National Petroleum Council last month, that in the area of water conservation, the petroleum industry "still has a way to go, but needs only to press to a conclusion the excellent programs * * * under way."

And at this point, I would like to call your attention to an article that Senator Muskie had entered in last Friday's Congressional Record