EXPENDITURES OF KETTERING LABORATORY AND CONTRIBUTIONS OF SERVICES AND FACILITIES ON DIRECT OR INDIRECT BEHALF OF ETHYL CORPORATION IN THE YEAR 1949

I. Direct Services

1. Services Rendered In Connection With Medical Activities of Ethyl Corporation

a.	Control of lead hazard - Baton Rouge		
	Quarterly analyses	$ 1,920.00	
	Periodic analyses (blood and urine)	10,645.00	$ 12,565.00
b.	Control of lead hazard - Research and testing laboratories Periodic analyses on personnel		410.00
c.	Diagnostic services (analytic) - lead exposure - mixing plant and tank cleaning personnel, and Ethyl Terminal employees		520.00
d.	Analytical services - analyses of sludge, scale, paint, etc. incidental to work of Ethyl physicians		360.00
e.	Hematological work (examination of blood smears of blenders and Ethyl personnel		3,600.00
f.	General laboratory work done for Ethyl personnel (diagnostic)		250.00

2. Services Rendered in Connection with Field Operations of Corporation and Appraisal of Lead Hazards of Various Types

a.	Analysis of burned sludge samples	1,050.00
b.	Analyses in connection with Small Tank Survey	2,270.00
c.	Analysis of food and beverages shipped in tank cars and ships	250.00

3. Consultation Services

a.	Medical consultation by clinical staff, Kettering Laboratory (exclusive of Ethyl staff)	500.00
b.	Analytical advice and assistance in connection with methods and design of industrial hygiene equipment - Ethyl, Petroleum Industry, Government - staff of Laboratory exclusive of Ethyl staff	1,000.00

4. Statistical Work - Statistical Analysis of Data - Baton Rouge, etc. — 1,500.00

5. Technical Training for Ethyl Corporation Personnel (Detroit Nurse)	$ 250.00
Total	$24,525.00

I. Experimental Work Directly Related to Conduct of Business of Ethyl Corporation

1. Study of Atmospheric Pollution by Automobiles	$ 7,752.86
2. Study of Toxicity of Components of Anti-knock Fluid	
a. Trichlorobenzene	1,608.23
b. Bromax	48.54
c. Monomethyl aniline	1,292.43
d. Xylidine (completion of work begun previously	500.00
3. Study of Toxicity of Miscellaneous Materials Submitted by Ethyl (Baton Rouge or Detroit) or Instigated by Medical Director	
a. Monomethyl ether	233.00
b. Hexachlorocyclohexane	4,045.70
4. Systematic Study of Experimental Data (Statistical and Technical)	4,600.00
Total Investigative Program	$20,080.76

II. Relevant Indirect Activities - Experimental Work Relating Indirectly to Activities of Ethyl Corporation

1. Study of Cases of Exposure to Lead and Lead Poisoning Occurring in Other Industries, in the General Population, Under Circumstances Giving Rise to No Other Means of Reimbursement	
a. Diagnostic work on indigent cases or cases arising in Cincinnati private and public hospitals or elsewhere	$ 2,600.00
b. Experimental study of selected cases of unusual value in elucidating physiologic or etiologic factors or methods of treatment	3,400.00
2. Collaborative Investigative Work On Other Industrial Materials, Other Metals (Mercury, Arsenic, Potassium, Calcium, Sodium), and Other Hazardous Chemicals, in Relation to Unusual Occupational Diseases and Suspected Cases of Poisoning in Cincinnati Hospitals and Industries (Professional Collaboration and Missionary Work)	4,800.00
Total	$ 10,800.00

IV. Indirect Benefits - Values Accruing to Ethyl Corporation Out of Work or Facilities of Kettering Laboratory Not Covered in Account of Expenditures Submitted to Ethyl Corporation (Est. for 1949)

1.	Space Available to Medical Department Personnel Rental (Estimated Conventionally)	$ 9,600.00
2.	Use of Medical Facilities Provided in Part by Other Sponsors - Laboratory, X-Ray, Examining Rooms and Equipment, Annual Amortization and Replacement Charge	2,000.00
3.	Indirect Advantages Sustained From Work Conducted For and Supported by Other Sponsors (Round Est.)	
	a. Thompson Vitameter Company (re lead exposure)	2,500.00
	b. Appraisal of manner and significance of lead exposure in plants of other industries (surveys)	2,500.00
	c. Appraisal of General Problem of Air Pollution and means of Control (Donora Study), relating to Baton Rouge	2,000.00
	Total	$18,600.00

V. Educational Program (Remote Benefit) - Cost of Development and Conduct of Program of Graduate Studies in Industrial Health in 1949. (Largely indirect cost in terms of proportional expenditure of time of Staff of Laboratory, and other overhead costs not presently allocated to other sponsors of the work of the Laboratory.)(Direct cost to Ethyl Corporation less overhead, about $1,500.00, plus fellowship contribution of $2,700.00, not included in these accounts). $21,048.00

SUMMARY

I. For Services	$24,525.00
II. For Directly Relevant Investigations	20,080.00
III. For Indirectly Relevant Investigations	10,800.00
IV. For Indirect Benefits	18,600.00
V. For Educational Purposes	21,048.00
	$95,053.00

Comment - No attempt is made herein to list or otherwise to consider certain long-term intangible benefits which have accrued of may accrue to Ethyl Corporation, from the professional and educational program of the Laboratory. That such benefits have been recognized and anticipated in some measure is evident, but their value cannot be estimated, nor is it suggested that they should militate in any manner against a realistic and fair method of allocating the present cost of all the work of the Laboratory among its several sponsors.