U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

DIRECTORY
OF
COMMERCIAL TESTING AND COLLEGE RESEARCH LABORATORIES

MISCELLANEOUS PUBLICATION M171
(Superseding Miscellaneous Publication M125)

NATIONAL BUREAU OF STANDARDS PUBLICATIONS ON TESTING

There are listed below a few of the official publications of the National Bureau of Standards relating to certain phases of testing, including Research Papers (RP), Scientific Papers (S), Technologic Papers (T), Circulars (C), and Miscellaneous Publications (M). Copies of the pamphlets can be obtained, at the prices stated, only from the Superintendent of Documents, Government Printing Office, Washington, D. C. In ordering pamphlets from the Superintendent of Documents, the Bureau publication *symbol and number must be stated*, and the order must be accompanied by cash. The publications indicated by an asterisk (*) are out of print but may be consulted at Government Depository libraries.

*Asphalt, accelerated tests of, RP197.
Asphalt shingles, accelerated weathering tests, RP1002. Price 10¢.
Asphalts, weathering tests on filled coating, RP1073. Price 10¢.
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*Bricks, portable apparatus for transverse tests, T341.
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Electrolysis testing, T355. Price 30¢.
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Fabrics, evaluation of crush-resistant finishes, RP1047. Price 5¢.
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Haemacytometers and other small pipettes, device for testing, RP1019. Price 5¢.
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Hydrometers, testing of, C (new). Price .
*Hosiery testing machine, RP679.
Hosiery testing machine, factors affecting performance of hosiery on, RP753. Price 5¢.
Hosiery, methods of testing, C422. Price 15¢.
Inks, C426. Price 15¢.
*Intermittent testing, automatic apparatus for, T171.
Leather, accelerated aging in oxygen bomb, RP1128. Price 5¢.
Leather, effect of oxygen and moisture on stability, RP1319. Price 5¢.
Leather, effect of speed of pulling jaws on tensile strength and stretch, RP1321. Price 5¢.
Length standards, testing, C332. Price 10¢.
Lens resolution, test of, for the photographer, C428. Price 40¢.
Lenses, precision camera for testing, RP984. Price 10¢.
Magnetic hysteresis determined with Feahy Simplex permeameter, RP845. Price 5¢.
Magnetic testing, C415. Price 10¢.
Magnetic testing at magnetizing forces up to 5000 oersteds, RP1242. Price 10¢.
Materials, equipment for conditioning, at constant humidities and elevated temperatures, RP1303. Price 5¢.
Materials for the household, C70. Price 50¢.
Paints, traffic, properties and tests of, RP1007. Price 10¢.
Paper, accelerated aging test, RP352. Price 10¢.
Paper, bursting strength test, RP278. Price 10¢.
Paper, methods of measuring bulk of, RP69. Price 10¢.
Papers, record, comparison of accelerated with normal aging, RP1241. Price 5¢.
Paper; calibration and adjustment of Schopper folding tester, T357. Price 10¢.
Paper; care and adjustment of folding testers of Schopper type, C379. Price 5¢.
Plating, nickel and chromium, on steel, accelerated tests, RP724. Price 5¢.
*Protective coatings, accelerated tests of, RP1.
Rubber compounds, tensile properties at high rates of stretch, RP1256. Price 5¢.
Rubber goods, testing of, C38. Price 30¢.
Scale, calibration of a divided, C329. Price 10¢.
Scales, large capacity, method for precision tests of, T199. Price 5¢.
Silk, weighted, accelerated aging test, RP855. Price 5¢.
Silk yarns, effect of humidity on strength and elongation, RP1353. Price 5¢.
*Spar varnish, durability tests of, RP146.
Sphygmomanometers, use and testing of, T352. Price 20¢.
Standard samples, C398 and supplements. Free.
Tapes, measuring, testing of, C328. Price 10¢.
*Testing machines, calibration under dynamic loading, RP1009.
Textiles, apparatus for measuring thermal transmission, RP1055. Price 5¢.
Textiles, compressometer for evaluating thickness, compressibility, and compressional resilience, RP561. Price 5¢.

(Continued on p. 3 of cover)

U. S. DEPARTMENT OF COMMERCE
JESSE H. JONES, Secretary
NATIONAL BUREAU OF STANDARDS
LYMAN J. BRIGGS, Director

NATIONAL BUREAU OF STANDARDS MISCELLANEOUS PUBLICATION M171

DIRECTORY

OF

COMMERCIAL TESTING AND COLLEGE RESEARCH LABORATORIES

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[Superseding Bureau of Standards Miscellaneous Publication M125]

Compiled by Ann E. Rapuzzi under the direction of A. S. McAllister,
Assistant Director for Commercial Standardization, and Chief
of Division of Codes and Specifications

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IN ACCORDANCE with law the National Bureau of Standards makes tests and carries out investigations for other Government agencies. The Bureau does not make tests for private individuals if other laboratories can do the work with sufficient accuracy. To inform interested persons of the location of other laboratories, the Bureau attempted to compile a complete list of the commercial testing laboratories throughout the country, together with indications of the types of commodities which they are willing to test for commodity acceptance purposes. Information is given herein concerning 244 commercial testing laboratories, with 71 branch laboratories or offices. There is also presented a list of the laboratories of 199 colleges which are used not only for purposes of instruction but also to a considerable extent for research work.

An outline is given of the certification plan, in accordance with which there have already been compiled more than 860 lists of manufacturers who have expressed their willingness to certify to purchasers that material supplied on orders based on the indicated Federal specifications and commercial standards complies with the requirements and tests of these specifications.

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COMMERCIAL TESTING LABORATORIES

In recognition of the desirability under present conditions of independent commercial testing service and in anticipation of a marked increase in the demand for such service, the National Bureau of Standards has compiled the accompanying list of laboratories throughout the country that are prepared to test various kinds of commodities to determine whether or not they comply with purchase specifications.

The existence of a thoroughly classified list of commercial testing laboratories will have a number of beneficial effects in promoting the use of specifications, not the least important of which will be the inducement offered to the large number of purchasers who have hitherto hesitated to buy on specifications.

Heretofore purchasers not individually equipped to make their own acceptance tests have been reluctant to adopt the specification method of buying commodities because of the fixed belief that many manufacturers work off "seconds" on such customers. The knowledge that they can at any time, when they so desire, call upon testing laboratories to check the deliveries made to them on contracts based on specifications will induce a large number of such purchasers to take full advantage of the specification method of purchasing.

The outstanding fact in the specification situation at the present time is that a very great majority of the purchasers who should be using specifications are not doing so. It is to this great group of purchasers that the accompanying list of laboratories will prove most beneficial. If, in addition to obtaining copies of as good specifications as can be written at the present time, all purchasers are able to secure lists of firms willing to manufacture to these specifications and to certify to compliance therewith, and lists of testing laboratories and checking agencies, many of these purchasers will readily adopt the specification method of buying. This is especially true of the purchasers of States and municipalities who are anxious to use specifications, but have not thus far felt justified in doing so because of inability to determine whether or not the commodities comply with the specification requirements.

The application of the plan here outlined will mean that more manufacturers than at present will be in need of testing and inspection services upon which to base such certificates as they may be asked to issue to consumers buying upon nationally recognized specifications. Moreover, to the extent that the application of the plan will result in the use of specifications by purchasers not now buying on specifications, it will create a demand for testing service on behalf of the buyers. In any event, numerous consumers will resort to such tests as may be considered necessary or desirable to satisfy themselves that the commodities do actually comply with the specifications. It seems evident, therefore, that the widespread application of the plan must result in a greatly increased need for testing service by both the producers and consumers.

In the accompanying lists the commercial testing laboratories have been arranged alphabetically both by names and in accordance with the geographical locations of the laboratories. Numerical references are used to indicate the types of commodities tested, and alphabetical references indicate the nature of the tests.

SYMBOLIC REFERENCES TO NATURE OF TESTS OR RESEARCHES

Symbolic references to nature of investigations made are as follows:

a = Appearance, optical, microscopical.
b = Bacteriological, biological, pathological.
c = Chemical.
e = Electrical.
h = Heat, thermal, refractory.
i = Inspection, supervision, construction.
l = Lubrication.
m = Metallographic, metallurgical.
p = Physical, mechanical.
s = Service, performance, calibration.
t = Toxicological.
x = X-ray, radiographic.

CLASSIFICATION OF COMMODITIES INVESTIGATED

The following classification is used to indicate the types of commodities investigated and the numerical references thereto:

000–099=Animals and Animal Products (Except Wool and Hair).
000=Animals.
010=Meats.
020=Dairy products.
030=Fish.
040=Animal and fish oils, fats, and grease.
050=Hides and skins, raw (except furs).
060=Leather and leather manufactures.
070=Furs.
090=Miscellaneous animal products.

100–199=Vegetable Food Products, Oilseeds, Expressed Oils, and Beverages.
100=Grains and preparations.
110=Fodders and feeds.
120=Vegetables.
130=Fruits and nuts.
140=Oilseeds and vegetable oils and fats.
150=Cocoa, coffee, tea, condiments, and leavening agents.
160=Sugar, molasses, sirups, honey, and confectionery.
170=Beverages.

200–299=Vegetable Products (Except Food, Fibers and Wood).
200=Rubber and similar gums and manufactures thereof.
210=Gums, resins, and balsams.
220=Crude drugs and essential oils.
230=Dyeing and tanning materials of vegetable origin.
240=Seeds (except oilseeds).
250=Nursery and greenhouse stock.
260=Tobacco.
280=Starch and vegetable glue.
290=Miscellaneous vegetable products.

300–399=Textiles.
300=Cotton, cotton fabrics, and knit goods.
310=Manufactures of cotton.
320=Jute and jute manufactures.
330=Flax, hemp, and ramie.
340=Other vegetable fibers, straw, or grass.
360=Wool and hair, and manufactures thereof.
370=Silk and manufactures thereof.
390=Miscellaneous textile products.

400–499=Wood and Paper.
400=Lumber (logs, timber, and other manufactured or partly manufactured wood).
410=Lumber for building and factory use.
420=Manufactures of wood (except furniture).
430=Furniture of wood.
470=Paper (except printed matter).
480=Books and other printed matter.
490=Miscellaneous paper products.

500–599=Nonmetallic Minerals.
500=Coal, petroleum, asphalt, and mineral wax.
510=Stone, sand, and cementitious materials.
520=Glass and glass products.
530=Clay and clay products.
540=Abrasive materials, asbestos, and chalk.
550=Mica and rare minerals.
560=Precious stones and imitations.
570=Sulphur, magnesia, salt, and graphite.
590=Other nonmetallic minerals.

600–699=Ores, Metals, and Manufactures (Except Machinery and Vehicles).
600=Iron and steel.
610=Iron and steel manufactures.
620=Ferro-alloying ores, metals, and manufactures.
630=Aluminum, antimony, bismuth, cadmium, and cobalt.
640=Copper, brass, and bronze.
650=Lead, mercury, and nickel.
660=Precious metals, jewelry, and plated ware.
670=Clocks, watches, and dials.
680=Tin and zinc.
690=Other ores, metals, alloys, and metal manufactures.

700–799=Machinery and Vehicles.
700=Power-generating machinery (except electric).
710=Electric machinery and supplies.
720=Vehicles (except agricultural).
730=Agricultural machinery and implements.
740=Construction, conveying, and hoisting machinery.
750=Mining, oil well, and pumping machinery.
760=Metal-working machinery.
770=Textile, sewing, and shoe machinery.
780=Other industrial plant machinery.
790=Miscellaneous industrial plant auxiliary equipment.

800–899=Chemicals and Allied Products.
800=Coal-tar products.
810=Medicinal and pharmaceutical preparations.
820=Acids (except coal-tar), anhydrides, alcohol. etc.
830=Other chemicals.
840=Pigments, paints, and varnishes.
850=Fertilizers and fertilizer materials.
860=Explosives, fireworks, and ammunition.
870=Soaps, cosmetics, and toilet preparations.
880=Disinfectants and water treatments.
890=Miscellaneous chemical products.

900–999=Commodities not Elsewhere Classified.
910=Scientific and professional apparatus and supplies.
920=Musical instruments.
930=Office, printing, lithographic, and educational supplies.
940=Toys, athletic and sporting goods.
950=Containers.
970=Fire-extinguishing apparatus and supplies.
980=Brushes and brooms.
990=Miscellaneous articles.

COMMERCIAL TESTING LABORATORIES

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Examples of use of numerical and symbolic references:

600cpm is to be interpreted as "Iron and steel tested chemically, physically, and metallographically."

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES

ALABAMA

Name and address of laboratories	Commodities and nature of tests[1]
BIRMINGHAM:	
Pittsburgh Testing Laboratory, 921 Fifth Avenue, North.	*See* Pittsburgh.
Southern Testing Laboratories, 227 First Avenue, South.	020cap, 100ac, 110ac, 120ac, 130ac, 140ac, 170ac, 200ac, 210ac, 280ac, 290acp, 300ac, 310c, 320ac, 330ac, 400ip, 410ip, 420ip, 500aci, 510acip, 520ac, 530acip, 540acip, 550c, 590ac, 600acipm, 610acip, 620ac, 630ac, 640acip, 650ac, 680ac, 690acipm, 700i, 720i, 730i, 740i, 750i, 760i, 790i, 800aci, 820c, 830ac, 840aci, 850c, 860c, 870c, 880c, 890c.
MOBILE:	
Pittsburgh Testing Laboratory, 156 Mohawk Street.	*See* Pittsburgh.
A. W. Williams Inspection Co., 208 Virginia Street. (Branches at St. Louis, Mo., and New York City.	020cpi, 040cpi, 100cpi, 110cpi, 140cpi, 160c, 170c, 200cpi, 220c, 280cp, 400api, 410api, 420api, 500cpi, 510cpi, 530cpi, 540cpi, 550cpi, 570cpi, 590cpi, 600cpi, 610cpi, 620cpi, 630c, 640cpi, 650cpi, 660cpi, 680cpi, 690cpi, 710pis, 790si, 800cpi, 820c, 830cpi, 840cpi, 850cpi, 870cpi, 880cpi, 890cpi.

ARIZONA

KINGMAN: E. Ross Housholder, 429 Spring Street.	640c, 650c (lead, mercury), 660c (precious metals), 690c (ores).
NOGALES: Miller's Assay Office, 233 Grand Avenue.	590c, 650c, 660c, 680c, 690c.
TUCSON: A. L. Pellegrin & Son, 339 South Stone Avenue. (Branch at Calexico, Calif.).	500cm, 570cm, 600cm, 620cm, 630cm, 640cm, 650cm, 660cm, 680cm, 690cm, 850cm.

ARKANSAS

LITTLE ROCK: Van Trump Laboratory, 219 Terminal Warehouse Building.	*See* Chicago.

CALIFORNIA

CALEXICO: A. L. Pellegrin & Son	See Tucson.
FRESNO: The Twining Laboratories, 2527 Fresno Street.	000b, 010cb, 020cb, 030cb, 040cpal, 050cpa, 060cpa, 070cpa, 090cpa, 100cbas, 110cbas, 120cbas, 130cbas, 140cbas, 150cbas, 160cbas, 170cbas, 200cpeas, 210ceas, 220cas, 230cbas, 240cba, 250sb, 260cb, 280cbps, 290cbas, 300cpa, 310cpa, 320cpa, 330cpa, 340cpa, 360cpa, 370cpa, 390cpa, 400cp, 410cp, 420cp, 430cp, 470cpa, 480cp, 490cpa, 500chp, 510cpai, 520cpa, 530cphi, 540cpha, 550cpe, 560cp, 570cp, 590cp, 600cpmi, 610cpmi, 620cpm, 630cpm, 640cpm, 650cpm, 660cpm 670ps, 680cpm, 690cpmes, 700s, 710s, 720s, 730s, 740s, 750s, 760s, 770s, 780s, 790s, 800ct, 810cbt, 820c, 830cbt, 840cpa, 850cb, 860cp, 870cb, 880cb, 890cbt, 910s, 930pas, 940pi, 950pi, 970pi, 980pi, 990pi.
LAGUNA BEACH: Geijsbeck Engineering Co., Box 2391.	*See* Kent, Wash.
LOS ANGELES:	
American Gas Association Testing Laboratories, 1425 Grande Vista Avenue.	*See* Cleveland.
Atkin and McRae, 747 South Hill Street	500c, 510c, 520c, 530c, 550c, 570c. 590c, 600c, 630c, 640c, 650c, 680c, 690c, 850c, 880c.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

CALIFORNIA—Continued

Name and address of laboratories	Commodities and nature of tests[1]
Los Angeles—Continued.	
Baverstock & Payne, 552 South Figueroa Street.	020c, 040c, 100c, 110c, 120t, 130ct, 140c, 160c, 170c, 500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 600c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
California Testing Laboratories (Inc.), 1429 Santa Fe Avenue.	000t, 010bc, 020bc, 030bc, 040cpa, 090c, 100ac, 110c. 120ct, 130ct, 140c, 150c, 160c, 170c, 200cp, 210c, 280c, 290ct, 300apc, 310apc, 320apc, 330apc, 340apc, 360apc, 370apc, 390apc, 400pi, 410pi, 470acpi, 500cpi, 510cpma, 520cma, 530acpm, 540acp, 550acm, 570cm, 590cm, 600acpmi, 610acpmi, 620acpmi, 630cpim, 640cpim, 650cpim, 660c, 680cm, 690cm, 700i, 740i, 750is, 800ci, 810ct, 820c, 830c, 840cp, 850c, 870c, 880cb, 890c, 910p, 930ct, 950s, 970c.
George W. Gooch Laboratories (Ltd.), 1431½ Santa Fe Avenue.	010c, 040c, 090c, 110c, 130cp, 140c, 570c, 850c, 870c.
John Herman Laboratory, 771 San Julian Street.	600c, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c.
Robert W. Hunt Co., 638 Chamber of Commerce Building.	*See* Chicago.
Los Angeles Testing Laboratory, 1300 South Los Angeles Street.	010cbp, 020cbpa, 030cbp, 040cp, 050cp, 060cp, 090bcp, 100cpa, 110cp, 120cp, 130cpa, 140cpa, 150cpa, 160cpa, 170cpba, 200cp, 210cp, 220cpa, 230cpa, 240p, 260cpa, 280cpa, 290cpa, 300cpa, 310cpa, 320cpa, 330cpa, 340cpa, 360cpa, 370cpa, 390cpa, 400cip, 410cipa, 420cip, 430cip, 470cpa, 480cipa, 490cpa, 500cpl, 510cpi, 520cp, 530chip, 540chip, 550cehip, 570cip, 590cip, 600cimp, 610cimp, 620cimp, 630cimp, 640cimp 650cimp, 660cimp, 680cimp, 690cimp, 700p, 720ip, 730ip, 740ip, 750ip, 760ip, 770ip, 780ip, 790ip, 800cip, 810cpa, 820cp, 830cp, 840cipa, 850cip, 860cip, 870cpa, 880cbp, 890cipa, 910pi, 930pic, 940cipa, 950cipa, 970cpi, 980cipa, 990cpialms.
Raymond G. Osborne Laboratories, Rives-Strong Building.	020c, 030c, 040ac, 060c, 090ac, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 200ci, 210c, 220c, 230c, 260c, 280c, 290c, 300c, 310c, 320cp, 330cp, 340c, 360c, 370c, 390c, 400cpi, 410cpi, 420cpi, 430cp, 470cpi, 490cpi, 500cpia, 510cpia, 520cpai, 530cpai, 540cpai, 550cpai, 560cpai, 570cpai, 590cpai, 600acpim, 610acpim, 620acpim, 630acpim, 640acpim, 650acpim, 660acpi, 680acpi, 690acpi, 700alps, 720alps, 730alps, 740alps, 750alps, 760alps, 770alps, 780alps, 790alps, 800cpi, 810acpi, 820cpi, 830cpi, 840acpsi, 850ci, 870cai, 880cpias, 890cpi, 930c, 940cpi, 950cpi, 970cpi, 980cpia, 990cpia.
Smith-Emery Co., 920 Santee Street	000abc, 010c, 020cb, 030c, 040c, 060c, 090c, 100c, 110cb, 120cb, 130c, 140cpa, 150ca, 160c, 170cb, 200cbp, 210cp, 220c, 240c, 280c, 290c, 300cp, 310c, 320c, 330c, 340c, 360cp, 370cp, 390cp, 400c, 410c, 470cp, 490cp, 500c, 510c, 520cpm, 530cm, 540c, 550c, 570ci, 590cim, 600cim, 610ci, 620cm, 630cm, 640cm, 650cm, 680cm, 690cm, 700pi, 710pi, 740pi, 750pi, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880cb, 890c, 910p, 930cp, 950cp, 970c, 980cp, 990cp.
Truesdail Laboratories (Inc.), 520 W. Avenue 26.	000cb, 010cb, 020cb, 030cb, 040cb, 090cb, 100cb, 110cb, 120cb, 130cb, 140cb, 150cb, 160cb, 170cb, 220cb, 290cb, 810cb, 850cb, 880cb, 890cb.
Pasadena: R. C. Burt Scientific Laboratories, 1212 East Green Street.	290hps, 340hps, 360hps, 520hps, 620hp, 630hp, 710chps, 870cp, 880chp, 910acehps.
San Francisco:	
Curtis & Tompkins, Ltd., 236 Front Street	010bc, 020bc, 030bc, 040bc, 050c, 060c, 090bc, 100bci, 110bci, 120bci, 130bci, 140bci, 150bci, 160bci, 170bci, 200c, 210c, 220c, 230c, 240c, 260c, 280c, 290c, 300c, 310c, 320c, 330c, 340c, 360c, 370c, 390c, 470c, 490c, 500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 810c. 820c, 830c, 840c, 850c, 870c, 880bc, 890bc, 970c.
Abbot A. Hanks (Inc.), 624 Sacramento Street.	400i, 410i, 470c (pulp), 500c, 510cip, 530cip, 540c, 550c, 570c, 590c, 600cimp, 610cimp, 620c, 630c, 640cip, 650ci, 660c, 680c, 690ci, 840ci, 850c.
Robert W. Hunt Co., 251 Kearney Street	*See* Chicago.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

CALIFORNIA—Continued

Name and address of laboratories	Commodities and nature of tests[1]
SAN FRANCISCO—Continued.	
Pacific Chemical Laboratories, 617 Montgomery Street.	020bc, 030bc,040bc,090abc, 100abc, 110abc, 140c, 150bc, 160c, 170abcis, 210c, 220c, 230c, 260a, 280bc, 300ac, 310ac, 340c, 360ac, 370ac, 390ac, 470ac, 490ac, 500c, 510c, 570c, 590c, 630c, 800c, 810c, 820c, 830c, 840ac, 850c, 870c, 880c, 890c.
The Shaw Laboratory, 1155 California Street.	910i.
Smith-Emory and Co., 651 Howard Street.	000abc, 010c, 020cb, 030c, 040c, 060c, 090c, 100c, 110cb, 120cb, 130c, 140cpa, 150ca, 160c, 170cb, 200cbp, 210cp, 220c, 240c, 280c, 290c, 300cp, 310c, 320c, 330c, 340c, 360cp, 370cp, 390cp, 400c, 410c, 470cp, 490cp, 500c, 510c, 520cpm, 530cm, 540c, 550c, 570ci, 590cim, 600cim, 610ci, 620cm, 630cm, 640cm, 650cm, 680cm, 690cm, 700pi, 710pi, 740pi, 750pi, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880cb, 890c, 910p, 930cp, 950cp, 970c, 980cp, 990cp.
Wildberg Bros. Smelting & Refining Co., 742 Market Street.	630c, 640c, 650c, 660c, 680c.
WILMINGTON: E. W. Saybolt & Co., 529 Avalon Boulevard.	*See* Houston, Tex.

