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PRELIMINARY SURVEY OF
OLIN MATHIESON CHEMICAL CORPORATION
Pasadena, Texas

Work performed
by the
Health and Safety Research Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee 37830

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Formerly Utilized Sites--
Remedial Action Program

OLIN MATHIESON CHEMICAL CORPORATION
Pasadena, Texas

At the request of the Department of Energy (DOE), a preliminary survey was performed at the Olin Mathieson Chemical Corporation plant in Pasadena, Texas (see Fig. 1), on November 18, 1977, to assess the radiological status of those facilities utilized under an Atomic Energy Commission raw materials contract for a period determined to be during the early 1950s. M. S. Davenport, Plant Manager, provided information as to the nature of work performed and the location of facilities utilized. T. Cook, who worked in Quality Assurance also provided information as to the history of material processed at this site.

From information obtained from review of files of contracts and in discussions held during the survey, the work conducted at the Pasadena site involved a bench-type pilot operation designed to extract U_3O_8 from phosphoric acid generated during the processing of phosphate rock. No information was available as to the exact amounts of U_3O_8 produced nor as to the radiological conditions of the facility at the culmination of the project at which time the pilot plant was dismantled (believed to have been in 1955).

Present Use of Facilities

The facility utilized in the project consisted of a single room approximately 12 x 14 ft (see Fig. 2). This room currently contains an L-shaped laboratory bench (with sink) adjacent to two walls and a chemical hood located on a third wall. This facility was part of an old process technology and analysis laboratory. The room is currently used for storing janitorial equipment. Plans are currently underway to demolish the building.

Results of Preliminary Survey

The preliminary survey was conducted by F. F. Haywood of the Oak Ridge National Laboratory and W. T. Thornton of the Department of Energy-Oak Ridge Operations Office. An exploratory radiation survey of the one room was made. This survey consisted of (1) direct alpha and beta-gamma measurements and (2) collection of residue samples from the areas of

the sink where elevated alpha and beta-gamma readings were noted (see Fig. 3). The maximum direct alpha reading was 3000 dpm/100 cm² on inside surfaces of the sink and presumed to be inside the drain opening of the sink. The inside of this opening was inaccessible beyond about 15 cm, which prohibited further assessment of the contamination level. The corresponding beta-gamma dose-rate reading was about 0.4 mrad/hr at the same location and was also the highest reading found in the facility.

Analytical results of a residue sample taken from the bench area around the sink and from an inside surface of the sink are presented in Table 1. No information was obtained as to the disposition of pilot plant equipment contained in this facility following culmination of the project.

In view of survey results, when the sink and accessible drain are removed from this facility, they should be handled as contaminated material with disposal at an approved burial site, prior to the release of the site for unrestricted use.

