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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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SUBJECT: Review of Liver Slides from National Cancer Institute Picloram Experiment

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The bioassay of picloram for possible carcinogenicity was conducted for the Division of Cancer Cause and Prevention, National Cancer Institute. The experiment was carried out by Gulf South Research Institute under a subcontract to TRACOR-JITCO, INC. (CAS No. 1918-02-1-NCI-CG-T.R.-23).

INTRODUCTION

The EPA, Hazard Evaluation Division, Toxicology Branch, requested I review liver slides from the Picloram experiment to justify the pathologic diagnoses of NCI primarily in relation to proliferative changes. The slides were available at NCI's depository in Rockville, Maryland.

In this experiment, rats (males and females) and mice (males and females) were used. The animals were divided into three groups. The matching control groups had ten; the low-dose groups, 50; and the high-dose groups, 50 animals per group, and per sex. All selected liver slides were present; and the H & E sections were of satisfactory quality.

METHODS

Control slides from all animals (rats and mice) of both sexes were viewed. From the test groups, all animals in high-dose groups (rats) of both sexes and all high dose animals (mice) in the female group were examined. After a blind evaluation, the diagnoses were tabulated and the results compared to NCI's findings.

RESULTS

The proliferative changes were evaluated in two categories: neoplastic nodules and hepatocellular carcinomas. In both categories there were no significant differences between our diagnoses and NCI's diagnoses.

The final tabulation of the results in the control and high-dose groups is shown on Tables 1 and 2.

Table 1.- Histopathology of Livers, Picloram Rat Study

	Lesions					
	Males			Females		
Dose	Neoplastic Nodule	Carcinoma	Total	Neoplastic Nodule	Carcinoma	Total
Control Matched	0/10 0%	0/10 0%	0/10 0%	0/10 0%	0/10 0%	0/10 0%
High Dose	0/48 0%	0/48 0%	0/48 0%	7/49 14%	1/49 2%	8/49 16%

Table 2.- Histopathology of Livers, Picloram Mouse Study

	Lesions		
	Females		
Dose	Neoplastic Nodule	Carcinoma	Total
Control Matched	0/10 0%	0/10 0%	0/10 0%
High Dose	0/50 0%	1/50 2%	1/50 2%

CONCLUSION

Based on our findings, we agree with NCI's conclusion: "It is concluded that under the conditions of the bioassay, the findings are suggestive of the ability of the compound to induce benign tumors in the livers of female Osborne-Mendel rats."