COLORADO

DENVER:	
Paul S. Nice, 312 Seventeenth Street	000abci, 010abci, 020abci, 030abci, 040abci, 050abci, 060abci, 070abci, 090abci, 100abct, 110abct, 120abct, 130abct, 140abct, 150abct, 160abct, 170abct, 200abc, 210abc, 220abc, 230abc, 260abc, 280abc, 290abc, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 500achl, 560ac, 600acm, 620ac, 630ac, 640ac, 650ac, 660ac, 680acm, 690acm, 800c, 810c, 820c, 830c, 840ac, 850ac, 870abc, 880abc, 890abc.
Pierce Testing Laboratories, 730 Nineteenth Street. (Branch at Pueblo.)	390cpi, 400cpi, 410cpi, 420pi, 500cp, 510cpi, 520cpi, 530cpi, 540cpi, 550cpi, 570cp, 590cp, 600cpi, 610cpi, 620cpi, 630cpi, 640cpi, 650cpi, 680cpi, 690cpi, 750i, 800cpi, 840cpi, 850cpi, 890cp.
J. W. Richards & Son, 1118 Nineteenth Street.	020c, 040c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 200c, 210c, 220c, 230c, 280c, 300c, 400c, 470c, 500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c. 800c, 810c, 820c, 830c, 840c, 850c, 870c, 890c.
Root & Simpson, 1306 East Seventeenth Avenue.	630cm, 640cm, 650cm, 660cm, 680cm.
Henry E. Wood Assaying Co., 1750 Arapahoe Street.	500c, 600cm, 610cm, 620cm, 630cm, 640cm, 650cm, 660cm, 680cm, 690cm.
PUEBLO: Pierce Testing Laboratories	See Denver.

CONNECTICUT

BRIDGEPORT: Bridgeport Testing Laboratory (Inc.), 675 Knowlton Street.	010bc, 020bc, 040c, 050c, 060c, 070c, 100c, 110c, 120c, 140c, 150c, 160c, 170bc, 200c, 210c, 280c, 300c, 320c, 330c, 360c, 470pc, 500pc, 510pc, 520c, 530c, 540c, 550c, 560c, 570c, 590c, 600cp, 610cp, 620c, 630cp, 640cp, 650c, 660c, 680c, 690c, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
HARTFORD:	
The Stanley P. Rockwell Co., 296 Homestead Avenue.	600himp, 610himp.
The Henry Souther Engineering Corporation, 11 Laurel Street.	020c, 040c, 060c, 140c, 200c, 280c, 410p, 470cp, 500cp, 510p, 600cpm, 620c, 630cpm, 640cpm, 650cpm, 680cpm, 880c.
PORTLAND: State Highway Department Testing Laboratory, Marlborough Street.	140acp, 200ap, 300p, 400pi, 500acip, 510acp, 530p, 570p, 600acip, 630p, 640acp, 650cp, 800acip, 820cps, 830cp, 840acp, 870acp, 890acp, 970acp, 990acp.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

DISTRICT OF COLUMBIA

Name and address of laboratories	Commodities and nature of tests[1]
WASHINGTON:	
Froehling & Robertson (Inc.), 1531 Wisconsin Avenue NW.	*See* Richmond.
Henry C. Fuller Laboratory, 1835 Eye Street NW.	000ct, 010c, 020c, 030cb, 040c, 090cb, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170cb, 200c, 210c, 220c, 230c, 260c, 500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 810cb, 820c, 830c, 840c, 850c, 870cb, 880cb, 890cb.
Washington Testing Laboratory, 1531 Wisconsin Avenue.	510ip, 600p.

FLORIDA

JACKSONVILLE: Pittsburgh Testing Laboratory, 2729 College Street.	*See* Pittsburgh.
MIAMI:	
H. C. Nutting Co., 1010 Northwest Twentieth Street.	*See* Cincinnati.
Pittsburgh Testing Laboratory, 1849 Northwest Seventh Avenue.	*See* Pittsburgh.
TAMPA: Pittsburgh Testing Laboratory, 1504 Grand Central Avenue.	*See* Pittsburgh.

GEORGIA

ATLANTA:	
The Dumas Laboratory, 407 Five Ivy Street Building.	010c, 020c, 040c, 090c, 110c, 140c, 150c, 170c, 500c, 510c, 530c, 570c, 590c, 630c, 640c, 650c, 680c, 840c, 850c, 870c, 880c, 950s.
Law & Co., 16 East Baker Street	*See* Wilmington, N. C.
State Highway Board of Georgia, 2 Capitol Square.	500cp, 510p, 530p, 600cp, 800cp, 840cp.
CORDELE: Law & Co	*See* Wilmington, N. C.

ILLINOIS

CAIRO: Barrow-Agee Laboratories, Inc., Board of Trade Building.	*See* Memphis.
CHICAGO:	
Associated Electric Laboratories (Inc.), 1033 West Van Buren Street.	210aeips, 390aeip, 470aceps, 600aeips, 640aeips, 710aehilps, 840aceps, 890c, 910aehilps, 990ailps.
Beechem Laboratories, 608 South Dearborn Street.	010abct, 020abct, 110abct, 130abct, 140abct, 160abct, 170abct, 200abct, 280abct, 290abct, 850abct, 870abct, 880abct, 890abct, 950abct.
George Borrowman, 9 South Clinton Street	010ct, 020ct, 030ct, 040c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 200c, 210c, 220c, 280c, 290c, 470c, 500c, 510c, 520c, 530c, 540c, 550c, 560c, 570c, 590c, 630cm, 640cm, 650cm, 660c, 680c, 690cm, 800c, 810ct, 820c, 830c, 840c, 850c, 870ct, 880c, 890c.
Chicago Testing Laboratory (Inc.), 536 Lake Shore Drive.	200acp, 210acp, 500acip, 510acip, 530acip, 800acip, 840acp.
The Columbus Laboratories, 31 North State Street.	000abct, 010abc, 020abc, 030abc, 040abc, 050abc, 060abc, 070abc, 090a, 100abc, 110abc, 120abc, 130abc, 140abc, 150abc, 160abc, 170abc, 200abc, 210abc, 220abc, 230abc, 240abc, 250b, 260abc, 280abc, 290abc, 300abc, 310abc, 320abc, 330abc, 340abc, 360abc, 370abc, 390abc, 400abc, 410abc, 420abc, 430abc, 470abc, 480abc, 490abc, 500abc, 510abc, 520abc, 530abc, 540abc, 550abc, 570abc, 590abc, 800abc, 810abc, 820abc, 830abc, 840abc, 850abc, 860abc, 870abc, 880abc, 890abc, 950abc, 970abc, 980abc, 990abc.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

ILLINOIS—Continued

Name and address of laboratories	Commodities and nature of tests[1]
CHICAGO—Continued.	
Commercial Testing and Engineering Co., 307 North Michigan Avenue. (Branches at Charleston, W. Va.; Toledo, Ohio; and Detroit, Mich.)	500cp, 510cp, 530cp, 570cp, 700hips, 880cs.
Dearborn Chemical Co., 310 South Michigan Avenue.	210c, 230c, 500cp, 630c, 680c, 840c, 880cp, 890cp.
Deavitt Laboratories, 209 South LaSalle Street.	010c, 020bc, 040c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160bc, 170bc, 200c, 210c, 220c, 230c, 280c, 290c, 300ac, 310ac, 360c, 370c, 390c, 400c, 470ac, 500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 800c, 810ci, 820c, 830c, 840ci, 850c, 870bc, 880bc, 890c, 930c, 950cp, 980c, 990c.
Walter H. Flood & Co., 822 East Forty-second Street.	300cpi, 310cpi, 320cip, 330cpi, 360cpi, 370cpi, 390cpi, 400pi, 470cpi, 470cpi, 490cpi, 500acipl, 510cipa, 530cpi, 540cpi, 600cpi, 610cpi, 640cp, 680cp, 800acip, 840acip.
Gulick-Henderson Co., 431 South Dearborn Street.	*See* Pittsburgh.
E. F. Houghton & Co., 3534 Shields Avenue	*See* Philadelphia.
Robert W. Hunt Co., 175 West Jackson Boulevard. (Branches at Pittsburgh, Pa.; New York, N. Y.; St. Louis, Mo.; San Francisco, Calif.; Los Angeles, Calif.; Seattle, Wash.; Philadelphia, Pa.; Portland, Ore.; New Orleans, La.; Montreal, Canada; and London, England.)	040c, 060cips, 140c, 200cp, 280c, 300acipsx, 400acipsx, 410acipsx, 420acipsx, 430acipsx, 500achips, 510achimpsx, 520acip, 530achimpsx, 540achimpsx, 550achimpsx, 570achipsx, 590achipsx, 600achipsx, 610achipsx, 620achipsx, 630achipsx, 640achipsx, 650achipsx, 660achipsx, 680achipsx, 690achipsx, 700acipsx, 710acipsx, 720acipsx, 730acipsx, 740acipsx, 750acipsx, 760acipsx, 780acipsx, 790acipsx, 800acip, 820ci, 830ci, 840achips, 850c, 870c, 880c, 890ci.
Charles C. Kawin Co., 431 South Dearborn Street. (Branch at Buffalo, N. Y.)	300c, 360c, 500c, 510c, 530c, 540c, 550c, 570c, 590c, 600cp, 610cp, 620cp, 630c, 640cp, 650c, 680c, 690c, 850c.
Miner Laboratories, 9 South Clinton Street	010c, 020c, 030c, 040c, 050c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 210c, 220c, 260c, 280c, 290c, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 870c, 890c, 990c.
Phoenix Chemical Laboratory (Inc.), 3953 Shakespeare Avenue.	040clps, 140clps, 210c, 500cps.
Pittsburgh Testing Laboratory, 223 West Hubbard Street.	*See* Pittsburgh.
The Don L. Quinn Co., 609 North La Salle Street.	950p.
Research Laboratories of the Portland Cement Association, 33 West Grand Avenue.	510cp.
Servicised Products Corporation, 6051 North Sixty-fifth Street.	500c.
Siebel Institute of Technology, 958 Montana Street.	020bc, 040bcp, 100bcp, 110c, 140cp, 150cp, 160cp, 170bcp, 210c, 500ch, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 690c, 820c, 850c, 880c.
United States Testing Co. (Inc.), 1118 Merchandise Mart.	*See* Hoboken.
Van Trump Testing Laboratory, 329 South Wood Street. (Branch at Little Rock, Ark.)	400aips, 410aips, 500acips, 510acips, 530acips, 540acips, 600acips, 610acips, 620acips, 630cips, 640cp, 650cp, 680cp, 690cp, 800acips, 840acips.
Wahl-Henius Institute, 64 East Lake Street	010abc, 020abc, 030abc, 040abc, 060abc, 100abcis, 110abcis, 120abcs, 130abc, 140abc, 150abc, 160abcs, 170abcips, 210abc, 220abc, 240abc, 260ac, 280abci, 290abcip, 300ab, 310ab, 420abc, 500acps, 520aps, 540abcps, 800abcips, 810abcips, 830abcips, 840acs, 850abcs, 870abcps, 890abcips, 910abcips, 950bcips, 970bcips.
E. H. Ward & Co., 608 South Dearborn Street.	510cp, 600ip, 610ip.
QUINCY: Central Fibre Products Co., 830 South Front Street.	470cpasi, 490cpasi.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

INDIANA

Name and address of laboratories	Commodities and nature of tests[1]
HAMMOND: The Indiana Laboratories Co., 477 Logan Street.	010c, 020c, 040acp, 050acp; 090acp, 100aspic, 110aspic, 120aspic, 140aspic, 160aspic, 170aspic, 500aspic, 510c, 520ac, 530ac, 540ac, 550ac, 570ac, 590ac, 600aspic, 610aspic, 620aspic, 630aspic, 640aspic, 650aspic, 660aspic, 680aspic, 690aspic, 840aspic, 850aspic, 870ac, 880ac, 890aspic.
INDIANAPOLIS: Pittsburgh Testing Laboratory, 1511 East Michigan Street.	*See* Pittsburgh.

IOWA

DES MOINES:	
Howard C. Maffitt, 522 Eleventh Street.	000ac, 010bc, 020abc, 030bc, 040cp, 050c, 060c, 070c, 090abc, 100abc, 110c, 120abc, 130c, 140cp, 150abc, 160abc, 170abc, 200c, 210c, 220c, 230c, 240c, 250c, 260c, 280c, 290c, 300acp, 310acp, 320acp, 330ac, 340ac, 360ac, 370acp, 390ac, 400c, 410c, 420c, 430c, 470ac, 480ac, 490ac, 500chp, 510cp, 520c, 530c, 540acp, 550c, 570c, 590c, 600ac, 610ac, 620ac, 630ac, 640ac, 650ac, 660ac, 680ac, 690ac, 800c, 810c, 820c, 830c, 840acp, 850c, 860c, 870c, 880bc, 890c, 930c, 940c, 950c, 970c, 980c, 990c.
Patzig Testing Laboratories, Ingersoll Avenue at Twenty-third Street.	020cp, 040cpa, 100c, 110c, 140cpa, 170c, 200cpe, 210cp, 280p, 290cphe, 300hip, 320cip, 330cip, 360cip, 390ciphe, 400ip, 410iph, 470ciphe, 490ciphe, 500ciphe, 510aciph, 530aciph, 550c, 570cp, 590ciphe, 600acip, 610acip, 620cip, 630acip, 640acip, 650acip, 660c, 680acip, 690acips, 700ip, 710aipes, 720iaps, 740iaps, 790aeips, 800acip, 840acips, 850c, 970cips, 880cs, 910ips, 950ips, 970ps, 980ps, 990acips.
DUBUQUE: Inland States Testing Laboratory, Tenth and Locust Streets.	400ch, 500achip, 510cp, 890aci.

KANSAS

WICHITA: United Laboratories, 240 North St. Francis Street, Fifth Floor.	500acps, 590ps, 990s.

KENTUCKY

LOUISVILLE: Janes & Geiger (Inc.), 817 West Market Street.	110c, 260c, 500chl, 600c, 620c, 640c, 800c, 850c.

LOUISIANA

NEW ORLEANS:	
Robert W. Hunt Co., 633 Canal Street	*See* Chicago.
Pittsburgh Testing Laboratory, 816 Howard Avenue.	*See* Pittsburgh.
The Rice Millers Association, P. O. Box 1289	100cps (rice).
E. W. Saybolt & Co., 1739 St. Charles Avenue.	*See* Houston, Tex.
Shilstone Testing Laboratory, 510 Gravier Street. (Branches at Houston, San Antonio, and Mount Pleasant, Tex.)	020abc, 040abc, 090abc, 100abc, 110abc, 120abc, 140abci, 150abci, 160abci, 170abc, 200c, 210c, 220abc, 230c, 240c, 280abc, 290abc, 320i, 330i, 340i, 400i, 410i, 420i, 490cp, 500cpi, 510cpi, 520cp, 530cpi, 540cpi, 550c, 570cpi, 590cpi, 600cm, 610cm, 620cm, 630cm, 640cm, 650cm, 680cm, 690cm, 700i, 710i, 720i, 740i, 750i, 760i, 770i, 780i, 790i, 800ci, 810ci. 820ci, 830ci, 840cip, 850ci, 860ci, 870ci, 880abci, 890abci, 910i, 950i, 970i.
OPELOUSAS: Barrow-Agee Laboratories, Inc., 535 South Main Street.	*See* Memphis.
SHREVEPORT: Barrow-Agee Laboratories, Inc., 721½ Marshall Street.	*See* Memphis.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

MAINE

Name and address of laboratories	Commodities and nature of tests[1]
LEWISTON:	
A. B. Andrews: rr 166 Main Street	040c, 090c, 470c, 500c, 520p, 600c, 610c, 640c, 680c, 690c, 710p, 820c, 850c, 910p.

MARYLAND

BALTIMORE:	
E. L. Conwell & Co., 921 South Wolfe Street	*See* Philadelphia.
Froehling & Robertson (Inc.), 3805 Brooklyn Avenue.	*See* Richmond.
Gascoyne & Co. (Inc.), 27 South Gay Street.	020c, 030c, 040c, 060c, 090c, 100ca, 110ca, 140c, 170c, 260c, 290c, 360c, 390c, 500cp, 510cp, 570c, 590c, 640c, 650c, 660c, 680c, 850acip, 870c, 890c.
Hamlin and Morrison, 502 East Pratt Street	*See* Philadelphia.
Penniman & Browne, 341 St. Paul Place	010cb, 020cb, 030cb, 040cb, 090cb, 100cb, 110cb, 120cb, 130cb, 140cb, 150cb, 160cb, 170cb, 200c, 210c, 220c, 230c, 280c, 290c, 300cp, 310cp, 320cp, 330cp, 340cp, 390cp, 500cs, 510cs, 520cs, 530cs, 540cs, 550cs, 570cs, 590cs, 600cm, 610cm, 620cm, 630cm, 640cm, 650cm, 660cm, 680cm, 690cm, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
Strasburger & Siegel, 15 South Gay Street	010bc, 020bc, 030bc, 040cbp, 100c, 110c, 120abc, 130abc, 140c, 150abc, 160abc, 170abc, 200c, 210c, 220c, 280c, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 470ac, 500cp, 510p, 520c, 530c, 540c, 570c, 640c, 650c, 680c, 800bc, 810c, 820c, 830c, 840c, 850c, 870c, 880bc, 890c.
Wiley and Company (Inc.), Calvert and Read Streets.	020c, 030c, 040c, 090c, 100c, 110c, 120c, 130c, 140c, 160c, 170c, 260c, 280c, 470c (wood pulp), 490c, 500c, 510c, 530c, 540c, 550c, 570c, 590c, 820c, 850c, 870c, 890c, 990c.
SILVER SPRING: National Association of Dyers and Cleaners, 7901 Georgia Avenue.	070ps, 390cps, 870s.

MASSACHUSETTS

BOSTON:	
W. C. Durfee Co. (Inc.), 114 Federal Street	230c, 300c, 310c, 360c, 370c, 390c, 800c.
Factory Mutual Laboratories, 184 High Street.	040ch, 140ch, 200cps, 410hs, 500ch, 510ips, 630hips, 640hips, 710eps, 840cis, 890cis, 970cips.
Metcalf & Eddy Laboratory, Statler Building.	040c, 500cp, 510cp, 530cp, 880abcip.
George W. Miles Laboratory, 88 Broad Street.	000c, 010c, 020c, 030c, 040c, 050c, 060c, 070c, 090c, 100c, 110c, 140c, 160c, 170c, 200c, 210c, 220c, 280c, 470c, 490c, 500c, 530c, 540c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
Oil Testing Laboratories, 8 Beacon Street	040cp, 140c, 500achlp, 510cp, 800cp, 840c, 860ci, 950its.
Skinner & Sherman (Inc.), 246 Stuart Street	010bc, 020bc, 030bc, 040c, 060c, 090bc, 100bc, 110bc, 120bc, 130bc, 140c, 150abc, 160abc, 170abc, 200cp, 210c, 220c, 260c, 280c, 290c, 300cp, 310cp, 320acp, 330acp, 340ac, 360acp, 370ac, 390acp, 410c, 420c, 430c, 470acp, 490acp, 500cp, 510cp, 520c, 530cp, 540c, 550c, 570c, 590c, 600cmp, 610c, 620c, 630c, 640cp, 650c, 680c, 690c, 800bct, 810bct, 820c, 830c, 840cp, 850c, 870bct, 880bct, 890c.
The Thompson & Lichtner Co. (Inc.), 620 Newbury Street.	200acp, 290acp, 390acp, 400acpi, 410acpi, 420acpi, 470acp, 500acpi, 510acpi, 530acpi, 600cpi, 610cpi, 620cpi, 630cpi, 640cpi, 650cpi, 680cpi, 690cpi, 720pi, 730pi, 740pi, 750pi, 760pi, 790pi, 840c, 870c, 890c.
J. R. Worcester & Co., 79 Milk Street	510ip.
CAMBRIDGE: General Radio Co., 30 State Street	710is, 910is.
PEABODY: The R. & M. Industrial Laboratories, 4 Union Street.	040c, 050c, 060c.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

MICHIGAN

Name and address of laboratories	Commodities and nature of tests[1]
DETROIT:	
Commercial Testing and Engineering Co., 1404 Union Guardian Building.	*See* Chicago.
The Detroit Testing Laboratory, 554 Bagley Avenue.	010cb, 020cb, 040cbp, 060cp, 090cb, 100abc, 110abc, 120abc, 130abc, 140abc, 150abc, 160abc, 170cb, 280acp, 290ac, 300acp, 320ap, 330ap, 340ap, 360ap, 370ap, 390ap, 470acp, 490acp, 500chl, 510cp, 530p, 540cp, 570c, 590c, 600cpmi, 610i, 620cpmi, 630cpmi, 640cpmi, 650cpmi, 660cpmi, 680cpmi, 690cpmi, 800ci, 820c, 830c, 840cps, 850c, 870c, 880c, 890c.
Perry Testing Laboratory, 201 Third Street.	200cp, 280c, 300cp, 330cp, 340cp, 360cp, 370cp, 400p, 410p, 470cp, 490cp, 500c, 510cp, 520cp, 530cp, 540cp, 570c, 590c, 600cp, 610cp, 620cp, 630cp, 640cp, 650cp, 660cp, 680cp, 690cp, 800c, 820c, 830c, 840c, 850c, 880c, 890c.
Pittsburgh Testing Laboratory, 436 Cass Avenue.	*See* Pittsburgh.