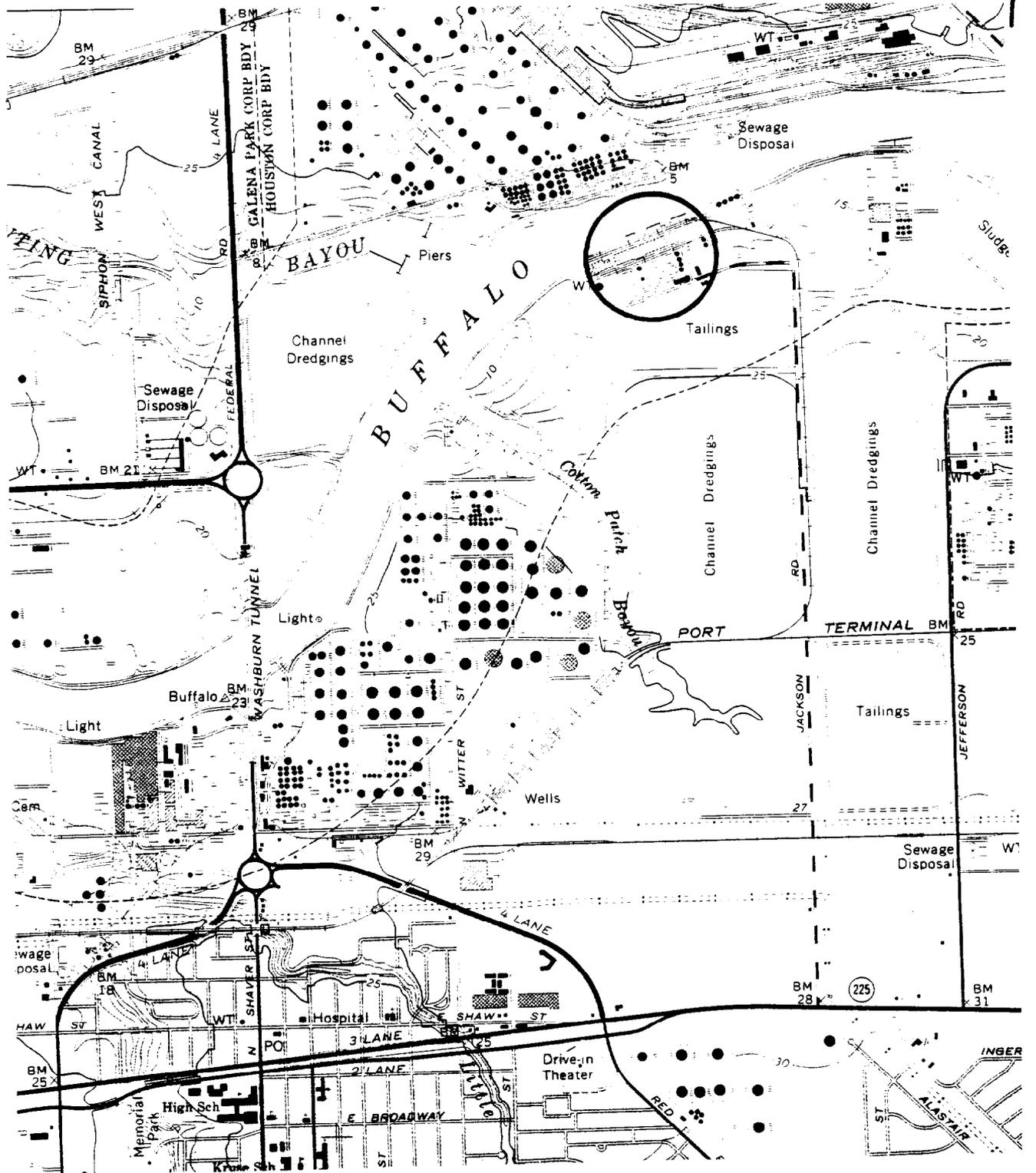


Fig. 1. Location of the Olin Mathieson Chemical Corporation in Pasadena, Texas.

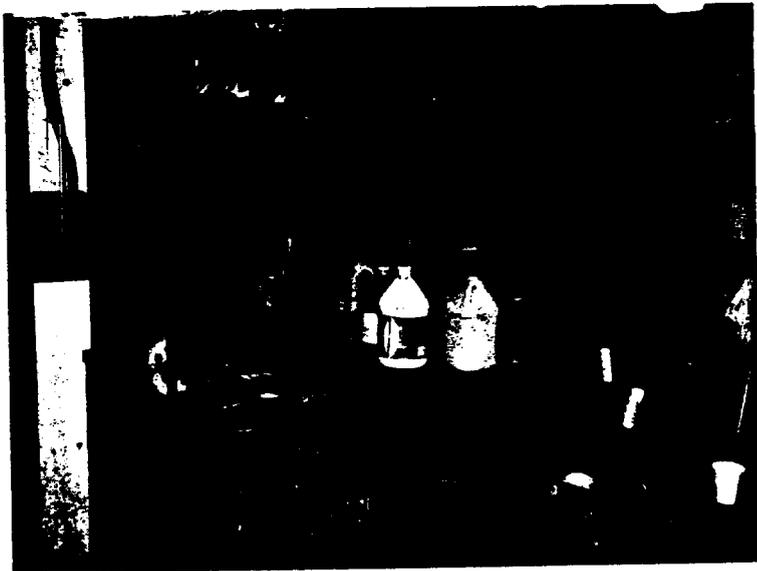


Fig. 2. Views of inside of room showing lab bench with sink and chemical hood.