MINNESOTA

DULUTH: Minnesota Testing Laboratories, Inc., 618 Lyceum Building.	020c, 100c, 110c, 170c, 400cip, 500cip, 510cip, 530cip, 540cip, 570cip, 590cip, 600cipm, 610cipm, 620cipm, 630cip, 640cipm, 650ci, 680ci, 690cipm, 790cipm, 800cip, 820ci, 830c, 850c, 870ci, 880c, 890ci, 930c.
MINNEAPOLIS:	
The Howard Laboratory, 324 Fourth Avenue, South.	020acp, 100acps, 110acps, 120acp, 130acp, 140acp, 150acp, 160acp, 170acp, 240acp, 280acp, 290acp, 850acp, 870acp, 890acp.
Van Cleve Laboratories (Inc.), 322 South Fourth Street.	010bc, 020bcp, 040abcp, 090abcp, 110ca, 120cab, 130cab, 140cabp, 150c, 160cb, 170cab, 200abcp, 220acp, 260c, 300abcp, 400abcp, 470cp, 490abcp, 500cpa, 510cp, 520c, 530c, 540c, 570c, 590c, 600cpam, 620cp, 630cpam, 640cpam, 650cpam, 660cpam, 680cpam, 690cpam, 800cp, 810ct, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
ST. PAUL: Twin City Testing and Engineering Laboratory (Inc.), 2482 University Avenue.	100bc, 110bc, 120bc, 130bc, 140bc, 150bc, 160bc, 170bc, 300acp, 310acp, 320acp, 330acp, 340acp, 360acp, 370acp, 390acp, 400aips, 410aips, 420aips, 430aips, 470aips, 490aips, 500acips, 510acips, 530acips, 540acips, 550acips, 570acips, 590acips, 600acips, 610acips, 620acips, 630acips, 640acips, 650acips, 660acips, 680acips, 690acips, 700ips, 720ips, 730ips, 740ips, 750ips, 760ips, 780ips, 790ips, 800abcps, 820abcps, 840abcps, 850abcps, 870abcps, 880abcps, 890abcps, 910aps, 930aps, 940aps, 950aps, 970aps, 980aps.

MISSISSIPPI

JACKSON: Barrow-Agee Laboratories of Mississippi, Inc., 301½ West Pearl Street.	*See* Memphis.
MERIDIAN: N. E. Katz, 4005 Fifth Street	010abct, 020abct, 030abct, 040abct, 100abct, 110abct, 120abct, 130abct, 140abct, 150abct, 160abct, 170abct, 220abcpt, 300acip, 310acip, 320acip, 330acip, 340acip, 360acip, 370acip, 390acip, 500acip, 510acip, 520acip, 530acip, 540acip, 550acip, 570acip, 800acipt, 810acipt, 820acipt, 850acip, 870acip, 880acipt, 890acipt.
LELAND: Barrow-Agee Laboratories of Mississippi, Inc., 209 Main Street.	*See* Memphis.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

MISSOURI

Name and address of laboratories	Commodities and nature of tests[1]
JEFFERSON CITY: Missouri State Highway Dept., State Highway Building.	210cp, 400ip, 410ip, 470p, 500cip, 510cip, 530cp, 600cip, 640cip, 800cip, 840cip, 880cp.
JOPLIN: The Bruce Williams Laboratories, 620 Joplin Street. (Branch at Picher, Okla.)	010ci, 020abci, 030ci, 040ci, 090ci, 100bcip, 110abcip, 120bci, 130abci, 140abcip, 160abcip, 170abcip, 220c, 260c, 280c, 400acip, 410acip, 500achimp, 510achimp, 520achimp, 530achimp, 540achimp, 550achimp, 560achimp, 570achimp, 590achimp, 600acimp, 610acimp, 620acimp, 630acimp, 640acimp, 650acimp, 660acimp, 680acimp, 690acimp, 800achilp, 810c, 320achilp, 830achilp, 840achilp, 850achilp, 870achilp, 880achilp, 890achilp, 970cp, 990cip.
KANSAS CITY:	
Electric Instrument Service, 19 East Fourteenth Street.	710espi, 910espi.
General Testing Laboratories, 518 Delaware Street.	010c, 020c, 040c, 090cp, 100ct, 110ct, 120ct, 130ct, 140ct, 150ct, 160ct, 170ct, 210c, 220c, 230c, 240c, 260c, 280c, 290ct, 300cp, 310cp, 320cp, 330cp, 340cp, 360cp, 370cp, 390cp, 400cip, 410cip, 420cp, 430ip, 470cip, 480cp, 490cip, 500cip, 510cip, 520cip, 530cip, 540cip, 550cp, 560cp, 570cp, 590cip, 600cip, 610cip, 620cp, 630cp, 640cp, 650cp, 660cp, 680cp, 690cip, 800cp, 810c, 820c, 830c, 840cip, 850c, 860c, 870c, 880c, 890cip, 910cip, 950p, 990cip.
Industrial Testing Laboratory, 930 Wyandotte Street.	040c, 090c, 100c, 110c, 120c, 150c, 170c, 200c, 500c, 600cp, 610cp, 640cp, 660c, 800c, 810cb, 820c, 830c, 840c, 850c, 870c, 880cb, 890c, 930c.
ROLLA: Missouri Clay Testing and Research Laboratories, Missouri School of Mines and Metallurgy.	510cpax, 520caphx, 530pchamesx, 540ampcx, 570chaspx (magnesia), 590chapsex.
ST. LOUIS:	
George A. Hale, 7335 Arlington Drive	010abc, 020abc, 030ca, 040clp, 060cps, 090c, 100ci, 110ca, 120c, 140cl, 150c, 160c, 170c, 200cps, 210c, 220c, 230c, 240c, 280c, 290c, 310c, 360c, 390c, 400pi, 410pi, 420pi, 430pi, 470p, 480p, 490p, 500cpli, 510cpi, 520cp, 530cpis, 540c, 560c, 570c, 590cp, 600acimp, 610acimp, 620acim, 630c, 640c, 650c, 660c, 680c, 690c, 700chils, 730il, 740il, 750cil, 780cil, 790cil, 800c, 810c, 820c, 830c, 840acip, 850ac, 870ac, 880c, 890c, 910c, 950c, 970c, 990c.
Robert W. Hunt Co., Syndicate Trust Building.	*See* Chicago.
Laclede-Christy Clay Products Co., 1711 Ambassador Building.	530cph.
Pittsburgh Testing Laboratory, 4575 Chouteau Avenue.	*See* Pittsburgh.
Saint Louis Testing Laboratory (Inc.), 2317 Chouteau Avenue.	060p, 200p, 300p, 310p, 320p, 330p, 340p, 360p, 370p, 390p, 400p, 410p, 420p, 430p, 470p, 480p, 490p, 500c, 510cp, 530cp, 600cimp, 610cimp, 620cimp, 630cimp, 640cimp, 650cimp, 680cimp, 690cimp, 880c, 950p.
H. E. Wiedemann, 1604 Chemical Building	010ac, 020ac, 030ac, 040ac, 050ac, 060ac, 070ac, 090ac, 100ac, 110ac, 120ac, 130ac, 140ac, 150ac, 160ac, 170ac, 200ac, 210ac, 220ac, 230ac, 240ac, 250ac, 260ac, 280ac, 290ac, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 470ac, 490ac, 500ac, 510ac, 520ac, 530ac, 540ac, 570ac, 800ac, 810ac, 820ac, 830ac, 840ac, 850ac, 860ac, 870ac, 880ac, 890ac.
A. W. Williams Inspection Co., Paul Brown Building.	*See* Mobile.

NEBRASKA

LINCOLN: Harris Laboratories, 1920 Jefferson Avenue.	010abc, 020abci, 030ab, 040abcp, 090abcp, 100abc, 110c, 120abc, 130abc, 140abcp, 150abc, 160abc, 170abci, 210c, 220ac, 260c, 280ac, 290abc, 470c, 490c, 500acp, 510c, 530c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 800abct, 810abcit, 820ct, 830ct, 840ac, 850c, 860c, 870abci, 880abcit, 890abc, 910is.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

NEBRASKA—Continued

Name and address of laboratories	Commodities and nature of tests[1]
OMAHA:	
Omaha Testing Laboratories (Inc.), 511 South Twentieth Street.	010c, 020abc, 040abc, 090abc, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170bc, 280c, 290c, 390c, 490c, 500cp, 510cp, 530cp, 540c, 550c, 560c, 570c, 590c, 600cp, 610cp, 620cp, 630cp, 640cp, 650cp, 680cp, 690cp, 800c, 840cp, 850c, 870c, 880c, 890c.
United Laboratories, 1818 Leavenworth Street.	010abc, 020abc, 040acp, 100abc, 110abc, 260c, 880cb, 890c.

NEVADA

CARSON CITY: State of Nevada, Department of Highways, Heroes Memorial Building.	250ai, 290acips, 300ip, 400ai, 500acips (asphalt) 510acips, 530acips, 570ac, 600acimps, 610acimps, 620acimps, 630acimp, 640acimps, 650acimps, 680acimps, 690acimps, 800ac, 820ac, 830ac, 840aci, 870ac, 890ac
GOLDFIELD: Downer Brothers, 418 North Columbia Street.	640cmp, 650cmp, 660cmp.
LOVELOCK: Lovelock Assay Office (A. H. Scott), P. O. Box No. 7.	500ch, 510cp, 530ch, 540cp, 550c, 570c, 590c, 600ch, 610ch, 620ch, 630ch, 640ch, 650ch, 660ch, 680ch, 690chp.

NEW HAMPSHIRE

CONCORD: New Hampshire Highway Department Testing Laboratory.	500cp, 510cp, 530p, 600cp, 690cp, 800cp, 840cp, 890cp.

NEW JERSEY

BELLEVILLE: Standard Testing Laboratories (Inc.), 309 Cortlandt Street.	510c, 520c, 530c, 540c, 570c, 590c, 600c, 620ci, 630ci, 640ci, 650ci, 660ci, 680ci, 690ci.
BURLINGTON: William R. Conard, 321 High Street.	400api, 410api, 510api, 530apic, 600apci, 610apci, 620apci, 640apci, 690apci, 700psi, 710psi, 740psi, 750psi, 790psi.
CARLSTADT: Frederick J. Maywald, 301 Hoboken Road.	020ac, 030ac, 040ac, 100aci, 150ac, 170ac, 200acs, 210acs, 220acs, 230acs, 260acs, 280acs, 300acs, 310acs, 320acs, 330acs, 340acs, 360acs, 370acs, 390acs, 400acs, 410acs, 420acs, 430acs, 470acs, 480acs, 490acs, 500acs, 520acs, 530acs, 540acs, 600acs, 610acs, 620acs, 630acs, 640acs, 650acs, 660acs, 670acs, 680acs, 690acs, 860acs, 870acs, 880acs, 890acs.
DAYTON: Applied Research Laboratories, Inc., Jamesburg Road.	000bp, 020abcip, 030ab, 040abcp, 090abp, 100abp, 110ab, 140abt, 150abct, 160ab, 170ab, 200ab, 210ab, 220abt, 230abt, 280ab, 290abt, 520ahp, 800abt, 810abt, 820abt, 830abt, 840abt, 870abt, 880abt, 890abt.
DOVER: Dover Laboratory, 53 East McFarlan Street.	500cp, 510cp, 530cp, 570cp, 600c, 660c, 690c.
HOBOKEN United States Testing Co. (Inc.), 1415 Park Avenue. (Branches at Philadelphia, Pa.; New York, N. Y.; Chicago, Ill.; Greensboro, N. C.; Woonsocket, R. I.)	040cpabt, 060cpabt, 070cpabt, 140cpbt, 150cabt, 160cbt, 170cbt, 200cpabt, 210cpabt, 220cbt, 230cpabt, 260cbt, 280cpabt, 300cpahlisbt, 310cpailbt, 320cpahlibt, 330cpahlibt, 340cpahlibt, 360cpahlibt, 370cpahlibt, 390cpahlibt, 470cpabt, 480cpabt, 490cpabt, 500cpabt, 510cpabt, 520cpaisbt, 530cpabt, 540cpa, 550cpa, 570cpabt, 590cpabt, 600cpaisbt, 620cpa, 630cpa, 640cpa, 650cpa, 660cpa, 680cpa, 690cpais, 710peis, 770peis, 780peis, 790peis, 800cbt, 810cbt, 820cbt, 830cbt, 840cas, 850c, 870cpabt, 880cpabt, 890cpabt.
JERSEY CITY: The Analytical Laboratory, 921 Bergen Avenue.	010ct, 020abcit, 030abct, 040abct, 060c, 070t, 090bct, 100cb, 110c, 120bt, 130bt, 140c, 150btc, 160btc, 170abct, 200c, 230c, 260c, 280c, 310cpah, 320cpa, 330cpah, 340cpah, 360cpah, 370cpah, 390cpah, 470cpa, 480cpa, 490cpa, 510c, 530c, 540c, 550cpa, 570c, 590c, 630c, 640c, 650c, 680c, 800c, 810cbt, 820c, 830c, 840c, 870c, 880cb, 890c, 950ap, 970c, 990abcpt.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

NEW JERSEY—Continued

Name and address of laboratories	Commodities and nature of tests[1]
NEWARK:	
The Clinical Laboratory, 33 Lincoln Park	020abc, 090abc, 170abc, 880abc.
Gray Industrial Laboratories, 961 Frelinghuysen Avenue.	040c, 090c, 140c, 170c, 600cx, 610x, 630cx, 640cx, 650cx, 680cx, 690cx, 800c, 820c, 830c, 840c, 850c, 870c, 890c.
G. B. Hogaboom, Jr., & Co., 352 Mulberry Street.	660acim.
Howard Inspecting and Testing Laboratory, 228 Verona Avenue.	500achp, 510acip, 530acp, 600ip, 800acp, 840achp.
SOUTH ORANGE: The Gravelle Laboratory, 114 Prospect Street.	020ab, 040a, 060a, 070a, 090a, 100a, 140a, 150a, 160ab, 170ab, 200a, 210a, 220a, 230a, 240a, 260ab, 280a, 290a, 300a, 310a, 320a, 330a, 340a, 360a, 370a, 390a, 470a, 480a, 490a, 500a, 510a, 520a, 530a, 540a, 550a, 570a, 590a, 600am, 610am, 620am, 630am, 640am, 650am, 660am, 680am, 690am, 800a, 810a, 830a, 840a, 850a, 870a, 880a, 890a, 990a.

NEW MEXICO

ALBUQUERQUE: New Mexico State Highway Department Testing Laboratory, c/o University of New Mexico.	500cp, 510cp, 600cp.

NEW YORK

ALBANY: Touceda Chemical and Physical Laboratories, 943 Broadway.	010c, 020c, 040c, 220c, 300cm, 470cm, 500c, 530c, 540c, 570c, 590c, 600cm, 620cm, 630cm, 640cm, 650cm, 680cm, 690cm, 820c, 840c, 850c, 870c, 880c, 890c.
BROOKLYN:	
Ekroth Laboratories (Inc.), 60 Freeman Street.	000abcist, 010abcist, 020abcist, 030abcist, 040abcilpst, 050abc, 060abcps, 070abcpst, 090abcipst, 100abcipst, 110abcipst, 120abcipst, 130abcipst, 140abcilpst. 150abcipst, 160abcipst, 170abcipst, 200abcipst, 210abcipst, 220abcipst, 230abcipst, 240abcipst, 260abcipst, 280abcipst, 290abcipst, 300abcis, 310abcist, 320abcist, 330abcist, 340abcist, 360abcist, 370abcist, 390abcist, 400abcst, 410abcist, 420abcist, 430st, 470abcist, 480abcst, 490abchipst, 500acs, 510acis, 520bchis, 520abchipst, 540abchps, 550acps, 560acps, 570achps, 590abchipst, 600acs, 610acs, 620acs, 630acs, 640acs, 650acs, 660acs, 670acs, 680acs, 690achipst, 800abcst, 810abcst, 820abcpst, 830abcpst, 840abchipst, 850abcs, 870abcipst, 880abchipst, 890abchipst, 910cips, 920acip, 930acips, 940abcipst, 950abchipst, 970acipst, 980abcipst, 990abchiplst.
Foster D. Snell, Inc., 305 Washington Street	010bc, 020abc, 030bc, 040cpa, 050c, 060cpa, 070cp, 090bc, 100c, 110c, 120cba, 130ca, 140cpa, 150c, 160cp, 170cpba, 200cp, 210cp, 220cp, 230cp, 240acp, 260c, 280cpb, 290abcp, 300acps, 310cp, 320cp, 340cpas, 360cpas, 370cpas, 390cpas, 430cpsi, 470cpab, 490cpab, 500chip, 510cpi, 520cp, 530cph, 540cp, 550cp, 570cp, 590cp, 600c, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 800cpt, 810abct, 820cp, 830c, 840cpa, 850c, 860c, 870cpst, 880bcpst, 890abcpt, 930acps, 950cps, 990acps.
BUFFALO:	
Buffalo Testing Laboratories (Inc.), 37 Niagara Street.	010c, 020c, 040cp, 100c, 110c, 140cp, 150c, 160c, 170c, 200cp, 220c, 260c, 500cpa, 510cpa, 520cpa, 530cpa, 540cpa, 550cpa, 560cpa, 570cpa, 590cpa, 600cpaims, 610cpaims, 620cpaims, 630cpaims, 640cpaims, 650cpaims, 660cpaims, 680cpaims, 690cpaims, 800c, 810c, 820c, 830c, 840cpa, 850c, 870c, 880cs, 890c, 950aisx, 990aimpsx.
The A. W. Hoppenstedt Laboratory (Inc.), 90 Rapin Place.	040c, 050cp, 060cp, 140c, 230c, 500c, 890c.
Charles C. Kawin Co., 110 Pearl Street	*See* Chicago.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

NEW YORK—Continued

Name and address of laboratories	Commodities and nature of tests[1]
BUFFALO—Continued.	
The Moore Laboratory, 64 South Division Street.	040acp, 050acp, 060acp, 070acp, 120acip, 140aci, 160acp, 230acip, 250acp, 500acp, 820acp, 830acp, 850acp, 870acp, 890acip.
Pittsburgh Testing Laboratory, 51 Allen Street.	*See* Pittsburgh.
LONG ISLAND CITY:	
Food Research Laboratories (Inc.), 48–14 Thirty-third Street.	000abct, 010abct, 020abct, 030abct, 040abct, 090abct, 100abct, 110abct, 120abct, 130abct, 140abct, 150abct, 160abct, 170abct, 220abct, 260abct, 290abct, 810abct, 870abct, 880abct.
Radio Engineering Laboratories (Inc.), 100 Wilbur Avenue.	710ips (radio).
St. John X-Ray Service (Inc.), 30–20 Thomson Avenue.	040x, 050x, 060x, 100x, 140x, 170x, 200x, 210x, 220x, 230x, 240x, 260x, 280x, 300x, 310x, 320x, 330x, 340x, 360x, 370x, 390x, 400x, 410x, 420x, 430x, 480x, 500x, 510x, 520x, 530x, 540x, 550x, 560x, 570x, 590x, 600x, 610x, 620x, 630x, 640x, 650x, 660x, 670x, 680x, 690x, 700x, 710x, 720x, 730x, 740x, 750x, 760x, 770x, 780x, 790x, 800x, 810x, 820x, 830x, 840x, 850x, 860x,870x, 880x, 890x, 910x, 920x, 940x, 970x.
NEW YORK CITY (*See also* Brooklyn and Long Island City):	
Associated Analytical Laboratories, 113 West Forty-second Street.	010abc, 020abc, 030abc, 040abcp, 060abc, 070abc, 100abc, 110abc, 120abc, 130abc, 140abcp, 150ac, 160ac, 170abc, 200acp, 210acp, 220acp, 240ac, 280ac, 300abcp, 310abcp, 320abcp, 330abcp, 360abcp, 370abcp, 470acp, 500acp, 510acp, 530c, 540c, 570c, 600acp, 610acp, 620acp, 630c, 640c, 650c, 660c, 680c, 800c, 810abcpt, 820c, 830c, 850abc, 870act, 880cb, 980b.
John H. Banks Laboratories (Inc.), 26 John Street.	600c, 610c, 620c, 630c, 640c, 650c, 660c, 670c, 680c, 690c, 840c.
Bendiner & Schlesinger Laboratory, 3d Avenue & Tenth Street.	010cbtap, 020cbtap, 030cbtap, 040ctap, 090cbatp, 100catp, 110catp, 140cap, 150catp, 160catp, 170ct, 200ca, 210c, 220ca, 230c, 240cap, 250cap, 260c, 280cap, 290catp, 500c, 510c, 530c, 540c, 570c, 590c, 630c, 640c, 650c, 680c, 690c, 800c, 810cb, 820c, 830c, 840c, 850c, 870cb, 880cb, 890c.
Better Fabrics Testing Bureau (Inc.), 101 West Thirty-first Street.	060cpa, 070ahi, 200aips, 230c, 280c, 300cpabs, 310cpabs, 320cpabs, 330cpabs, 340cpabs, 360acpbs, 370cpabs, 400cpa, 470cpa, 490cpa, 900pcas, 020bc, 500cp, 700cis, 720cps, 880cbips.
The Blair Laboratory, 143 West Twentieth Street.	040cp, 050cp, 060cp, 070cp, 140cp, 230c.
Bull and Roberts, 117 Liberty Street	020bc, 500cp, 700cis, 720cps, 880cbips.
Container Testing Laboratories, 45 East Twenty-second Street.	300ps, 420ps, 470ps, 490ps, 950ps.
Cox & Fuller, 320 Broadway	300acips, 310acips, 320acips, 330acips, 340acips, 360acips, 370acips, 390acips (rayon, nylon, vinyon, etc.).
Electrical Testing Laboratories, East End Avenue at Seventy-ninth Street.	020c, 040abc, 060acp, 090a, 110c, 130ac, 140bcp, 160c, 170ac, 200ceipsx, 210cp, 230a, 260ch, 280cps, 290cps, 300acps, 310cps, 320acps, 330acps, 340acps, 360acps, 370acps, 390acps, 400ips, 410cp, 470acps, 480acps, 490acps, 500chpse, 520acehips, 530acehips, 540acehps, 550acehps, 560a, 570c, 590ch, 600aceimpsx, 610acipsx, 620cmps, 630acempsx, 640ceimps, 650acemp, 670eips, 680acmpx, 690cmps, 700ps, 710acehipsx, 750ps, 780ps, 790acehipsx, 800cpe, 810bc, 820c, 830c, 840achips, 870c, 880c, 890c, 910aeps, 920p, 930acips, 940cp, 950ps, 970p, 980ps, 990acehips.
Fuel Engineering Co. of New York, 215 Fourth Avenue.	500acp (coal, petroleum).
Hatch Textile Research, 25 East Twenty-sixth Street.	300acips, 310acips, 320acips, 330acips, 340acips, 360acips, 370acips, 390acips.
Hildreth & Co. (Inc.), 80 Washington Street	400aip, 410aip, 420aip, 500acip, 510acip, 530acip, 600acip, 610acip, 700aips, 710aeips, 730aeips, 740aeips, 750aeips, 760aeips, 770aeips, 780aeips, 840acips, 890aci.
The Hospital Supply Co. and Watters Laboratories, 155 East Twenty-third Street.	610p (aseptic steel furniture), 910p (sterilizers, autoclaves, water stills, and hospital furniture).
Robert W. Hunt Co., 59 Murray Street	*See* Chicago.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

NEW YORK—Continued

Name and address of laboratories	Commodities and nature of tests [1]
NEW YORK CITY (*See also* Brooklyn and Long Island City)—Continued.	
Emil F. Johnson, 133 Front Street	470ap (wood pulp and paper).
Johnson & Salisbury (Inc.), 254 West Thirty-first Street.	010abci, 090bcip (glue, gelatin), 100bc, 130bi, 150c, 160cip, 210ci, 280aps, 470cp, 890pi.
Burke H. Knight, 50 East Forty-first Street	040c, 140c, 170c, 210c (turpentine), 840c (shellac), 870c, 880bc (insecticides), 890c, 930c, 970c, 990c.
K. Hv. Knudsen, 87 Gold Street	470c (pulp).
Ledoux & Co., 155 Sixth Avenue	140i, 500c, 510ca, 520c, 530cah, 540cah, 550ca, 570ca, 590ca, 600cmhi, 610cm, 620cai, 630cai, 640cai, 650cai, 660ca, 680ca, 690cai, 830cai, 840ca, 850cai, 890ca.
J. L. Miles Laboratory, 418 Fourth Avenue	020cb, 040c, 050c, 060ci, 090c, 140c, 200c, 210c, 220ca, 230c, 280c, 290c, 300cpa, 310cpa, 320cpa, 330cpa, 340cpa, 360cpa, 370cpa, 390cpa, 470cpa, 490cpa, 500cp, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 800cb, 810cb, 820c, 830c, 840cp, 850c, 870c, 880cb, 890c, 910is.
Molnar Laboratories, 211 East Nineteenth Street.	010abct, 020abct, 030abct, 040abct, 060acp, 070apt, 100abc, 110bcp, 120abc, 130abc, 140abc, 150abc, 160abc, 170abc, 210aci, 220aci, 230aci, 240aci, 260aci, 280aci, 290aci, 500chip, 510cip, 520cip, 530cip, 540cip, 550acip, 570acip, 590acip, 800act, 810abct, 820c, 840acps, 850cp, 870abcpt, 880abcts, 890abcp.
New York Produce Exchange, 2 Broadway	010cp, 020c, 030c, 040cpsa, 100cspa, 110cspa, 130cspa, 140cspa, 150cspa, 160cspa, 170 cspa, 210c, 220c, 240c, 280c, 810cp, 820cp, 830cp, 840cp, 850cp, 870cp, 880cp, 890cp.
New York Testing Laboratories (Inc.), 80 Washington Street.	010bc, 020bc, 030bc, 040abct, 050abcipt, 060abcipt, 070cp, 100abci, 110abci, 120abci, 130abci, 140abci, 150abci, 160abci, 170abci, 200abcehip, 210abch, 220abc, 230abc, 260abcipt, 280abc, 290abc, 300acip, 310acip, 320acip, 330acip, 340acip, 360acip, 370acip, 390acip, 400acip, 410acip, 420acip, 430acip, 470acip, 480acp, 490acip, 500acehip, 510achip, 520acehip, 530achip, 540achip, 550acehip, 560acp, 570achp, 590abcp, 600acehimpsx, 610acehimpsx, 620achimp, 630acehimpsx, 640acehimpsx, 650acehimpsx, 660acehimpsx, 670aips, 680acehimpsx, 690acehimpsx, 700ilps, 710eilps, 720eilps, 730eilps, 740eilps, 750eilps, 760eilps, 770eilps, 780eilps, 790eilps, 800achipst, 810abc, 820abcipst, 830abcehipst, 840abcehipst, 850abcip, 860acip, 870abceipt, 880abcs, 890abcehipst, 910cpsi, 920cp, 930acip, 940cp, 950cpi, 970cpi, 980bcip, 990acip.
Pease Laboratories (Inc.), 39 West Thirty-eighth Street.	010cb, 020cb, 030cb, 040c, 050c, 060c, 070c, 090cbt, 100c, 110c, 120capi, 130capi, 140cb, 150c, 160cb, 170cb, 200ct, 210c, 220ct, 230ct, 260ct, 280c, 290c, 500cbt, 540c, 570ct, 590ct, 800cbt, 810cbt, 820ct, 830ct, 840ct, 850ct, 870abct, 880abctsi, 890ct, 950cbt.
Lucius Pitkin, Inc., 47 Fulton Street	020a, 030a, 170a, 200a, 300a, 470a, 490is, 500ac, 520ac, 530ac, 540ac, 550ac, 560ac, 570ac, 590ac, 600achimpxs, 610achimpsx, 620achimpsx, 630achimpsx, 640achimpsx, 650achimpsx, 660achimpsx, 670acm (watches), 680achimpsx, 690achimpsx, 800ac, 810ac, 820ac, 830ac, 840ac, 850ac, 870ac, 880ac, 890ac, 930acp, 950is, 970ac.
Pittsburgh Testing Laboratory, 157 Chambers Street.	*See* Pittsburgh.
Robert T. Pullar, 1440 Broadway	300aips, 310aips, 360aips, 370aips, 390aips.
W. S. Purdy Co. (Inc.), 128 Water Street	040cp, 140achi, 210aci, 220cp, 280cp, 300cpasi, 310cpasi, 320cpas, 330cpas, 340cpa, 360acps, 370cpa, 390cpa, 500cpsi, 510cp, 530cp, 800cp, 810c, 830cpsi, 840cpsi, 870cpsi, 880cp.
E. W. Saybolt & Co., 140 Cedar Street	*See* Houston, Tex.
Schwarz Laboratories (Inc.), 202 East Forty-fourth Street.	020bc, 030cb, 040cpa, 100ca, 120c, 130ca, 140c, 150abci, 160ac, 170abcis, 220c, 280c, 290cab, 790is (breweries), 810c, 870c, 880c.
Seil, Putt & Rusby, Inc., 16 East Thirty-fourth Street.	130abct, 140abct, 150abct, 170abct, 210abct, 220abcit, 230abct, 240abct, 260ac, 290acit, 490ct, 800abct, 810abcit, 830abct, 870abct, 890abct.
Silk Grading and Testing Laboratories, 22 West Twenty-sixth Street. (See Textile Testing and Research Laboratories, p. 18.	

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

NEW YORK—Continued

Name and address of laboratories	Commodities and nature of tests[1]
New York City (*See also* Brooklyn and Long Island City)—Continued.	
Stillman & Van Siclen (Inc.), 254 West Thirty-first Street.	020cpa, 040cpai, 100cpa, 110cpa, 140cpa, 150cpa, 160cpa, 170cpai, 200cpa, 210cpa, 220cpa, 240cpa, 260cpa, 280cpa, 400cip, 410pi, 470cpa, 490cpa, 500cpai, 510cpai, 520cpa, 530cpai, 540cpa, 550cpa, 570cpa, 590cpa, 800cpai, 810cpai, 820cpai, 830cpai, 840cpai, 850cpai, 870cpai, 880cpai, 890cpai.
Stillwell & Gladding (Inc.), 130 Cedar Street.	010c, 020c, 030c, 040cap, 110c, 140cap, 150c, 160c, 170c, 200c, 210c, 220cpa, 260c, 280ca, 290c, 470ca, 500cp, 510c, 520c, 530c, 540c, 570c, 590c, 600c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 810ca, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
Stillwell Laboratories (Inc.), The, 76½ Pine Street.	000c, 010c, 020c, 030c, 040c, 050c, 060c, 090c, 100c, 110c, 130c, 140c, 150c, 160c, 170c, 200c, 210c, 260c, 290c, 500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
Textile Testing and Research Laboratories, 22 West Twenty-sixth Street.	060s, 070s, 300acips, 310acips, 320acips, 330acips, 360acips, 370acips, 390acips, 470cp, 490cp.
United States Testing Co. (Inc.), 1450 Broadway.	*See* Hoboken.
Walker & Whyte (Inc.), 409 Pearl Street	510ci, 520ci, 530ci, 550ci, 570ci, 590ci, 620ci, 630cim, 640cim, 650cim, 660ci, 680c, 690ci.
Weiss & Downs (Inc.), 50 East Forty-first Street.	210cp, 500acips, 780cip, 790cip, 800achips, 820acip, 830acip, 880abcip, 890acip, 990acip.
A.W. Williams Inspection Co., 90 West Street.	*See* Mobile.
Adolph J. Winkler, 40 Worth Street	040c, 230c, 280ac, 300acp, 310acp, 320acp, 330acp, 340acp, 360acp, 370acp, 390acp, 870c.
Rochester: National Testing Laboratories (Inc.), 135 University Avenue.	010abc, 020abc, 030abc, 040abc, 090abc, 100abc, 110abc, 120abc, 130abc, 140abc, 150abc, 160abc, 170abc, 500c, 510c, 520c, 530c, 540c, 570c, 590c, 630c, 640c, 650c, 680c, 850c, 870c, 880c, 890c.
Watertown: F. M. Williams, Park Place	470c (wood pulp).

NORTH CAROLINA

Greensboro:	
Pittsburgh Testing Laboratory, 125 South Davie Street.	*See* Pittsburgh.
United States Testing Co. (Inc.), 1200 Arlington Street.	*See* Hoboken.
Wilmington: Law & Co., Trust Building. (Branches at Atlanta, Cordele, Ga.)	010c, 020c, 030c, 040c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 210c, 220c, 290c, 500c, 530c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c, 990c.

OHIO

Akron: V. L. Smithers Laboratories, 2706 Central Tower.	200acp, 210acp, 300p, 710acpe (storage batteries).
Cincinnati:	
F. C. Broeman & Co., Third and Walnut Streets.	010c, 020c, 030c, 040c, 090c, 100c, 110c, 120a, 130a, 140c, 150c, 160c, 170c, 200c, 210c, 260c, 280c, 290c, 300c, 330c, 360c, 390c, 400c, 470ca, 490c, 500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 600c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
The Consulting Co., 2701 Cleinview Avenue.	200cpis.
H. C. Nutting Co., 4120 Davis Lane. (Branch at Miami, Fla.)	100c, 170c, 320c, 400acpi, 410acpi, 470c, 500cpi, 510cpi, 530cpai, 540cp, 570cp, 600cpai, 610cpai, 620cp, 630s, 640cp, 650cp, 700si, 710si, 720si, 730si, 740si, 750si, 760si, 770si, 780si, 790si, 800cp, 820cp, 830cp, 840cp, 850cp, 870cp, 880c, 890c.
The Louis G. Robinson Laboratories, 219 McFarland.	040abcp, 100c, 300p, 400p, 500achip, 510acp, 520acp, 530acp, 540acp, 550acp, 570acp, 590acp, 600acimps, 610acimps, 620acim, 630acimps, 640acimps, 650acimps, 680acimps, 690acimps, 840ac, 860ac, 870ac, 880ac.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

OHIO—Continued

Name and address of laboratories	Commodities and nature of tests[1]
CLEVELAND:	
American Gas Association Testing Laboratories. (Branch at Los Angeles.)	990acehimpst (gas appliances and accessories).
The Cremer-Case Co., 1200 West Ninth Street.	500c (coal), 600c, 610c.
Crowell and Murray (Inc.), 740 Superior Avenue NW.	500c, 530c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c.
The James H. Herron Co., 1360 West Third Street.	500cip, 510cip, 530cip, 570cip, 590cip, 600cmpx, 610cmpx, 620cmpx, 630cmpx, 640cmpx, 650cmpx, 680cmpx, 690cmpx, 700i, 710i, 760i, 780i, 820c, 840c, 850c, 880c, 890c.
Pittsburgh Testing Laboratory, 520 National Building.	*See* Pittsburgh.
The Textor Laboratories, 1627 East Twenty-fifth Street.	010c, 020c, 040cp, 100c, 110c, 120c, 140cp, 150c, 160c, 170cb, 200c, 210c, 280c, 300ca, 310ca, 320ca, 330ca, 340ca, 360ca, 370ca, 390ca, 500cp, 510c, 520c, 530c, 540c, 570c, 590c, 600cm, 610cm, 620cm, 630cm, 640cm, 650cm, 660cm, 680cm, 690cm, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
DAYTON: Bowser-Morner Testing Laboratories, 141 Bruen Street.	020cb, 040cp, 100cp, 110c, 140cp, 160c, 170c, 200cp, 210acp, 260c, 280acp, 290c, 300acp, 310acp, 320acp, 330acp, 340acp, 360acp, 370acp, 390acp, 470acp, 490acp, 500chips, 510cips, 530chp, 540acps, 570ac, 590ac, 600acips, 610acips, 620acips, 630acips, 640acips, 650acp, 660ac, 680ac, 690acp, 700ips, 800cips, 850c, 860cs, 870c, 880cs, 890acis, 930acps, 950ps, 990cips.
LANCASTER: The Sharp-Schurtz Co., 301 Lincoln Avenue.	510ac, 520acp, 530c, 550c, 590c.
TOLEDO:	
Commercial Testing and Engineering Co., 629 Edison Building.	*See* Chicago.
Toledo Testing Laboratory, 1810 North Twelfth Street.	500cip, 510cip, 530cip, 600cip, 640cp, 650cp, 680cp, 840cp.
YOUNGSTOWN: C. W. Danforth Co., 2412 South Avenue.	500c, 510c, 530c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 840c.

OKLAHOMA

OKLAHOMA CITY: Oklahoma Testing Laboratories, 1145 NW. Second Street.	020ac, 040acp, 090ac, 110ac, 140acp, 150ac, 160c, 170ac, 210c, 220c, 230c, 280c, 290c, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 400aip, 410aip, 420aip, 470ac, 490ac, 500cips, 510acips, 520cs, 530acips, 540acs, 550ac, 570ac, 590c, 600acimp, 610acimps, 620acimps, 630acipm, 640acipm, 650acipm, 660ac, 680acipm, 690acipms, 800cips, 810c, 820c, 830c, 840acips, 850ac, 870c, 880cis, 890acip, 910acipms, 930acipms, 940acipms, 950acipms, 970acipms, 990acipms.
PICHER: The Bruce Williams Laboratories, 109 South Connell Avenue.	*See* Joplin, Mo.

OREGON

PORTLAND:	
Bureau of Health Laboratories, 1220 Southwest Fifth Avenue.	000abt, 010abct, 020abct, 030abct, 100t, 120abt, 150abt, 160abt, 170bct.
Central Inspection Bureau, Terminal Sales Building.	130acp, 140acp, 400ap, 410api, 420ip, 600cpi, 630cpi, 640cpi, 700ip.
Robert W. Hunt Co., 720 Corbett Building.	*See* Chicago.
SALEM: Oregon State Highway Commission Laboratory, Engineering Laboratories Building.	400pi, 500cp, 510p, 530p, 590cp, 600cpi, 640cpi, 690cpi, 800cp, 840cp, 890cp.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

PENNSYLVANIA

Name and address of laboratories	Commodities and nature of tests[1]
CRESSON: Warner Laboratories, 617 First Street.	500cp, 510c, 530ch, 540c, 570c, 590c, 820c, 830c, 840c, 850c, 880c, 890c.
DARBY: A. C. Herting, 15 North Front Street	020abcit, 120abcit, 170abcit, 210abcit, 810abcit, 830abcit, 870abcit.
GREENSBURG: Charles D. Klingensmith, 520 Greene Street.	500c, 600c, 640c, 880b.
HARRISBURG: Andrew S. McCreath & Son, 236 Liberty Street.	500ch, 510c, 530c, 600c, 610c, 620c, 640c, 690c.
MALVERN: J. Bishop & Co., Platinum Works	660c.
NEW HOPE: Paper Laboratories (Inc.), 1 Old Mill Road.	470cpa, 480cpa, 490cpa.
PHILADELPHIA:	
American Water Softener Co., S. E. cor. Lehigh Avenue and Fourth Street.	880c.
Bell and Beltz, 3340 North Broad Street	100c, 880abc.
W. H. & L. D. Betz, Gillingham and Worth Streets, Frankford.	880abcipst.
Booth, Garrett & Blair, 414 Locust Street	500c, 510c, 520c, 530c, 540c, 550c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 840c.
Brewer & Gardner, S. E. cor. Eighteenth and Cherry Streets.	500cip, 510cp, 520c, 530c, 540c, 550c, 570c, 630c, 640c, 650c, 680c, 690c, 800c, 820c, 830c, 840c, 880c, 890c.
Joseph S. Carlitz, 339 South Thirteenth Street.	010bc, 020bc, 030c, 040c, 060c, 070c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170cb, 200c, 220c, 230c, 260c, 280c, 290c, 300c, 340c, 370c, 390c, 490c, 500c, 510c, 530c, 540c, 570c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c, 900c, 970c.
W. B. Coleman & Co., 1920 West Indiana Avenue.	500c, 510cp, 530cp, 540c, 570c, 590c, 600cpm, 610cpm, 620cpm, 630cpm, 640cpm, 650cpm, 660c, 680cpm, 690cpm, 840c, 880ascp.
E. L. Conwell & Co., 2024 Arch Street. (Branch at Baltimore, Md.)	040cp, 060cp, 140cp, 170c, 200cp, 260ac, 290ac, 390acp, 400cip, 410ip, 430p, 470acp, 490acp, 500cip, 510cip, 520cip, 530cip, 540cip, 550cp, 570c, 590cp, 600cip, 610cip, 620cip, 630cp, 640cp, 650cp, 660ac, 680cp, 690cip, 800cip, 810cip, 820cip, 830cip, 840cip, 850cip, 860cip, 870cip, 880cip, 890cip, 990acip.
George C. Davis, 636 Race Street	500c, 510c, 530c, 540c, 550c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c.
Frank R. Gunn Co., Ontario and Brabant Streets.	020c, 040aci, 090acp, 100ac, 110a, 140acip, 160ci, 210c, 280c, 500cip, 510c, 530c, 570cp, 600aci, 610aci, 620ci, 630aci, 640aci, 650aci, 680aci, 690aci, 800c, 820c, 840c, 850ci, 870aci, 880c.
Hamlin and Morrison, 216 South Second Street. (Branch at Baltimore, Md.)	040c, 090c, 110c, 400 (wood pulp), 570c, 850c, 870c.
E. F. Houghton & Co., 240 West Somerset Street. (Branch at Chicago.)	040cp, 050c, 060cp, 140c, 390c, 500c, 830c, 870c.
Robert W. Hunt Co., 728 Commercial Trust Building.	*See* Chicago.
Industrial By Products and Research Corporation, Gimbel Building, Eighth and Market Streets.	020abc, 060ps, 150abcp, 160abcp, 170abcpt, 220abcp, 230cs, 280acp, 290acp, 300abchips, 310abchips, 320abchips, 330abchips, 340abchips, 360abchips, 370-abchips, 390abchips, 470acps, 490acps, 830c, 840cp, 870abcp, 890abcp, 990s.
LaWall and Harrisson, 214 South Twelfth Street.	000abci, 010abci, 020abci, 040abci, 030abci, 050bct, 090bc, 100abcipt, 110abcipt, 120abcipt, 130abcipt, 140abcipt, 150abcipt, 160abcipt, 170abcipt, 200abc, 210abc, 220abc, 230abc, 240abc, 260abc, 280abc, 290abc, 300abcp, 310abcp, 320abcp, 330abcp, 340-abcp, 360abcp, 370abcp, 390abcp, 500acp, 520acp, 540acp, 570acp, 590acp, 800abcipst, 810abcipst, 820-abcipst, 830abcipst, 840abcipst, 850abcipst, 860-abcipst, 870abcipst, 880abcipst, 890abcipst, 930acips, 950acips, 970acips.
Metlab Co., 100 East Mermaid Avenue	600pm, 610pm, 630pm.
Tinius Olsen Testing Machine Co., 500 North Twelfth Street.	060p, 390p, 410p, 470p, 510p, 600p, 610p, 620p, 630p, 640p, 650p, 680p, 690p.
Pittsburgh Testing Laboratory, 238 Cherry Street.	*See* Pittsburgh.
Rubicon Co., Ridge Avenue at Thirty-fifth Street.	600cp, 610ep, 640e, 700s, 710es, 910es.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

PENNSYLVANIA—Continued

Name and address of laboratories	Commodities and nature of tests[1]
PHILADELPHIA—Continued.	
Samuel P. Sadtler & Son (Inc.), 210 South Thirteenth Street.	010abc, 020abc, 030abc, 040abc, 050bc, 060abcp, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 200c, 210c, 220c, 230c, 240c, 250c, 260c, 280c, 290c, 300acp, 310-acp, 320acp, 330acp, 340acp, 360acp, 370acp, 390acp, 470acp, 490p, 500acp, 510acp, 520acp, 530acp, 540acp, 550acp, 560acp, 570acp, 590acp, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c, 910p.
Samson Laboratories, 1619 Spruce Street	020abct, 140abcpt, 150abcpt, 160abcpt, 170abcpt, 210-bcp, 300bc, 310bc, 360bc, 370bc, 390bc, 430aceips, 800abcipst, 810abcipst, 820abcipst, 870abcipst, 880-abcipst, 890bct, 930c.
E. W. Saybolt & Co., 49th & Botanic Avenue	*See* Houston, Texas.
Smith, Rudy & Co., 20 North Third Street	500c, 510c, 530c, 600cm, 610c, 620c, 630c, 640c, 650c, 680c, 690c.
United States Testing Co. (Inc.), 601 West Susquehanna Avenue.	*See* Hoboken.
PITTSBURGH:	
Buckmaster-Patton Laboratory, 711 Penn Avenue.	010abc, 020abci, 030bc, 040c, 090bc, 100c, 110c, 120c, 130ac, 140c, 150abc, 160ac, 170abc, 810abc, 840cp, 870c.
Dairy Products Laboratory, 119 Federal Street, N. S.	020bc.
Gulick-Henderson Co. 524 Fourth Avenue. (Branch at Chicago, Ill.)	000c, 100c, 110c, 140c, 170c, 400i, 490i, 500c, 510cp, 520c, 530c, 540c, 550c, 590c, 600cpi, 610cpi, 620c, 630c, 640cpi, 650c, 660c, 680c, 690c, 700pi, 720i, 740i, 750i, 760i, 780i, 840c, 850c, 870c, 880c, 890c.
Robert W. Hunt Co., Professional Building	*See* Chicago.
National Canners' Laboratory, 711 Penn Avenue.	010abc, 020abc, 030abc, 040abc, 090abc, 100abc, 120abc, 130abc, 140abc, 150abc, 160abc, 170abc, 260b, 290abc, 570c, 950s.
Pittsburgh Testing Laboratory, Stevenson and Locust Streets. (Branches at New York, N. Y.; Philadelphia, Pa.; Greensboro, N. C.; Birmingham, Ala.; Jacksonville, Fla.; Miami, Fla.; Tampa, Fla.; Mobile, Ala.; New Orleans, La.; Houston, Texas; Dallas, Texas; St. Louis, Mo.; Chicago, Ill.; Indianapolis, Ind.; Detroit, Mich.; Cleveland, Ohio; and Buffalo, N. Y.	020c, 040cl, 060ps, 090c, 110c, 140cl, 150c, 160c, 170c, 200cps, 280cp, 300cps, 310ps, 320ps, 330ps, 340hp, 360chps, 370ps, 390pc, 400hips, 410hips, 420hips, 430ips, 470p, 480p, 490p, 500cipls, 510cipls, 520chips, 530chips, 540cps, 550cp, 560cp, 570cpl, 590cp, 600-cipmx, 610cipmx, 620cipmx, 630cipmx, 640cipmx, 650cpm, 660cpm, 670cpms, 680cipmx, 690cipmx, 700psi, 710psi, 720psi, 730psi, 740psi, 750psi, 760psi, 770psi, 780psi, 790psi, 800cips, 820c, 830c, 840cis, 850c, 860cip, 870cs, 880c, 890c, 910cpsim, 920pcm, 930cps, 940cp, 950ipscm, 970cpsim, 908ipsc, 990ipsc.
WAYNESBORO: The Wayne Laboratories, 17 East Main Street.	010bct, 020abci, 040bcp, 110c, 140cp, 160c, 170bc, 200cp, 210cp, 470cps, 490cps, 500cpas, 510cps, 520cps, 530cps, 540cps, 550cpas, 560cpas, 570cps, 590cpas, 600cmps, 610cmps, 620cmps, 630cmps, 640cmps, 650cmps, 660cmps, 680cmps, 690cmps, 800cpas, 810cpas, 820cpas, 830cpas, 840cpas, 850cpas, 860cpas, 860cpas, 870cpas, 880cpas, 890cpas.