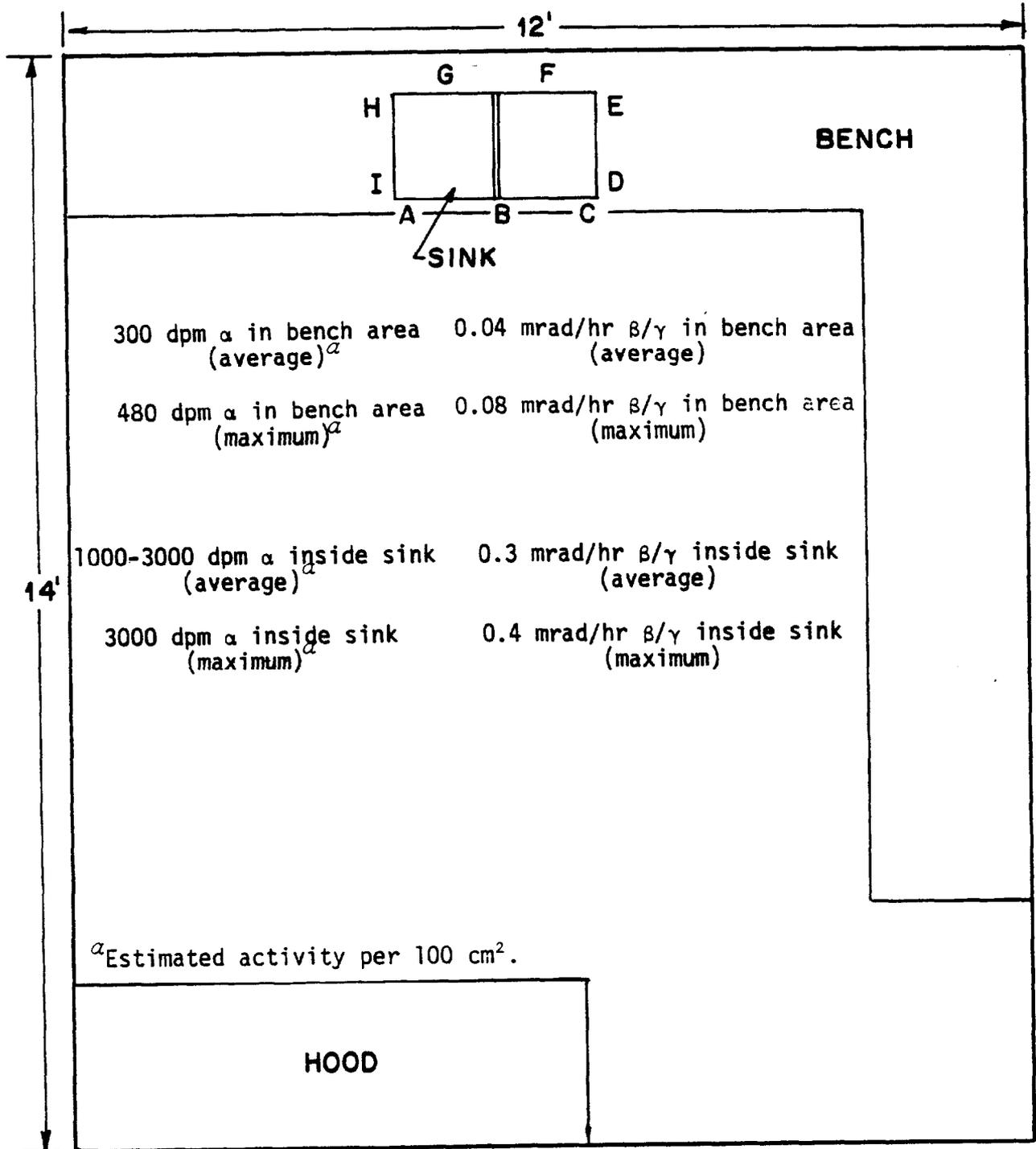


Fig. 3. Plan view of the former Olin Pilot Plant.

Table 1.

Radionuclides	Concentration for sample from bench area (pCi/g)	Concentration for sample from sink (pCi/g)
^{226}Ra	8.56	9.67
^{238}U	4.90	41.3
^{227}Ac	1.05	185