RHODE ISLAND

NEWPORT: The Eppley Laboratory (Inc.), 12 Sheffield Avenue.	910s (standard cells).
PROVIDENCE: Saxl Instrument Co., Inc., 42 Weybosset Street.	010cp, 060cp, 120cp, 200cp, 290cp, 300cp, 310cp, 320cp, 330cp, 340cp, 360cp, 370cp, 390cp, 470cp, 500cp, 700i, 760i, 770i, 790i, 840cp, 910i.
WOONSOCKET: United States Testing Co. (Inc.), 85 Fairmount Street.	*See* Hoboken.

SOUTH CAROLINA

CHARLESTON: Parker Laboratory, 40 Broad Street.	400i, 410i, 500cip, 510cip, 520c, 570c, 590c, 600cip, 640c, 800c, 840cp, 850c, 880ci.
COLUMBIA: Charles W. Rice and Co., 1110 Taylor Street.	010c, 020cb, 030c, 040c, 100c, 110c, 120c, 130c, 140c, 170bc, 530c, 850c.

[1] See p 1 and 2 for symbolic references.

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GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

TENNESSEE

Name and address of laboratories	Commodities and nature of tests[1]
CHATANOOGA:	
Barrow-Agee Laboratories, Inc., 308 West Forty-fifth Street.	*See* Memphis.
Emerson P. Poste, 309 McCallie Avenue	010c, 020c, 040c, 100c, 170bc, 500c, 510c, 520c, 530c, 590c, 600cmp, 610cmp, 620c, 630c, 640c, 650c, 680c, 690c, 800cip, 830c, 890c.
MEMPHIS: Barrow-Agee Laboratories, Inc., 121 South Front Street. (Branches at Cairo, Ill.; Chattanooga, Tenn.; Nashville, Tenn.; Opelousas, La.; Shreveport, La.; Jackson, Miss.; and Leland, Miss.)	020abc, 040c, 100ac, 110ac, 140ac, 150ac, 170bc, 210c, 220c, 240acp, 290cp, 400ip, 410ip, 500cp, 510cip, 530cip, 570c, 590c, 600cip, 610cip, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 810c, 820c, 830c, 840cip, 850c, 860c, 870c, 880c, 890c.
NASHVILLE: Barrow-Agee Laboratories, Inc., 64 Bridge Avenue.	*See* Memphis.

TEXAS

CORPUS CHRISTI:	
E. W. Saybolt & Company, Poth Lane	*See* Houston.
Southwestern Laboratories, 3513 Agnes Street.	*See* Fort Worth.
DALLAS:	
The Dallas Laboratories, 2411 South Harwood Street.	020abcp, 040abcp, 090bcp, 100abcp, 110abcp, 140abcp, 150abcp, 160abcp, 170abcp, 300cp, 390cp, 490cp, 500cpla, 510acp, 520acp, 530acp, 540acp, 570acp, 590acp, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 820c, 830c, 840c, 850c, 870c, 880cb, 890c, 990abcp.
Pittsburgh Testing Laboratory, 1125 Commerce Street.	*See* Pittsburgh.
Southwestern Laboratories, 1105½ Main Street.	*See* Fort Worth.
EL PASO: El Paso Testing Laboratories, P. O. Box 1565.	010ci, 020aci, 040acpi, 090acpi, 100ac, 110ac, 140acpi, 160ac, 170ac, 210acp, 220acp, 230ac, 240ac, 280acp, 290acp, 410pi, 500cpi, 510cpia, 520c, 530acpi, 540acp, 550cp, 570acp, 590acp, 600cp, 610cpi, 620cp, 630cp, 640cp, 650cp, 680cp, 690cp, 740i, 750i, 800c, 820c, 830c, 840cpi, 850c, 860c, 870c, 880c, 890c.
FORT WORTH: Southwestern Laboratories, 828½ Monroe Street. (Branches at Corpus Christi, Dallas, Houston, and San Antonio.)	020cpa, 040cpa, 100cpa, 110cpa, 120cpa, 130cpa, 140cpa, 170ca, 400ipa, 410ipa, 420ipa, 500icphl, 510ic, 530ic, 600icmpa, 610icmpa, 620icmpa, 630icmpa, 640icmpa, 650icmpa, 680icmpa, 690icmpa, 700ip, 740ip, 750icmpa, 760i, 770i, 780i, 790i, 840ica, 850ca, 870ca, 880ca, 890ca.
GALVESTON: Felix Paquin, 305½ Twenty-second Street.	020abc, 030bc, 040c, 100c, 110c, 120abc, 130abc, 140c, 150c, 170bc, 320c, 330a, 360a, 370a, 490c, 500cp, 510cp, 530cp, 570c, 600c, 610c, 640c, 650c, 680c, 800cp, 820cp, 840c, 850c, 880c.
HOUSTON:	
Houston Laboratories, 1206½ Preston Avenue.	020bc, 040c, 090c, 100c, 110c, 140c, 150c, 160c, 170c, 500c, 510c, 530c, 540c, 570c, 590c, 600c, 630c, 640c, 650c, 680c, 690c, 820c, 840c, 850c, 870c, 880c, 890c.
Pittsburgh Testing Laboratory, 317 Merchants and Manufacturers Building.	*See* Pittsburgh.
E. W. Saybolt & Co., 714 Petroleum Building. (Branches at Wilmington, Calif.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Corpus Christi, Tex.; Aruba, N. W. I.)	040pc, 140pc, 160pc, 500pc, 800pc, 820pc.
Shilstone Testing Laboratory, 301 M & M Building.	*See* New Orleans.
Southwestern Laboratories, 1206½ Preston Street.	*See* Fort Worth.
MOUNT PLEASANT: Shilstone Testing Laboratory, Ellis Building.	*See* New Orleans.
SAN ANTONIO:	
Shilstone Testing Laboratory, 1026 North Alamo Street.	*See* New Orleans.
Southwestern Laboratories, 308½ Navarro Street.	*See* Fort Worth.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

UTAH

Name and address of laboratories	Commodities and nature of tests[1]
SALT LAKE CITY:	
Alonzo F. Bardwell, 158 South West Temple Street.	640c, 650c, 660c, 680c, 690c.
Black & Deason, 165 South West Temple Street.	500c, 530c, 570c, 600c, 620c, 630c, 640c, 650c, 660c, 680c, 690c.
Crismon & Nichols, 229 South West Temple Street.	500c (coal), 510c, 530c, 570c, 600c, 620c, 630c, 640c, 650c, 660c, 680c, 690c.

VIRGINIA

ALEXANDRIA: Stewart Research Laboratory	210acps, 500acps, 540acps, 550acps, 800acps, 840acps, 890acps, 910acps, 970acps, 980acps, 990acps.
NORFOLK:	
Froehling & Robertson (Inc.), P. O. Box 642	*See* Richmond.
McCallum Inspection Co., 132 West Berkley Avenue.	040cp, 100c, 110c, 120c, 140c, 400acis, 410acis, 500c, 510p, 530cp, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 820c, 830c, 850c, 880c, 890c.
Norfolk Testing Laboratories (Inc.), 288 Bank Street.	010bc, 020bc, 030c, 040cp, 060c, 070c, 090c, 100c, 110c, 120c, 130c, 140cp, 150ca, 160c, 170c, 210c, 220c, 260c, 280c, 290c, 300p, 320cp, 340cp, 360c, 390cp, 470cp, 500cpi, 510cp, 520c, 530cp, 540c, 550c, 560c, 570c, 590c, 600cm, 610cm, 620c, 630c, 640c, 650c, 680c, 690ci, 800cp, 810c, 820c, 830c, 840cp, 850c, 860c, 870c, 880c, 890c.
RICHMOND:	
Froehling & Robertson (Inc.), 814 West Cary Street. (Branches at Baltimore, Md., Norfolk, Va., and Washington, D. C.)	000c, 010bc, 020bci, 030abc, 040acp, 060cp, 090ac, 100abcp, 110acp, 120acp, 130cp, 140acp, 150acp, 160acp, 170bc, 210acp, 220c, 240acp, 260acp, 280cp, 290acp, 300acp, 310acp, 320ap, 330ap, 340ap, 370ap, 390acp, 400cpi, 410cpi, 420pi, 430pi, 470acp, 480p, 490acp, 500acpi, 510acpi, 520ac, 530acp, 540acp, 550acp, 570ac, 590acp, 600acpi, 610acpi, 620acp, 630acp, 640acp, 650acp, 660c, 680acp, 690ac, 800cpi, 810c, 820c, 830c, 840acpi, 850cpi, 860c, 870acp, 880bcpi, 890ac, 910pi, 930cpi, 950pi, 970cpi, 990cpi.
Robb and Moody (Virginia Testing Laboratory), 5 North Sixth Street.	010c, 020ca, 030c, 040cpa, 050c, 060c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 260c, 280c, 290c, 300cp, 390c, 500cpa, 510cpa, 530cpa, 540cpa, 550ca, 570c, 590cpa, 600cp, 620c, 630c, 640c, 650c, 680c, 690cpa, 800c, 820c, 830c, 840c, 850c, 870c, 880c, 890c, 970c.

WASHINGTON

KENT: Geijsbeck Engineering Co. (Branch at Laguna Beach, Calif.)	500c, 520c, 530cl, 540c, 590c, 700i, 750i.
SEATTLE:	
Robert W. Hunt Co., 813 Arctic Building	*See* Chicago.
Laucks Laboratories, Inc., 911 Western Avenue.	010ciba, 010cba, 030ciba, 040acip, 050cia, 060cia, 070ia, 090iacpb, 100ciabp, 110aicb, 120ciab, 130ciap, 140ciap, 150aci, 160acib, 170acib, 200acip, 210acip, 220aci, 230aci, 240aci, 250ai. 260aci, 280acips, 290acip, 300acip, 310acip, 320acip, 330acip, 340acip, 360acip, 370acip, 390acip, 400ip, 410ip, 420ip, 430ip, 470acip, 480i, 490acip, 500acip, 510acip, 520acip, 530acip, 540acip, 550acip, 560ac, 570acip, 590acip, 600acipms, 610acipm, 620acipm, 630acim, 640acim, 650acim, 660acim, 670c, 680acim, 690acimp, 700sci, 710acp, 720is, 730is, 740is, 750is, 760is, 770is, 780is, 790is, 800cap, 810ca, 820ca, 830acimpt, 840acip, 850acib, 860aci, 870acib, 880acib, 890acibmp, 910acips, 940aci, 950acips, 970acips, 980aci, 990acipshebm.
Metallurgical Laboratory, 5200 Airport Way	500cp, 510cp, 520c, 530cpi, 540c, 550c, 570cpm, 590cm, 600cpmi, 620cpmi, 630cpm, 640cpmi, 650cpmi, 660c, 680cpmi, 690cpm.

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COMMERCIAL LABORATORIES—Continued

WASHINGTON—Continued

Name and address of laboratories	Commodities and nature of tests[1]
SEATTLE—Continued.	
Northwest Testing Laboratories, Second Avenue and James Street.	010ca, 020ca, 030ca, 040cap, 090cap, 100cax, 110ca, 120ca, 130ca, 140cap, 150ca, 160ca, 170ca, 200ca, 210ca, 220ca, 230ca, 240ca, 280cap, 290ca, 300cap, 320cp, 330cap, 360cap, 390cp, 400cip, 410cip, 470cap, 490cap, 500cp, 510cap, 520ca, 530ca, 540cap, 550c, 560c, 570c, 600acipmx, 610acipmx, 620cam, 630capm, 640capm, 650capm, 660ca, 680capm, 690capm, 700ai, 710is, 730ai, 740ais, 750ais, 780ais, 800cap, 820c, 830c, 840acp, 850ac, 870ac, 880ac, 890ac, 910i, 950i, 970aci, 980cas, 990i.
SPOKANE: The C. M. Fassett Co., Inc., W. 19–21–22 Maine Avenue.	400api, 410api, 500achlm, 510acpi, 530acp, 570c, 590c, 600cp, 610cp, 630c, 640c, 650c, 680c, 690c, 800acpi, 840acp, 850acp, 870cp.
TACOMA: Bennetts' Chemical Laboratory, 1131 Market Street.	040ac, 110c, 140c, 170c, 500c, 510cpi, 530cp, 570c, 590c, 600cip, 610cip, 620c, 630c, 640cm, 650cm, 680cm, 690cm, 800c, 850c, 870c, 880c, 890c.

WEST VIRGINIA

CHARLESTON: Commercial Testing and Engineering Co., Box 832.	*See* Chicago.

WISCONSIN

MADISON: State Highway Commission of Wisconsin, State Office Building.	140ac, 400i, 500cp, 510cp, 600cp, 640c, 800cp, 840cp, 850c.
MILWAUKEE:	
The Orthmann Laboratories (Inc.), 647 West Virginia Street.	020bc, 040acp, 050abcp, 060abcp, 070abcp, 090abcp, 140abcp, 160bc, 170bc, 210cp, 230abcp, 280abcp, 320ap, 330ap, 340ap, 360acp, 470ap, 500cp, 540acp, 570acp, 590ac, 800c, 820c, 830c, 840ac, 850ac, 870ac, 880bc, 890bc.
Sommer Chemical Laboratories (Inc.), 152 West Wisconsin Avenue.	010c, 020c, 030c, 040c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 500c, 510c, 530c, 540c, 550c, 570c, 590c, 600c, 610c, 620c, 640c, 650c, 680c, 690c, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c.

WYOMING

CHEYENNE: Wyoming State Highway Department, 1100 West Twenty-second Street.	500cp, 510p, 530p, 590cp, 600p, 800cp, 840cp.

[1] See p. 1 and 2 for symbolic references.

COLLEGE RESEARCH LABORATORIES

It has seemed desirable to supplement the list of commercial testing laboratories with a list of the laboratories in colleges. These laboratories are used not only for purposes of instruction, but also to a considerable extent for research work. In fact, many important industrial research problems are being solved in the college laboratories.

The inclusion of a college laboratory in the accompanying list is to be interpreted merely as showing that the laboratory is equipped to investigate the types of commodites. indicated for research and instructional purposes.

In almost all of the college laboratories a certain amount of work is being done for State and municipal agencies and for public institutions, including the colleges themselves. However, there is a very wide diversity in the methods of conducting investigations with special reference to the responsibility of the colleges for the investigations made in their laboratories. At some of the colleges investigations seem to be conducted under the responsibility of the heads of the departments, who make use of the college laboratories for this purpose. At certain other colleges work is carried on for tax-supported agencies seemingly under the responsibility of the college rather than the professors.

It is suggested that persons interested in ascertaining the conditions under which investigations will be carried on communicate directly with the proper officers of the colleges or with the individuals in charge of the laboratories.

In the accompanying lists the laboratories have been arranged alphabetically both by names of colleges and in accordance with the geographical locations of the colleges. Explanations of the symbolic references to the types of commodities that can be investigated and the nature of the investigations made are given on pages 1 and 2.

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GEOGRAPHICAL LISTING OF COLLEGES

ALABAMA

Location and name of laboratory	Commodities and nature of investigations [2]
AUBURN:	
Alabama Polytechnic Institute	000bt, 010it, 020bit, 030t, 040t, 100ct, 110ct, 120t, 130t, 140t, 150t, 160t, 170t, 220ct, 230apt, 280t, 290t, 300pa, 310pa, 320a, 330a, 340ap, 360ap, 370ap, 390ap, 490ap, 510p, 570ap, 590ap, 600cp, 630c, 640c, 650c, 680c, 690c, 700s, 710s, 730s, 760s, 780s, 810cpt, 820ct, 830ct, 850c, 860a, 870c, 880cb, 890cta.
Agricultural laboratory, M. J. Funchness.	
Bacteriological laboratory, R. S. Sugg.	
Chemistry laboratory, C. L. Hare.	
Engineering laboratory, Jno. L. Wilmore.	
Physics laboratory, Fred Allison.	
State Department of Toxicology, H. W. Nixon.	
BIRMINGHAM:	
Howard College	600c, 820c, 830c, 850c.
Chemistry laboratory, John Xan.	
UNIVERSITY:	
University of Alabama	400p, 410p, 420p, 500apc, 510acp, 520acp, 530acph, 600acpm, 620acp, 630acpm, 640acpm, 680acpm, 690-acpm, 700el, 710e, 750el, 800c, 820c, 830c, 840c, 850c, 860c, 870c, 880c.
Ceramic laboratory, T. N. McVay	
Chemical laboratory, S. J. Lloyd.	
Chemical engineering laboratory, K. W. Coons.	
Civil engineering laboratory, Ocsar Dahlene.	
Electrical engineering laboratory, W. J. Miller.	
Mechanical engineering, J. M. Gallalee.	
Metallurgical engineering laboratory, Ray L. Farabee.	
Mining engineering laboratory, J. R. Cudworth.	
Physical laboratory, G. J. Davis, Jr.	

ALASKA

COLLEGE:	
Alaska Agricultural College and School of Mines	020bc, 100c, 110c, 390acp, 500ach, 510ap, 530ac, 540ac, 550ac, 560ac, 590ac, 620acmp, 630acmp, 640acmp, 650acmp, 660acmp, 680acmp, 690-acmp, 700is, 810ac, 810ac, 820ac, 830ac, 850ac, 890acpt.
Agricultural laboratory, George W. Gasser.	
Chemical laboratory, W. Bastress.	
Electrical engineering laboratory, E. H. Bramhall.	
Geological laboratory, W. G. Wilcox.	
Metallurgical laboratory, W. G. Wilcox.	
Mineral testing laboratory, A. E. Glover.	
Mining laboratory, W. G. Wilcox.	

ARIZONA

TUCSON:	
University of Arizona	000bct, 010ct, 020cpb, 040c, 090c, 100c, 110c, 120c, 130c, 140c, 160c, 170c, 220c, 230c, 260c, 290c, 300ap, 360ap, 400p, 410p, 500hp, 510hp, 530cp, 560p, 600acmp, 610acmp, 620acmp, 630acmp, 640acmp, 650acmp, 660acmp, 680acmp, 690acmp, 700ilps, 710ilps, 720s, 750s, 810c, 850cp, 870cp, 880cp, 890cp.
Agricultural chemistry laboratory, W. T. McGeorge.	
Chemistry laboratory, Ernest Anderson.	
Civil engineering laboratory, Frank C. Kelton.	
Electrical engineering laboratory, James C. Clark.	
Mechanical engineering laboratory, M. L. Thornburg.	
Mineralogical laboratory, T. G. Chapman.	
Mining engineering, metallurgical, and metallographic laboratories, T. G. Chapman.	
Petrographic laboratory, M. A. Short.	
Physics laboratory, E. H. Warner.	

ARKANSAS

FAYETTEVILLE:	
University of Arkansas	000abc, 010abc, 020abc, 100abc, 110abc, 120abc, 130abc, 140abc, 170c, 240ab, 250abi, 290abi, 300ab, 400p, 410p, 500chp, 510cp, 520c, 530c, 540c 550e, 570c, 590c, 600cp, 610cp, 620cp, 630cp, 640cp, 650c, 680cp, 690cp, 700hp, 710ehp, 720hp, 730hp, 740p, 780p, 790p, 800cp, 820cp, 830cp, 850c, 880cp, 890c.
Agricultural chemistry laboratory, Barnett Sure.	
Agricultural engineering laboratory, D. G. Carter.	
Agricultural experiment station, Walter R. Horlacher.	
Animal industry laboratory, Warren Gifford.	
Bacteriology laboratory, D. F. Eveleth.	
Botany laboratory, D. M. Moore.	
Chemistry laboratory, Harrion Hale.	
Cotton laboratory, C. G. Schmitt.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

ARKANSAS—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
FAYETTEVILLE—Continued.	
Dairy laboratory, P. L. Kelly.	
Electrical engineering laboratory, W. B. Stelzner.	
Engineering experiment station, G. P. Stocker.	
Entomology laboratory, W. J. Baerg.	
Field crops laboratory, R. P. Bartholomew.	
Foods laboratory, Miss Zilpha C. Battey.	
Geology laboratory, A. W. Giles.	
Highway materials laboratory, W. R. Spencer.	
Horticulture laboratory, J. R. Cooper.	
Hydraulics and materials laboratories, W. R. Spencer.	
Mechanical laboratory, L. C. Price.	
Physics laboratory, L. B. Ham.	
Plant pathology laboratory, V. H. Young.	
Seeds laboratory, R. P. Bartholomew, John Casey.	
Veterinary science laboratory, D. F. Eveleth.	
Zoology laboratory, S. C. Dellinger.	

CALIFORNIA

Location and name of laboratory	Commodities and nature of investigations [2]
BERKELEY:	
University of California	020cb, 060p, 100cb, 200p, 320p, 330p, 360p, 400p, 410p, 500clpah, 510p, 530cph, 560i, 570ac, 600hacmp, 620acmp, 630cmp, 650cp, 680cp, 690cp, 700hps, 710eps, 720hps, 730s, 750eilps, 760eilps, 780ps, 790ps.
Agricultural chemistry laboratory, H. A. Young (Davis).	
Agricultural engineering laboratory, H. B. Walker (Davis).	
Agronomy laboratory, B. A. Madson (Davis).	
Animal husbandry laboratory, G. H. Hart (Davis).	
Botany laboratory, W. A. Robbins (Davis).	
Citrus experiment station laboratories, L. D. Batchelor (Riverside).	
Civil engineering laboratories, R. E. Davis.	
Dairy industry laboratory, C. L. Roadhouse (Davis).	
Electrical engineering laboratory, L. F. Fuller.	
Entomology and parasitology laboratories, W. B. Herms.	
Forestry laboratory, Walter Mulford.	
Genetics laboratory, E. B. Babcock.	
Irrigation investigations laboratory, F. J. Veihmeyer (Davis).	
Mechanical engineering laboratory, M. P. O'Brien.	
Metallurgy laboratory, L. H. Duschak.	
Mining engineering laboratory, W. S. Weeks.	
Petroleum engineering laboratory, L. C. Uren.	
Plant nutrition laboratory, D. R. Hoagland.	
Plant pathology laboratory, Max Gardner.	
Pomology laboratory, W. P. Tufts (Davis).	
Poultry husbandry laboratory, L. W. Taylor.	
Sanitary engineering laboratory, W. F. Langelier.	
Soil technology laboratory, W. P. Kelly.	
Subtropical horticulture laboratory, R. W. Hodgson (Los Angeles).	
Truck crops laboratory, J. E. Knott (Davis).	
Veterinary science laboratory, C. M. Haring.	
Viticulture and fruit products laboratory, W. V. Cruess.	
Zoology laboratory, T. I. Storer (Davis).	
(*Davis*, Calif., is the location of the university farm and branch of the college of agriculture.)	
LOS ANGELES:	
Occidental College	510c, 520c, 600cpe, 620pe, 630pe, 640cpe, 650pe, 710pe, 820c, 880c, 910cpe.
Biological laboratory, Raymond Selle, Hazel Field.	
Botanical laboratory, Frank J. Smiley.	
Chemical laboratory, E. E. Chandler, L. Reed Brantley.	
Geological laboratory, Frank J. Smiley.	
Physical laboratory, Henry Kirkpatrick, Vernon Bollman.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

CALIFORNIA—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
LOS ANGELES—Continued.	
University of Southern California	000ab, 010abcit, 020abcpt, 030ab, 040acp, 050abi, 060aci, 070abi, 100abct, 110b, 120ab, 130abc, 140ae, 150b, 160abep, 170b, 200e, 240ab, 250ab, 260b, 280ab, 290ab, 300acipb, 310acipb, 320acipb, 330acipb, 340a, 360acip, 370acip, 390acip, 400aip, 410abip, 420b, 430b, 480b, 490b, 500acehp, 510hp, 520aip, 540ap, 550ap, 560ap, 570a, 590ap, 600ehacmip, 610imp, 620eimp, 630eimp, 640eimp, 650eimp, 680eimp, 690eimp, 700esih, 710ehps, 730es, 750ip, 800acb, 810et, 880b, 910ehps.
Bacteriology and parasitology laboratories, John F. Kessel.	
Bacteriology laboratory, C. C. Lindegren.	
Biochemical laboratory, Harry J. Deuel.	
Botany laboratory, George Rufus Johnstone.	
Chemistry laboratory, Anton B. Burg.	
Civil engineering laboratory, R. M. Fox.	
Electrical engineering laboratory, P. S. Biegler.	
Experimental medicine laboratory, Charles W. Bonynge.	
Geology laboratory, Thomas Clements, A. J. Tieje.	
Mechanical engineering laboratory, Thomas T. Eyre.	
Merchandising laboratory, Lucille Van de Steeg.	
Nutrition laboratory, LeRoy S. Weatherby.	
Petroleum engineering laboratory, John F. Dodge.	
Pharmacology laboratory, Clinton H. Thienes.	
Pharmacy laboratory, Alvah G. Hall.	
Physics laboratory, Arthur W. Nye.	
Zoology laboratory, B. M. Harrison.	
MILLS COLLEGE:	
Mills College	010ac, 020abc, 030abc, 040abc, 100abc, 110abc, 130abc, 140abc, 150abc, 160-abc, 170abc.
Bacteriological laboratory, Lucile Mason.	
Biological laboratory, Eleanor S. Boone, Wm. Ingram.	
Botanical laboratory, H. E. McMinn.	
Chemical laboratory, Leona E. Young, R. Wistar.	
Georgraphy and geology laboratory, E. G. Linsley.	
Household science laboratory, Carrie C. Dozier.	
Institution administration laboratory, Mildred Reynolds.	
Physics laboratory, R. R. Dempster.	
Psychology laboratory, Mary C. Burch.	
Zoological laboratory, H. Graham.	
PASADENA:	
California Institute of Technology	410p, 500cp, 510p, 520cp, 530p, 550cp, 600cpm, 610cpm, 620cpm, 630cpm, 640cpm, 650cpm, 680cpm, 690cpm, 700s, 710s, 750s.
Electrical engineering laboratory, R. W. Sorensen.	
Gates chemical laboratory, Linus Pauling.	
Hydraulics laboratory, R. L. Daugherty.	
Materials testing laboratory, F. W. Hinrichs, Jr.	
Mechanical engineering laboratory, R. L. Daugherty.	
Norman Bridge laboratory of physics, R. A. Millikan.	
STANFORD UNIVERSITY.	
Stanford University	410ips, 420ips, 500che, 510ips, 520ips, 600cmps, 610cmps, 620cmps, 630cmps, 640cmps, 650cmps, 680cmps, 690cmps, 700p, 710ep, 720p, 740p, 750p, 780p, 790p, 830c, 870c, 880c, 890c.
Aerodynamics laboratory, E. G. Reid.	
Chemical laboratory, P. A. Leighton.	
Civil engineering laboratory, Samuel B. Morris.	
Electrical engineering laboratory, F. E. Terman.	
Mechanical engineering laboratory, A. B. Domonoske.	
Metallurgical laboratory, F. G. Tickell.	
STOCKTON:	
College of the Pacific	000c, 010c, 020c, 300c, 500c, 600cm, 800c, 900c.
Chemistry laboratory, C. E. Larson, A. T. Bawden, J. H. Jonte.	

COLORADO

BOULDER:	
University of Colorado	000abc, 010abc, 020abc, 030a, 100abc, 110abc, 120abc, 130abc, 140c, 150ac, 160abc, 170abc, 200ep, 220abc, 240ab, 290abc, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 400ap, 470ac, 500c, 510cp, 520aehpc, 530aep, 540ac, 550acep, 570acep, 600apie, 610ep, 630acepi, 640cepi, 650ace, 660ep, 670c, 680ac, 690ac, 710eis, 800c, 810ac, 820ac, 830ac, 840ac, 850ac, 860ac, 870ac, 880abc, 890ac, 950a.
Biology laboratory, G. Alexander.	
Chemistry laboratory, C. F. Poe, N. F. Witt.	
Electrical engineering laboratory, F. A. Easton.	
Electrical standardizing laboratory, C. M. McCormick.	
Geology laboratory, P. G. Worcester.	
Materials testing laboratory, W. H. Thomas.	
Mineralogy and petrography laboratory, E. E. Wahlstrom, W. D. Thompson.	
Physics laboratory, W. B. Pietenpol.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

COLORADO—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
COLORADO SPRINGS:	
Colorado College	020c, 040cp, 100c, 120c, 140c, 160c, 170c, 410p, 500ch, 510cpi, 530cpi, 550ap, 570ap, 590ap, 600cp, 610cp, 620c, 640cp, 650c, 660c, 680c, 690c, 800c, 840c, 850c, 910p.
Biology laboratory, Ralph J. Gilmore.	
Chemistry laboratory, Frank W. Douglas.	
Geology laboratory, Henry E. Mathias.	
Materials testing laboratory, Frank M. Okey.	
Physics laboratory, Paul E. Boucher.	
Psychology laboratory, William A. Blakely.	
FORT COLLINS:	
Colorado State College of Agriculture and Mechanic Arts	000bx, 020c, 100a, 120a, 240a, 360as, 730p, 780p, 850c.
Bacteriology laboratory, Floyd Cross.	
Chemistry research laboratory, J. W. Tobiska.	
Dairy laboratory, W. J. Mooney.	
Entomology laboratory, Chas. R. Jones.	
Home economics research laboratory, Inga M. K. Allison.	
Hydraulic laboratory, N. A. Christensen.	
Meats laboratory, Ronald C. Tom.	
Pathology laboratory, Floyd Cross.	
Plant pathology laboratory, L. W. Durrell.	
Poultry laboratory, H. S. Wilgus, Jr.	
Range management laboratory, Enoch W. Nelson.	
Seed laboratory, Anna Maude Lute.	
Soils laboratory, Robt. Gardner.	
Wool laboratory, Ivan Watson.	
GOLDEN:	
Colorado School of Mines	500cp, 510cp, 530cp, 540cp, 550cp, 570c, 590cp, 600cm. 610cm, 620cm, 630cm, 640cm, 650cm, 660cm, 680cm.
Chemical laboratory, L. S. Ward, R. A. Baxter.	
Experimental plant laboratory, A. J. Weinig.	
Geological laboratory, F. M. Van Tuyl, Ben H. Parker.	
Geophysics laboratory, C. A. Heiland.	
Metallurgical laboratory, Clark B. Carpenter.	
Mining laboratory, J. Burns Read.	
Petroleum laboratory, Clark F. Barb.	

CONNECTICUT

HARTFORD:	
Trinity College	010c, 020c, 040c, 100c, 110c, 140c, 150c, 160c, 170c, 500c, 510c, 520c, 530c, 540c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 800c, 820c, 830c, 850c, 870c, 880c, 890c.
Bacteriology laboratory, H. C. Swan.	
Biology laboratory, T. H. Bissonnette.	
Chemistry laboratory, Vernon K. Krieble.	
Physics laboratory, Henry A. Perkins.	
NEW HAVEN:	
Yale University	220c, 520pa, 590pax, 600achmp, 610achmp, 620achmp, 630achmp, 640achmp, 650achmp, 680achmp, 690ahmp, 700hps, 710eps, 720ps, 740ps, 790hps, 800c, 810c, 890c, 910pea.
Dunham electrical laboratory, S. W. Dudley.	
Engineering mechanics laboratory, Hardy Cross.	
Hammond metallurgical laboratory, C. H. Mathewson.	
Mason mechanical laboratory, S. W. Dudley.	
Sloane physics laboratory, W. W. Watson.	
Sterling chemistry laboratory, A. J. Hill.	

DELAWARE

NEWARK:	
University of Delaware	020bc, 100ac, 110ac, 240acp, 250ap, 400p, 410p, 420p, 500clps, 510p, 600acp, 620acp, 630acp, 640acp, 650acp, 680acp, 700hs, 710ehs, 720h, 760hs, 800clps, 840cp, 860cp, 910ehs.
Agricultural chemistry laboratory, Geo. L. Baker.	
Agronomy laboratory, G. L. Schuster.	
Bacteriology laboratory, C. C. Palmer.	
Chemical engineering laboratory, A. P. Colburn.	
Chemistry laboratory, A. S. Eastman.	
Electrical laboratory, G. A. Koerber.	
Horticultural laboratory, L. R. Detjen, K. J. Kadow.	
Hydraulic laboratory, T. D. Mylrea.	
Materials testing engineering laboratory, H. K. Preston.	
Mechanical laboratory, R. L. Spencer.	
Physics laboratory, J. F. Daugherty.	
Plant pathology laboratory, T. F. Manns.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

DISTRICT OF COLUMBIA

Location and name of laboratory	Commodities and nature of investigations [2]
WASHINGTON:	
Catholic University of America	500ch, 510ip, 600cp, 610ip, 640p, 700s, 710is, 800c, 910s.
Aeronautical laboratory, L. H. Crook.	
Biological laboratory, E. G. Reinhard.	
Chemical laboratory, F. O. Rice.	
Civil engineering laboratory, F. A. Biberstein.	
Electrical laboratory, T. J. MacKavanagh.	
Geological laboratory, T. C. May.	
Mechanical engineering laboratory, A. J. Scullen.	
George Washington University	040bc, 140c, 220ct, 400p, 410p, 500ph, 510p, 530cp, 600p, 700sp, 710cspe, 780e, 790e, 810ct, 820c, 830c, 880bc.
Bacteriology laboratory, Leland W. Parr.	
Biochemistry laboratory, Joseph H. Roe.	
Chemistry laboratory, B. D. Van Evera.	
Civil engineering laboratory, Frank A. Hitchcock.	
Electrical engineering laboratory, Norman B. Ames.	
Mechanical engineering laboratory, A. F. Johnson.	
Pathology laboratory, Edward B. Vedder.	
Pharmacology laboratory, George B. Roth.	
Pharmacy laboratory, William P. Briggs.	
Physics laboratory, Thomas B. Brown.	
Georgetown University	050bc, 070bc, 110bc, 120bc, 130bc, 360bc, 500c, 570c, 600c, 630c, 640c, 650c, 660c, 670aeip, 680c, 690c, 710aep, 800c, 810bc, 820c, 830c, 880c, 890c, 910aeps, 920aps.
Analytical chemistry laboratory, Arthur A. Espenschied.	
Biology laboratory, Arthur A. Coniff.	
General chemistry laboratory, Francis Wilson.	
Organic chemistry laboratory, Joseph A. Muldoon.	
Physical chemistry laboratory, Hartley Howard.	
Physics laboratory—electricity, mechanics, Robert L. Mooney.	
Physics laboratory—research, Henry M. O'Bryan.	
Research chemistry laboratory, Michael X. Sullivan.	

FLORIDA

DELAND:	
John B. Stetson University	000ab, 010abc, 020abc, 030b, 040abc, 090abc, 100abc, 110abc, 120abc, 130-abc, 140abc, 150abc, 160abc, 170ac, 240ab, 250ab, 280a, 290a, 300a, 320a, 330a, 340ab, 500c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 710ep, 800c, 810c, 830c, 850c, 870c, 890c.
Biological laboratory, Harvey E. Savely.	
Chemistry laboratory, John F. Conn.	
Civil engineering laboratory, C. M. Lowry.	
Electrical laboratory, R. I. Allen.	
Mechanical laboratory, C. M. Lowry.	
Physical laboratory, R. I. Allen.	
GAINESVILLE:	
University of Florida	000t, 020c, 040ac, 090ct, 100c, 110c, 120c, 130c, 140ac, 150c, 160ac, 170ct, 210acpt, 220acpt, 320cip, 330cip, 470cp, 500cip, 510cip, 520c, 530cip, 540c, 550c, 570c, 600cipam, 620c, 630cpiam, 640cpiam, 650cpiam, 660c, 680cpiam, 690c, 700ps, 710eips, 790eips, 800c, 810acpt, 830cip, 840cip, 850cip, 870acpti, 880cip, 890cip, 910isp, 970cips, 990cips.
Chemical engineering laboratory, W. H. Beisler.	
Chemistry laboratory, T. R. Leigh.	
Civil engineering laboratory, P. L. Reed.	
Electrical engineering laboratory, J. Weil.	
Mechanical engineering laboratory, N. C. Ebaugh.	
Pharmacy laboratory, W. J. Husa.	
Pharmaceutical chemistry laboratory, P. A. Foote.	
Pharmacognosy and pharmacology laboratories, L. D. Edwards.	

GEORGIA

ATHENS:	
Georgia State College of Agriculture	000abc, 020abc, 100abc, 110abc, 120-abc, 130abc, 240ab, 250ab, 260ab, 300a, 390a, 710aep, 730ap, 810ac 850ac.
Agricultural chemistry laboratories, L. M. Carter.	
Agricultural engineering laboratories, R. H. Drifmier.	
Agronomy laboratories, W. O. Collins.	
Animal husbandry laboratories, M. P. Jarnagin.	
Chemistry laboratories, Alfred W. Scott.	
Forestry laboratories, D. J. Weddell.	
Home economics laboratories, Mary E. Creswell.	
Horticultural laboratories, T. H. McHatton.	
Poultry husbandry laboratories, J. C. Bell.	
Veterinary laboratories, T. J. Jones.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

GEORGIA—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
ATLANTA:	
Georgia School of Technology	020ab, 040aceips, 090b, 170ab, 210-aceips, 300acips, 310acips, 320acips, 330acips, 340acips, 360acips, 370-acips, 390acips, 410aips, 420i, 500-chip, 510achips, 520c, 530acips, 540-acips, 550acips, 560acips, 570acips, 590acips, 600aipshm, 610himp, 620-himp, 630himp, 640himp, 650himp, 660himp, 680himp, 690himp, 700-hilps, 710hilps, 720ahilpse, 730hilps, 740hilps, 750hilps, 760hilps, 770ahilps, 780hilps, 790hilps, 880b, 890acips, 910ips.
Aeronautical engineering laboratory, M. Knight.	
Bactinology laboratory, H. S. Wyckoff.	
Ceramic engineering laboratory, Lane Mitchell.	
Chemistry laboratory, John L. Daniel.	
Chemical engineering laboratory, H. A. Bunger.	
Civil engineering laboratory, F. C. Snow.	
Electrical engineering laboratory, D. P. Savant.	
Mechanical engineering laboratory, R. S. King.	
Physics laboratory, J. H. Howey.	
Textile engineering laboratory, C. A. Jones.	

HAWAII

HONOLULU:	
University of Hawaii	020bc, 100c, 110c, 120c, 130c, 160c, 420p, 500c, 600cp, 610cp, 620cp, 630cp, 640cp, 650cp, 690cp, 710e, 800c, 820c, 830c, 850c, 880c, 890c, 910epx.
Chemical laboratory, F. T. Dillingham.	
Engineering laboratory, A. R. Keller.	
Fodders and feeds laboratory, J. C. Ripperton.	
Physical laboratory, W. H. Eller.	

IDAHO

MOSCOW:	
University of Idaho	000bcia, 010abc, 020abcp, 030bc, 040c, 060c, 070c, 100ac, 110ac, 120acp, 130acp, 140c, 150c, 160c, 170c, 210c, 250abci, 250apbe, 280c, 400ip, 410ip, 420ip, 430aip, 500ciph, 510cip, 530ip, 550pc, 560c, 570c, 590c, 600ip, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 700p, 710ep, 820c, 840cip, 910ehpx, 950b.
Agricultural chemistry laboratory, L. M. Christensen.	
Agronomy laboratory, K. H. W. Klages.	
Animal husbandry laboratory, C. W. Hickman.	
Bacteriology laboratory, W. V. Halverson.	
Biology laboratory, H. B. Stough.	
Chemistry laboratory, L. C. Cady.	
Dairy husbandry laboratory, D. R. Theophilus.	
Electrical engineering laboratory, J. Hugo Johnson.	
Entomology laboratory, W. S. Shull.	
Forestry laboratory, P. S. Jaffers.	
Geology and mineralogy laboratory, J. D. Forrester.	
Horticultural laboratory, Lief Verner.	
Materials testing laboratory, A. S. Janssen.	
Mechanical engineering laboratory, Henry F. Gauss.	
Metallurgical laboratory, A. W. Fahrenwald.	
Physics laboratory, G. W. Hammar.	
Plant pathology laboratory, C. W. Hungerford.	
Zoology laboratory, H. B. Stough.	

ILLINOIS

BLOOMINGTON:	
Illinois Wesleyan University	010c, 020c, 030c, 040c, 050c, 090c, 100c, 110c, 120c, 130c, 140c, 160c, 170c, 300c, 310c, 320c, 330c, 340c, 360c, 370c, 390c, 500c, 510c, 530c, 550c, 570c, 590c, 600c, 610c, 620c, 630cep, 650c, 680c, 690c, 710pe, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
Biology laboratory, M. T. Townsend.	
Chemistry laboratory, F. S. Mortimer.	
Physics laboratory, T. F. Hargitt.	
CHICAGO:	
Armour Research Foundation	010b, 100bc, 160c, 200acehipx, 210acipx, 240c, 280c, 360h, 400cs, 500acimsx, 510aimp, 530am, 550mx, 600aimps, 640xm, 700eilps, 710eilps, 740ep, 800c, 820c, 830c, 840acsx, 870c, 910eis, 950m.
Ceramics and nonmetallics laboratory, H. G. Fisk.	
Chemical engineering laboratory, F. W. Godwin.	
Electricity and sound laboratory, D. E. Richardson.	
Experimental engineering laboratory, J. C. Peebles.	
Light and optics laboratory, G. E. Ziegler.	
Metallurgy laboratory, Thomas C. Poulter.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

ILLINOIS—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
CHICAGO—Continued.	
Illinois Institute of Technology	See Armour Research Foundation.
(Consolidation of Armour Institute of Technology and Lewis Institute.)	
Lewis Institute	See Illinois Institute of Technology.
Loyola University of Medicine	810t.
Anatomical laboratory, T. T. Job, R. M. Strong.	
Bacteriological laboratory, E. E. Kleinschmidt.	
Chemical laboratory, W. R. Tweedy.	
Pathological laboratory, J. F. Sheehan.	
Pharmacological laboratory, H. N. Ets.	
Physiological laboratory, T. E. Boyd.	
Northwestern University	See Evanston.
University of Chicago	000b, 010b, 020cb, 030cb, 040cb, 090-cbt, 100cbt, 120b, 140cbt, 160cp, 200-cbt, 290cbt (alkaloids), 300cp, 360cp, 370cp, 520p, 600c, 610c, 710s, 800cb, 810cb, 880cb, 910s.
Bacteriology laboratory, W. H. Taliaferro.	
Department of home economics laboratory, Lydia J. Roberts.	
Hygiene and bacteriology laboratory, W. H. Taliaferro.	
Kent chemical laboratory, H. I. Schlesinger.	
Pathology laboratory, P. Cannon.	
Physics laboratory, A. H. Compton.	
Physiological chemistry and pharmacology laboratory, E. A. Evans, Jr.	
EVANSTON:	
Northwestern University	020b, 040c, 100c, 140c, 150c, 160bc, 250b, 460b, 500acp, 510ac, 520ac, 530c, 540ac, 550a, 560a, 570ac, 590ac, 600acx (ores), 620ac (ores), 630acs (ores), 640acx (ores), 650acx (ores), 660acp (ores), 680acx (ores), 690ac (ores), 710s, 800c, 810bct, 820bct, 830bct, 870bct, 880c, 890bct, 910pl, 920ps, 950c.
Botany laboratory, L. H. Tiffany.	
Chemistry laboratory, M. A. Hines.	
Dentistry laboratory, C. W. Freeman.	
Engineering (various) laboratories, O. W. Esbach.	
Geology laboratory, A. L. Howland, E. C. Dapples.	
Medicine (various) laboratories, J. R. Miller.	
Physics laboratory, C. M. Brentano, R. A. Fisher.	
Speech (acoustic) laboratory, Raymond Carbart.	
Zoology laboratory, J. W. Buchanan.	
MONMOUTH:	
Monmouth College	110c, 150c, 170c, 500cp, 510cpa, 600c, 630c, 640c, 650c, 680c, 690c, 850c, 890c.
Analytical laboratory, G. W. Thiessen.	
Research laboratory, W. S. Haldeman.	
NAPERVILLE:	
North Central College	020c, 170b, 500a, 540a, 550a, 560a, 600c, 630ac, 640c, 650ac, 680ac, 710pe, 800c, 820c, 870c, 910p.
Chemistry laboratory, I. A. Koten, Lillian A. Priem.	
Foods laboratory, Hazel M. Snyder.	
Geology laboratory, C. L. Bieber.	
Physics laboratory, C. N. Wall.	
Zoology laboratory, H. J. Eigenbrodt.	
URBANA:	
University of Illinois	000abt, 010abcpt, 020abch, 040ap, 100abcehp, 110abchp, 120abchp, 130abchp, 140abcp, 160acp, 240abcep, 250abcp, 280acp, 300ap, 360ap, 500ahps, 520ahp. 530ahp, 590ps, 600mp, 610m, 640amsp, 680mps, 690m, 730aips, 850acp, 890bcp.
Agricultural engineering laboratory, E. W. Lehmann.	
Agronomy laboratory, W. L. Burlison.	
Animal husbandry laboratory, W. E. Carroll.	
Applied chemistry testing work laboratory, J. M. Lindgren.	
Applied mechanics,laboratory, F. B. Seely.	
Bacteriological laboratory, F. W. Tanner.	
Ceramic engineering laboratory, C. W. Parmelee.	
Chemical engineering laboratory, D. B. Keys.	
Chemistry laboratory, Roger Adams.	
Dairy husbandry laboratory, H. A. Ruehe.	
Electrical engineering laboratory. E. B. Paine.	
Engineering experiment station, M. L. Enger.	
Highway engineering laboratory, W. C. Huntington.	
Home economics laboratory, Miss Lita Bane.	
Horticultural laboratory, M. J. Dorsey.	
Mechanical engineering laboratory, O. A. Leutwiler.	
Mining engineering laboratory, H. L. Walker.	
Physics laboratory, F. W. Loomis.	
Railway engineering laboratory, H. J. Schrader.	

[1] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

INDIANA

Location and name of laboratory	Commodities and nature of investigations [2]
BLOOMINGTON:	
Indiana University	160bc, 170bc, 290bc, 500c, 510c, 530c, 540c, 550c, 560c, 570c, 590c, 600cm, 630cm, 640cm, 650cm, 660cm, 680cm, 800c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c, 910p.
Botany laboratory, R. E. Cleland.	
Chemistry laboratory, H. T. Briscoe.	
Geology laboratory, E. R. Cumings.	
Physics laboratory, A. C. G. Mitchell.	
CRAWFORDSVILLE:	
Wabash College	000a, 020c, 110c, 140ca, 160c, 170c, 240b, 300ac, 360ac, 390ac, 500c, 510c, 570c, 600c, 610c, 620c, 630c, 640c, 650c, 680c, 690c, 800c, 820c, 830c, 840ac, 850c, 870c, 890c.
Botanical laboratory, A. R. Bechtel.	
Chemistry laboratory, L. B. Howell.	
Physics laboratory, George W. Horton.	
Zoology laboratory, J. P. Scott.	
FRANKLIN:	
Franklin College	000b, 010b, 020b, 030b, 120a, 130a, 170b, 240a, 250a, 260a, 290a.
Biological laboratory, C. A. Deppe.	
Botanical laboratory, Naomi Mullendore.	
Chemical laboratory, N. J. Harrar.	
Physics laboratory, D. F. Heath.	
HANOVER:	
Hanover College	000b, 240a, 300ap, 330ap, 370ap, 520ap, 550ap, 570cp, 600p, 620p, 630cp, 640cp, 650cp, 680cp, 690cp, 710ep, 820cp, 830c, 840ps, 850c, 860sp, 890c, 910aps.
Biology laboratory, J. L. Hyatt.	
Chemistry laboratory, Ned Guthrie.	
Geology laboratory, G. T. Wickwire.	
Physics laboratory, R. E. Martin.	
INDIANAPOLIS:	
Butler University	120abp, 130abp, 150a, 160ab, 170b, 200aep, 210e, 240b, 250b, 260b, 280b, 290b, 300ep, 310a, 320a, 330a, 340a, 360a, 400a, 410a, 420a, 430a, 500cep, 510c, 520cep, 530c, 550e, 570ce, 600cep, 630cep, 640cep, 650cep, 680cep, 690cep, 710e, 820c, 830c, 840a, 850c, 880c, 890c.
Bacteriology laboratory, Ray C. Friesner.	
Botany laboratory, Ray C. Friesner.	
Chemical laboratory, G. H. Shadinger.	
Physical laboratory, S. E. Elliott.	
LAFAYETTE:	
Purdue University	020b, 040c, 090c, 120p, 140c, 160c, 200c, 210c, 240cp, 400p, 410p, 500c, 510p, 520p, 530p, 600cp, 610cp, 620cp, 630cp, 640cp, 650cp, 680cp, 700p, 710p, 800cp, 820c, 840cp, 870c, 880c, 970p.
Agricultural chemistry laboratories, H. R. Kraybill.	
Agricultural experiment station, H. J. Reed.	
Chemical engineering laboratory, J. L. Bray.	
Chemical laboratory, H. B. Hass.	
Civil engineering laboratory, R. B. Wiley.	
Electrical engineering laboratory, C. F. Harding.	
Engineering laboratories and engineering experiment station, A. A. Potter.	
Mechanical engineering laboratory, H. L. Solberg.	
Physical laboratory, K. Lark-Horovitz.	
Practical mechanics laboratory, C. W. Beese.	
NORTH MANCHESTER:	
Manchester College	630cm, 640cm, 650cm, 680cm, 820c, 850c, 870cap, 880bc.
Biological laboratory, Ed. Kintner.	
Chemical laboratory, C. W. Holl.	
Physical laboratory, C. S. Morris.	
NOTRE DAME:	
University of Notre Dame	020bc, 040abc, 070abc, 100ac, 110ac, 140ac, 150ac, 160ac, 170c, 200aehp, 210c, 220c, 240ab, 250ab, 280c, 290c, 500achp, 510acp, 520cp, 530chp, 540c, 600achmpx, 610achmpx, 620achmpx, 630achmpx, 640achmpx, 650achmpx, 680achmpx, 690achmpx, 700ehls, 810c, 820c, 830c, 840acp, 850c, 870c, 880bc, 890c.
Bacteriological laboratory, J. A. Reyniers.	
Biology and botany laboratories, T. K. Just.	
Chemistry and chemical engineering laboratory, H. B. Froning.	
Engineering mechanics laboratory, W. L. Shilts.	
Metallurgical laboratory, E. G. Mahin.	
Mining engineering laboratory, K. B. Smith.	
Organic research laboratories, G. F. Hennion.	
Physics laboratory, H. J. Bolger.	
Power laboratories, F. N. Brown.	
TERRE HAUTE:	
Rose Polytechnic Institute	040cl, 100c, 110c, 140cl, 400p, 410pi, 500clph, 510clp, 520cpea, 530cpeh, 570c, 590c, 600cpim, 610cp, 620cp, 630cp, 640cp, 650cp, 660c, 680cp, 690cp, 700ps, 710ehis, 740s, 790s, 820c, 830c, 840c, 850c, 860c, 880c, 890c.
Chemical engineering laboratory, Ralph K. Strong.	
Civil engineering laboratory, E. A. MacLean.	
Electrical laboratory, C. C. Knipmeyer.	
Mechanical laboratory, Carl Wischmeyer.	
Physical laboratory, B. A. Howlett.	
Shops.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

IOWA

Location and name of laboratory	Commodities and nature of investigations [2]
AMES:	
Iowa State College	000a, 010ai, 020abcips, 050ai, 100aisc, 110ais, 120ais, 130ais, 150bc, 160bc, 170bc, 220c, 240ai, 250i, 290bc, 300acs, 340cips, 360acs, 370acs, 390acs, 400ap, 470c, 500achm, 510acips, 520ap, 530-ahips, 600mps, 710s, 730ailps, 740ail-ps, 800c, 810abct, 820c, 850cips, 880cips.
Agricultural engineering laboratory, J. B. Davidson.	
Agricultural experiment station, R. E. Buchanan.	
Animal husbandry laboratory, P. S. Shearer.	
Bacteriology laboratory, R. E. Buchanan.	
Botanical laboratory, I. E. Melhus.	
Ceramics laboratory, C. M. Dodd.	
Chemical engineering laboratory, O. R. Sweeney.	
Chemistry laboratory, W. F. Coover.	
Civil engineering laboratory, L. O. Stewart.	
Corn research laboratory, R. M. Hixon.	
Dairy industry laboratory, C. A. Iverson.	
Electrical engineering laboratory, M. S. Coover.	
Engineering experiment station, T. R. Agg.	
Farm crops laboratory, H. D. Hughes.	
Foods and nutrition laboratory, P. Mabel Nelson.	
Forestry laboratory, G. B. MacDonald.	
Genetics laboratory, E. W. Lindstrom.	
Geology laboratory, J. T. Lonsdale.	
Horticulture laboratory, B. S. Pickett.	
Household equipment laboratory, Louise J. Peet.	
Industrial science research institute, H. V. Gaskill.	
Meats laboratory, M. D. Helser.	
Mechanical engineering laboratory, M. P. Cleghorn.	
Mining engineering laboratory, O. R. Sweeney.	
Physics laboratory, J. W. Woodrow.	
Seed laboratory, R. H. Porter.	
Soils laboratory, W. H. Pierre.	
Statistical laboratory, G. W. Snedecor.	
Textiles and clothing laboratory, Rosalie V. Rathbone.	
Theoretical and applied mechanics laboratory, H. J. Gilkey.	
Veterinary investigation laboratory, Chas. Murray.	
Zoology and entomology laboratory, C. J. Drake.	
GRINNELL:	
Grinnell College	020cp, 100a, 140cp, 160cp, 240a, 600cp, 610cp, 620cp, 630cp, 640cp, 650cp, 660cp, 670cp, 680cp, 690cp, 850cp.
Botany laboratory, H. S. Conard.	
Chemical laboratory, L. P. Sherman.	
Physics laboratory, G. O. Gale.	
Zoology laboratory, J. A. Adams.	
IOWA CITY:	
State University of Iowa	000cp, 010cp, 020cp, 040cp, 050c, 060c, 090c, 100c, 110c, 120c, 130c, 140cp, 150cp, 160cp, 170cp, 210cpt, 220cpt, 240cpt, 250cpt, 260cp, 280cp, 290cp, 410p, 420p, 500clp, 510cip, 520c, 530cp, 540cp, 550c, 570cpt, 590cpt, 600cpm, 610cpm, 620cpm, 630cpm, 640cpm, 650cpm, 680cm, 690cm, 700pse, 710pse, 720pse, 740se, 750s, 760s, 800cpt, 810cpt, 820cpt, 830cpt, 870cpt, 880cpt, 890cpt.
Analytical chemistry laboratory, Louis Waldbauer.	
Automotive testing laboratory, T. G. Caywood.	
Biological laboratory, Henry A. Mattill.	
Chemical engineering laboratory, H. L. Olin.	
Communication laboratory, L. A. Ware, R. C. Kent.	
Electrical engineering laboratory, E. B. Kurtz.	
Engineering materials laboratory, C. J. Posey.	
Experimental engineering laboratory, F. M. Dawson.	
Fuel laboratory, H. O. Croft, H. L. Olin.	
Heat engine laboratory, I. T. Wetzel.	
High voltage laboratory, H. R. Reed.	
Hydraulics laboratory, E. W. Lane.	
Illumination laboratory, E. B. Kurtz.	
Manufacturers laboratory, R. M. Barnes.	
Metallurgical laboratory, M. H. Kalina.	
Organic chemistry laboratory, L. Charles Raiford.	
Pharmacy laboratory, R. A. Kuever.	
Physics laboratory, George W. Stewart.	
Radio laboratory, Carl Menzer.	
Sanitary laboratory.	
Steam and gas engineering laboratory, G. J. Keller,.	
Water and sewage laboratory, J. J. Hinman.	
MOUNT VERNON:	
Cornell College	000ab, 010ab, 020cp, 040cp, 090ab, 160cp, 500c, 510pac, 630pac, 590pac, 600c, 630c, 640c, 650c, 680c, 690c, 820c, 830c, 850c, 890c.
Biology laboratory, Frank G. Brooks.	
Chemistry laboratory, James B. Culbertson, William L. Dunn, Robert Cocroft.	
Geology laboratory, Neil A. Miner.	
Physics laboratory, Roy A. Nelson.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

KANSAS

Location and name of laboratory	Commodities and nature of investigations [2]
BALDWIN CITY:	
Baker University Biology and bacteriology laboratory, R. R. Marsh. Chemistry laboratory, E. J. Cragoe. Physics laboratory, R. F. Miller.	010ab, 020abc, 040abc, 140cp, 170cpb, 600c, 640c, 650c, 680c, 710p, 820c, 850cp, 880cb, 970cp.
LAWRENCE:	
University of Kansas Bacteriological laboratory, N. P. Sherwood. Chemistry laboratory, R. Q. Brewster. Civil engineering laboratory, W. C. McNown. Electrical laboratory, V. P. Hessler. Entomology laboratory, H. B. Hungerford. Experimental engineering laboratory, J. J. Jakosky. Highway engineering laboratory, W. C. McNown. Hydraulics laboratory, J. O. Jones. Mechanical laboratory, A. H. Sluss. Metallurgical laboratory, E. D. Kinney. Mining laboratory, C. M. Young. Railway engineering laboratory, F. A. Russell. State chemical research laboratory, H. C. Allen. State drug laboratory, J. Allen Reese. State food laboratory, Henry Werner. Water and sewage laboratory, E. Boyce.	010abc, 020abct, 030abc, 040abcp, 100abc, 110abc, 120abc, 130abc, 140abc, 150abc, 160abc, 170abc, 200abc, 210abc, 220abc, 230abc, 240abc, 250abc, 260abc, 280abc, 290abc, 500achp, 510achp, 520achp, 530achp, 540achp, 550achp, 560achp, 570achp, 590achp, 600acmp, 610-acmp, 620acmp, 630acmp, 640acmp, 650acmp, 680amc, 690acmp, 700i, 710i, 740i, 750i, 800ac, 810ac, 820ac, 830ac, 840ac, 850ac, 860ac, 870ac, 880abc, 890ac.
MANHATTAN:	
Kansas State College Agricultural engineering laboratory, F. C. Fenton. Bacteriology laboratory, L. D. Bushnell. Botany laboratory, L. E. Melchers. Chemistry laboratory, H. H. King. Civil engineering laboratory, L. E. Conrad. Electrical laboratory, R. G. Kloeffler. Engineering experiment station, R. A. Seaton. Entomology laboratory, George A. Dean. Mechanical engineering laboratory, Linn Helander. Physics laboratory, A. B. Cardwell. Road materials testing laboratory, C. H. Scholer. Seed laboratory, R. I. Throckmorton.	000abc, 010abc, 020abc, 040c, 090abc, 110abc, 110bc, 120bc, 130bc, 140bc, 150c, 160ac, 170c, 240abc, 250ab, 400c, 500hcp, 510cp, 570c, 630c, 680c, 700p, 710e, 720p, 730p, 740p, 800c, 820c, 830c, 840c, 850cb, 880bc, 890c.
OTTAWA:	
Ottawa University Bacteriology laboratory, Stuart M. Pady. Chemical laboratory, Karl S. Bergstresser. Physical laboratory, W. David Bemmels.	020bc, 100bc, 120b, 220c, 500c, 510c, 570c, 590c, 600epc, 610c, 620c, 630c, 640c, 650c, 660c, 670c, 680c, 690c, 710e, 800c, 810c, 820c, 830c, 890c.

KENTUCKY

LEXINGTON:	
University of Kentucky Aeronautical engine-testing laboratory, A. J. Meyer. Agricultural chemistry and research in agricultural experiment station, Thomas Cooper. Chemistry teaching laboratories, R. N. Maxson. Electrical engineering laboratory, W. E. Freeman. Mechanical engineering laboratory, Perry West. Mining and metallurgical engineering laboratory, C. S. Crouse. Road material and hydraulics laboratory, D. V. Terrell.	020bc, 100ac, 110ac, 140c, 150c, 160c, 170bc, 240a, 250a, 500cphl, 600cmpx, 620cmpx, 630cmp, 640cmp, 650cp, 660cp, 680cmp, 690cmpx, 810c, 850ac, 880abt.
LOUISVILLE:	
University of Louisville Chemistry laboratory, A. W. Homberger. Chemical engineering laboratory, R. C. Ernst. Civil engineering laboratory, W. B. Wendt. Electrical laboratory, S. T. Fife. Mechanical laboratory, Ford L. Wilkinson, Jr. Pathological and bacteriology laboratory, A. J. Miller. Physics laboratory, D. M. Bennett.	010c, 020bc, 040cp, 100cp, 110c, 140c, 410p, 500cp, 530c, 540c, 600cmpx, 610cmpx, 630cpm, 640cpm, 700s, 710s, 790cis, 800cp, 820cp, 830c, 840cp, 850c, 880c, 890c.

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

LOUISIANA

Location and name of laboratory	Commodities and nature of investigations [2]
BATON ROUGE:	
Louisiana State University and Agricultural and Mechanical College.	000abi, 010abci, 020abci, 040cl, 110aci, 120ai, 130ai, 140cl, 150c, 160c, 240bis, 290bi, 330cp, 420p, 470c, 500cpl (oil), 510cspi, 570ac, 590ac, 600p, 630p, 640p, 650p, 680p, 700s, 710s, 730ps, 750s, 790ps, 800c, 810c, 820c, 830c, 840c, 850ic, 860c, 870c, 880c, 890c.
Aeronautical engineering laboratory, E. E. Maser.	
Agricultural experiment station, C. T. Dowell.	
Chemical laboratories, Messrs. Menville, Erickson, West, Fieger, Choppin, Edwards.	
Chemical engineering laboratories, Messrs. Horton, Keller, Coates, Schwartz, Dennis, Carlson.	
Electrical laboratory, M. B. Voorhies.	
Engineering experiment station laboratory, L. J. Lassalle.	
Hydraulic engineering laboratory, G. N. Cox.	
Materials of construction laboratory, John H. Bateman.	
Mechanical engineering laboratory, Hamilton Johnson.	
Petroleum engineering laboratory, Messrs. H. V. Howe, B. C. Croft, S. Cromer.	
NEW ORLEANS:	
The Tulane University of Louisiana, College of Engineering	100c, 110c, 140c, 160c, 170c, 210c, 280c, 410p, 470p, 500chlp, 510pc, 530pc, 540c, 550c, 570c, 600cmp, 610cmp, 620cmp, 630cmp, 640cmp, 650cmp, 660cmp, 680cmp, 690cmp, 700s, 710es, 750s, 780s, 790s, 800c, 820c, 830c, 840c, 850c, 860c, 890c, 910s.
Electrical engineering laboratory, C. W. Ricker.	
Experimental engineering laboratory, J. K. Mayer.	
Industrial chemistry laboratory, C. S. Williamson, Jr.	
PINEVILLE:	
Louisiana College	170abc, 510ac, 600c, 610c, 620c, 630c, 640c, 650c, 670c, 810c, 820c, 840c, 850c, 870c, 880bc.
Biology laboratory, O. B. Owens.	
Chemistry laboratory, C. R. McLellan.	
Physics laboratory, C. R. McLellan.	

MAINE

ORONO:	
University of Maine	010c, 020bc, 030bc, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 220c, 240b, 280c, 400p, 410p, 470acp, 500ph, 510pc, 540ac, 570c, 590c, 600mp, 610mp, 620c, 630c, 640mp, 680c, 690c, 700p, 710e, 720p, 740p, 780p, 790p, 820c, 830c, 840pc, 850c, 870c, 880c, 890c, 910es.
Agricultural experiment station, Fred Griffee.	
Chemistry and chemical engineering laboratory, Irwin B. Douglass, acting head.	
Electrical communication laboratory, W. J. Creamer, Jr.	
Electrical power laboratory, W. E. Barrows.	
Mechanical and metallographic laboratories, W. J. Sweetser, H. D. Watson.	
Pulp and paper laboratory, Paul D. Bray.	
State highway laboratory, H. W. Leavitt.	
Technology experiment station, Paul Cloke.	
WATERVILLE:	
Colby College	020c, 040c, 140c, 160c, 170c, 400c, 510c, 510ap, 550cap, 590c, 710pe, 800c, 820c, 830c, 850c, 910pehs.
Chemistry laboratory, George F. Parmenter.	
Geology laboratory, Richard J. Lougee.	
Shannon physical laboratory, N. E. Wheeler.	

MARYLAND

BALTIMORE:	
The Johns Hopkins University	400p, 500cph, 510p, 520pm, 530chsmp, 600pm, 610pm, 630pm, 640pm, 650pm, 680pm, 690pm, 700hs, 710eis, 800cps, 890cp, 910hs.
Chemical engineering laboratory, P. H. Emmett.	
Concrete materials laboratory, J. T. Thompson.	
Electrical laboratory, J. B. Whitehead.	
General materials testing laboratory, F. W. Kouwenhoven.	
Heat engines laboratory, A. G. Christie.	
Highway materials laboratory, F. T. Comber, Jr.	
Magnetic analysis laboratory, W. B. Kouwenhoven.	
COLLEGE PARK:	
University of Maryland	010a, 020abc, 090cpas, 110ai, 120aip, 130aip, 240i, 250abi, 290abi, 510p, 600p, 610p, 710s, 730ais, 810cp, 840cp, 850cpas, 880cp, 890cp.
Agricultural experiment station, R. B. Corbett.	
Agricultural and food laboratory, L. B. Broughton.	
Bacteriological laboratory, L. H. James.	
Civil engineering laboratory, S. S. Steinburg.	
Dairy products laboratory, Kenneth L. Turk.	
Electrical engineering laboratory, S. S. Steinburg.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

MARYLAND—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
College Park—Continued.	
Engineering experiment station, S. S. Steinburg.	
Feed, fertilizer, and lime laboratory, L. E. Bopst.	
Horticultural laboratory, Charles H. Mahoney.	
Industrial chemical laboratory, W. J. Huff.	
Inorganic chemical laboratory, C. E. White.	
Organic chemical laboratory, N. L. Drake.	
Seed-testing laboratory, F. S. Holmes.	
Soils laboratory, R. P. Thomas.	
State extension service, T. B. Symons.	
Textile laboratory, Polly K. Moore.	
Emmitsburg:	
Mount St. Mary's College	200c, 370ci, 510c, 600c, 610c, 630c, 640c, 650c, 680c, 820cp, 840c, 850c.
Chemical laboratory, J. C. Gordon.	

MASSACHUSETTS

Amherst:	
Massachusetts State College	000ab, 010a, 020abcp, 100acp, 110acpi, 120a, 130a, 240a, 250a, 260ac, 520i (dairy glassware), 530ac, 700ils, 710ils, 730ils, 740ils, 850aci, 880abc.
Bacteriology laboratory, L. A. Bradley.	
Dairy glassware and Babcock machines laboratory, P. H. Smith.	
Dairy products laboratory, J. H. Frandsen.	
Entomology laboratory, C. P. Alexander.	
Feed-control and fertilizer control laboratory, P. H. Smith.	
Horticultural manufactures laboratory, C. R. Fellers.	
Machinery laboratory, C. I. Gunness.	
Milk and water laboratory, Leon Bradley.	
Physics laboratory, W. F. Powers.	
Physiology laboratory, G. E. Gage.	
Plant pathology laboratory, A. V. Osmun.	
Poultry husbandry laboratory, R. T. Parkhurst.	
Seed control laboratory, F. A. McLaughlin.	
Soil fertility laboratory, W. S. Eisenmenger.	
Veterinary science laboratory, J. B. Lentz.	
Boston:	
Boston University	200c, 500c, 510c, 550c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 800c, 810c, 820c, 830c, 870c, 890c.
Chemical laboratory, E. O. Holmes, Jr., J. P. Mason, C. M. Alter.	
Cambridge:	
Harvard University	600mx, 610mx, 620mx, 630mx, 640mx, 650mx, 660mx, 680mc, 690mx, 710es, 800bc, 820c, 830c, 840c, 880c, 890c, 910p.
Aeronautics laboratory, W. Bollay.	
Chemical laboratory, A. B. Lamb.	
Communication engineering laboratory, E. L. Chaffee.	
Electrical engineering laboratory, R. Rudenberg.	
Materials and structures laboratory, A. Haertlein.	
Mechanical engineering laboratory, C. H. Berry.	
Metallurgical laboratory.	
Physics laboratory, T. Lyman.	
Sanitary engineering laboratory, G. M. Fair.	
Soil mechanics laboratory, A. Casagrande.	
Vibration laboratory, J. P. Den Hartog.	
Massachusetts Institute of Technology	
Division of Industrial Cooperation, N. McL. Sage.	
Fall River:	
Bradford Durfee Textile School	300cp, 310cp, 320cp, 330cp, 340cp, 360cp, 370cp, 390cp (rayon), 770s (textiles).
Textile chemistry laboratory, Leslie B. Coombs.	
Textile design laboratory, Alfred Higgins.	
Textiles—physical laboratory, William A. Goss.	
Lowell:	
Lowell Textile Institute	230c, 280c, 300cpa, 310cpa, 320cpa, 330cpa, 340cpa, 360cpa, 370cpa, 390cpa, 500ch, 800c, 840c, 870c.
Textile chemistry laboratory, Louis A. Olney.	
Textile design laboratory, Hermann H. Bachmann.	
Textile testing and research laboratory, Herbert J. Ball.	
Textiles—physical laboratory, Gilbert R. Merrill.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

MASSACHUSETTS—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
TUFTS COLLEGE:	
Tufts College	020cp, 040cp, 140cp, 150c, 160c, 170c, 300ca, 330ca, 340ca, 360ca, 370ca, 390ca, 400p, 470ca, 490ca, 500c, 510c, 520c, 530c, 550p, 600camp, 610camp, 620c, 630camp, 640campe, 650camp, 660cm, 680camp, 690c, 700pm, 710e, 760pm, 800cp, 820c, 830c, 840c, 850c, 860c, 870c, 890c, 910p, 920p.
Chemical laboratory, C. F. Baker.	
Civil engineering laboratory, F. N. Weaver.	
Electrical laboratory, A. H. Howell.	
Mechanical laboratory, E. MacNaughton.	
Physics laboratory, J. R. Harrison.	
Strength of materials laboratory, F. N. Weaver.	
Thermodynamics laboratory, R. U. Fittz.	
WELLESLEY:	
Wellesley College	020b, 160c, 880b.
Bacteriology laboratory, Delaphine G. Rosa.	
Botany laboratory, Howard Pulling.	
Chemistry laboratory, Ruth Johnstin.	
Geology laboratory, Margaret Parker.	
Physics laboratory, Louise S. McDowell.	
Zoology laboratory, Gladys McCosh.	
WORCESTER:	
Worcester Polytechnic Institute	020c, 030c, 040c, 060c, 120c, 130c, 140c, 150c, 160c, 170c, 200cpe, 210c, 220c, 230c, 280c, 310c, 410p, 500clp, 510cph, 520ca, 530ep, 550p, 570c, 590c, 600cpm, 610cpm, 620cpm, 630cpm, 640cpm, 650cpm, 660c, 680cpm, 690cpm, 700sh, 710pmse, 720s, 740s, 750s, 760s, 780s, 790s, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c, 910se.
Aerodynamics laboratory, K. G. Merriam.	
Alden hydraulic laboratory, C. M. Allen.	
Chemistry laboratory, E. D. Wilson.	
Civil engineering laboratory, A. H. Holt.	
Electrical laboratory, T. H. Morgan.	
Mechanical laboratory, F. W. Roys.	
Physics laboratory, Morton Masius.	

MICHIGAN

ANN ARBOR:	
University of Michigan	040chp, 060p, 100ach, 130ach, 140achp, 150ach, 160ach, 170ach, 200acehp, 210chp, 220achp, 230acp, 240bs, 250bs, 260abcsh, 280achp, 290ach, 300achp, 320ach, 330ach, 340ach, 360ach, 370ach, 390ach, 400abchpsx, 410p, 420p, 470acehips, 500acehlps, 510achsp, 520acehmpx, 530achp, 540hp, 550acehmpx, 560acehmpx, 570chp, 590acehmpx, 600acehimpsx, 610aips, 620achimpx, 630achmpxhe, 640acemphx, 650acemphx, 660acmpx, 680acemphx, 690acemphx, 710aihlps, 720aihlps, 760aihlps, 800acephs, 820acehps, 830acehps, 840acephs, 870ach, 880acehps, 890acehps, 910acehilmps.
Engineering research laboratory, A. E. White.	
Food and drug laboratory, C. C. Glover.	
Mineralogical laboratory, W. F. Hunt.	
DETROIT:	
University of Detroit	040cpa, 100cpa, 400cp, 410p, 500cpa, 510cp, 520cp, 530cp, 540cp, 550cp, 570cp, 590cp, 600cmp, 610cmp, 620cmp, 630cmp, 640cmp, 650cmp, 660cmp, 680cmp, 690cmp, 710sip, 720sip, 800cpa, 810cpa, 820cpa, 830cpa, 840cpa, 850cpa, 860cpa, 870cpa, 880cpa, 890cpa, 910sip.
Aeronautics laboratory, George J. Higgins.	
Architectural engineering laboratory, B. N. Blakeslee.	
Cement testing and concrete laboratory, C. C. Johnston.	
Chemical engineering laboratory, C. G. Duncombe.	
Chemistry laboratory, George J. Shiple.	
Electrical laboratory, H. O. Warner.	
Mechanical laboratory, F. J. Linsenmeyer.	
Physics laboratory, P. P. Harbrecht.	
Testing materials laboratory, H. E. Mayrose.	
EAST LANSING:	
Michigan State College	000b, 010cb, 020cb, 030c, 040c, 100cb, 110cb, 120c, 130c, 140c, 150c, 160cb, 170cb, 220cb, 230c, 240c, 300c, 310c, 320c, 330b, 340c, 360c, 370c, 390c, 400pi, 410p, 490c, 500c, 510p, 570c, 590c, 600cpm, 610cpm, 620cpm, 630cpm, 640cpm, 650cpm, 680cpm, 690cpm, 700s, 710es, 730s, 760s, 800cb, 810cb, 820c, 830c, 840c, 850s, 880cb, 890c.
Agricultural experiment laboratory, V. R. Gardner.	
Bacteriology laboratory, Ward Giltner.	
Beal botanical laboratory, Ernest A. Bessey.	
Chemistry laboratory, E J. Miller.	
Civil engineering laboratory, Chester Allen.	
Electrical laboratory, L. S. Foltz.	
Engineering experiment station, H. B. Dirks.	
Farm crops laboratory, H. C. Rather.	
Home economics laboratory, Marie Dye.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

MICHIGAN—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
EAST LANSING—Continued.	
Michigan State College—Continued.	
Mechanical laboratory, H. B. Dirks.	
Metallurgical laboratory, F. G. Sefing.	
Milk and cream laboratory, Earle Weaver.	
Wood technology laboratory, P. A. Herbert.	
HOUGHTON:	
Michigan College of Mining and Technology	040chlp, 060p, 140chlp, 160c, 170c, 200ace, 210ace, 220ace, 230cp, 400p, 410p, 420p, 470p, 500hclp, 510p, 520p, 530p, 550cpae, 560a, 570cpae, 590cpae, 600acehmpx, 610acehmpx, 620acehmpx, 630acehmpx, 640acehmpx, 650acehmpx, 660acehmpx, 680acehmpx, 690acehmpx, 700hpsi, 710hpsie, 720si, 740si, 750si, 760si, 790si, 800aclps, 820c, 830c, 840cps, 870cp, 880cps.
Assaying laboratory, N. H. Manderfield.	
Chemical laboratory, H. L. Coles.	
Electrical laboratory, G. W. Swenson.	
Geophysical and physics laboratory, James Fisher.	
Mechanical and testing materials laboratory, R. R. Seeber.	
Metallographic laboratory, Corbin T. Eddy.	
Mineralogy and petrography laboratory, A. K. Snelgrove.	
Ore dressing laboratory, N. H. Manderfiled.	

MINNESOTA

MINNEAPOLIS:	
University of Minnesota	000bp, 010bp, 020c, 040cp, 060p, 100cp, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 200cs, 210c, 220c, 240c, 250s, 260cp, 280cp, 290cp, 300cas, 310cas, 320cas, 330cas, 340cas, 360cas, 370cas, 400p, 410p, 420p, 430p, 470ap, 480ap, 500cp, 510cps, 520cpes, 530cpes, 540-cp, 570cp, 600cehmp, 610ps, 620-cehmp, 630cpm, 640cehmp, 650cehmp, 660m, 680cehmp, 690cmp, 700ils, 710ehilps, 720sl, 730sl, 750sil, 760sil, 770sil, 780sil, 790sil, 800bcpt, 810-bcpt, 820cpx, 830cpx, 840cs, 850bcs, 860cpsx, 870cst, 880bc, 910sp, 930sp, 950i, 970s, 980s.
Aeronautical engineering laboratory, J. D. Akerman.	
Agricultural machinery laboratory, A. J. Schwantes.	
Agronomy laboratory, H. K. Hayes.	
Analytical chemistry laboratory, I. M. Kolthoff.	
Bacteriology laboratory, W. P. Larson.	
Biochemistry laboratory, R. A. Gortner.	
Biophysics laboratory, K. W. Stenstrom.	
Cereal chemistry laboratory, W. F. Geddes.	
Chemical engineering laboratory, C. A. Mann.	
Dairy products laboratory, J. B. Fitch.	
Electrical instruments laboratory, M. E. Todd.	
Electric power laboratory, L. C. Caverley.	
Engineering materials laboratory, G. C. Priester.	
Food chemistry laboratory, E. B. Sandell.	
Forestry products laboratory, H. Schmitz.	
Heating, ventilation and refrigeration laboratory, F. B. Rowley.	
High voltage laboratory, J. M. Bryant.	
Highway engineering laboratory, F. C. Lang.	
Home economics laboratory, W. B. McNeal.	
Hydraulics laboratory, L. G. Straub.	
Internal combustion engines laboratory, B. J. Robertson.	
Machine design laboratory, J. J. Ryan.	
Metallography laboratory, R. L. Dowdell.	
Metallurgy laboratory, T. L. Joseph.	
Microscopic study of rocks and ores laboratory, F. F. Grout, D. M. Donaldson.	
Mining machinery laboratory, E. W. Davis.	
Nutrition laboratory, L. S. Palmer.	
Pathology laboratory, E. T. Bell.	
Pharmaceutical chemistry laboratory, G. L. Jenkins.	
Pharmacognosy laboratory, E. B. Fischer.	
Pharmacology laboratory, A. D. Hirschfelder.	
Photometric and illumination laboratory, E. W. Johnson.	
Physiological chemistry, G. O. Burr.	
Physiological hygiene, A. Keys.	
Plant pathology laboratory, E. C. Stakman.	
Radio laboratory, J. S. Webb.	
Rock analysis laboratory, F. F. Grout.	
Seeds laboratory, A. H. Larson.	
Shop machinery laboratory, C. A. Koepke.	
Soils laboratory, F. J. Alway.	
Steam and power plants laboratory, C. F. Shoop.	
Structural engineering laboratory, C. A. Hughes.	
Telephone and telegraph laboratory, H. E. Hartig.	
ST. PAUL:	
Hamline University	
Biology laboratory, Walter A. Kenyon.	
Chemical laboratory, Perry A., Moore.	
Physics laboratory, Kent H. Bracewell.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

MISSISSIPPI

Location and name of laboratory	Commodities and nature of investigations [2]
CLINTON:	
Mississippi College	140c, 210c, 500c, 510c, 520c, 530c, 540c, 550c, 560c, 570c, 590c, 600c, 610c, 620c, 630c, 640c, 680c, 690c, 820c, 830c, 840c, 870c, 890c.
Chemical laboratory, A. E. Wood.	
STATE COLLEGE:	
Mississippi State College	020c, 100c, 110c, 120cb, 140cp, 150c, 160c, 170c, 500cp, 510cp, 530cp, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
Agricultural engineering laboratory, W. C. Howell.	
Agronomy laboratory, A. D. Suttle.	
Bacteriological laboratory, H. H. Harned.	
Botany laboratory, J. C. McKee.	
Chemical laboratory, W. F. Hand.	
Electrical laboratory, L. L. Patterson.	
Entomological laboratory, Clay Lyle.	
Mechanical laboratory, A. G. Holmes.	
Physics laboratory, Walker Kinkaid.	
UNIVERSITY:	
University of Mississippi	160c, 170c, 410c, 500ch, 510p, 600cp, 610cp, 700s, 710s, 810c, 840c, 870c.
Biological laboratory, F. M. Hull.	
Ceramics laboratory, W. C. Moore.	
Chemical laboratory, G. H. Woollett.	
Engineering laboratory, L. H. Johnson.	
Medical laboratory, B. S. Guyton.	
Pharmacy laboratory, E. L. Hamomnd.	
Physical laboratory, W. L. Kennon.	
Psychology laboratory, J. B. Wolfe.	

MISSOURI

COLUMBIA:	
University of Missouri	000bat, 010abct, 020abcipt, 030a, 040acpl, 050abt, 070a, 100abc, 110c, 120ac, 130ac, 140a, 170b, 220a, 230a, 240abc, 250ab, 340a, 400aips, 410apis, 420ips, 500clpa, 510aips, 530ap, 550ap, 590ap, 600ips, 610ips, 700is, 730a, 850a, 870a, 880a, 990cpa.
Agricultural chemistry laboratory, A. G. Hogan.	
Agricultural engineering laboratory, J. C. Wooley.	
Botany laboratory, C. M. Tucker.	
Chemistry laboratory, H. E. Best.	
Dairy laboratory, A. C. Ragsdale.	
Engineering laboratory, H. A. Curtis.	
Entomology laboratory, Leonard Haseman.	
Field crops laboratory, W. C. Etheridge.	
Geology laboratory, E. B. Branson.	
Horticulture laboratory, T. J. Talbert.	
Soils laboratory, W. A. Albrecht.	
Veterinary laboratory, A. J. Durant.	
Zoology laboratory, W. C. Curtis.	
ROLLA:	
Missouri School of Mines and Metallurgy	400p, 410p, 500chlpa, 510cpa, 520cpax, 530pchamesx, 540ampc, 570achs (magnesia), 590caehsp, 600acmpx, 610acmpx, 620acmpx, 630acmpx, 640acmpx, 650acmpx, 660acmpx (precious metals), 680acmpx, 690acmpx, 700s, 710s, 750s, 800c, 820c, 880bc, 910s.
Biology laboratory, C. J. Millar.	
Ceramic laboratory, P. G. Herold.	
Chemical laboratory, W. T. Schrenk.	
Civil laboratory, J. B. Butler.	
Electrical laboratory, F. H. Frame.	
Experiment station laboratory, W. R. Chedsey.	
Geology laboratory, G. A. Muilenburg.	
Mechanical laboratory, R. O. Jackson.	
Metallurgy laboratory, C. Y. Clayton.	
Mining laboratory, C. R. Forbes.	
Testing laboratory, R. Z. Williams.	
SPRINGFIELD:	
Drury College	010c, 020bc, 120b, 130b, 170bc, 250b, 510c, 640c, 650c, 680c, 820c, 830ct, 850c, 880cb, 890c, 990hs (gas).
Biology laboratory, J. E. Cribbs.	
Chemistry laboratory, R. Neal.	
Geology laboratory, E. L. Clark.	
Physics laboratory, Oscar G. Fryer.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

MISSOURI—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
ST. LOUIS:	
Washington University	020c, 040c, 060cp, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 280c, 390ach, 400p, 410p, 500ch, 510p, 530cp, 550e, 570c, 600cp, 610cp, 620cpm, 630cp, 640cpm, 650cp, 690cp, 700ep, 710ep, 740p, 800c, 820c, 830c, 840c, 850c, 860p, 870c, 890c, 910s, 990p.
Chemical engineering laboratory, L. E. Stout.	
Chemistry laboratory, L. McMaster.	
Civil engineering laboratory, E. O. Sweetser.	
Electrical engineering laboratory, R. S. Glasgow.	
Industrial engineering laboratory, A. S. Langsdorf.	
Mechanical engineering laboratory, R. R. Tucker.	

MONTANA

BOZEMAN:	
Montana State College	000b, 010bc, 020bc, 030c, 040c, 100acipsb, 110c, 120bc, 130bc, 140c, 150c, 160c, 240aips, 250bi, 300cp, 360cbi, 370cp, 390cp, 410p, 500chs, 510ps, 520p, 530cp, 600cp, 610p, 620p, 630p, 640cp, 650cp, 680p, 690cp, 700ps, 710ps, 730s, 740i, 760i, 780i, 800c, 850cs, 870s, 880bs, 910is.
Agricultural engineering laboratory.	
Bacteriological laboratory, D. B. Swingle.	
Chemical engineering laboratory, W. M. Cobleigh.	
Chemistry laboratory, O. E. Sheppard.	
Dairy products laboratory, J. A. Nelson.	
Electrical laboratory, E. W. Schilling.	
Engineering experiment station laboratory, W. M. Cobleigh.	
Engineering materials laboratory, L. D. Conkling.	
Entomological laboratory, H. B. Mills.	
Experiment station chemical laboratory, A. R. Patton.	
Grain inspection laboratory, W. O. Whitcomb.	
Home economics laboratory, Jessie Richardson.	
Mechanical laboratory.	
BUTTE:	
Montana School of Mines	500acp, 510acp, 520acp, 530acp, 540acp, 550acp, 560acp, 570acp, 590acp, 600acp, 610acp, 620acp, 630acp, 640acp, 650acp, 660acp, 680acp, 690acp.
Geological laboratory, E. S. Perry.	
Metallurgical laboratory, C. L. Wilson.	
Mineral-dressing laboratory, S. R. B. Cooke.	

NEBRASKA

LINCOLN:	
University of Nebraska	000b, 020b, 100cp, 500p, 510p, 710s, 730s (tractors).
Agricultural engineering laboratory, E. E. Brackett.	
Animal pathology and hygiene laboratory, L. Van Es.	
Applied mechanics laboratory, Wm. L. DeBaufre.	
Bacteriological laboratory, G. L. Peltier.	
Botany laboratory, R. J. Pool.	
Chemistry laboratory, C. S. Hamilton.	
Civil engineering laboratory, C. E. Mickey.	
Crops and soils laboratory, F. D. Keim.	
Dairy husbandry laboratory, H. P. Davis.	
Electrical engineering laboratory, O. J. Ferguson.	
Entomology laboratory, H. D. Tate.	
Home economics laboratory, Margaret Fedde.	
Mechanical engineering laboratory, J. W. Haney.	
Physics laboratory, H. H. Marvin.	
Plant diseases laboratory, R. W. Goss.	
Zoology laboratory, D. D. Whitney.	
OMAHA:	
Creighton University	010abctx, 020abctx, 030abctx, 100abctx, 110abctx, 120abctx, 150abctx, 160abctx, 170abctx, 220abctx, 510as, 540as, 600cp, 620c, 630cm, 640p, 660ap, 690ap, 810abctx, 840c, 850c, 870c, 890c.
Bacteriology laboratory, F. C. Colein.	
Biological chemistry laboratory, V. E. Levine.	
Chemistry (analytical) laboratory, C. L. Kenny.	
Chemistry (organic) laboratory, J. W. VaVerka.	
Pharmacology laboratory, H. F. Gerald.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

NEVADA

Location and name of laboratory	Commodities and nature of investigations [2]
RENO:	
University of Nevada	020cb, 040cb, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 220c, 360cp, 500chl, 510p, 550c, 570c, 590cp, 600cpm, 630cpm, 640cpm, 650cpm, 690cpm, 700s, 710s, 730s, 740s, 750s, 810c, 820c, 850c, 880cb.
Agricultural research laboratory, S. B. Doten.	
Chemistry laboratory, George W. Sears.	
Engineering research laboratory, H. P. Boardman.	
Food and drug laboratory, S. C. Dinsmore.	
Metallurgical laboratory, Walter Palmer.	
Wool laboratory, F. C. Wilson.	

NEW HAMPSHIRE

DURHAM:	
University of New Hampshire	000abci, 010abci, 020abci, 030abci, 040cip, 050ca, 060acp, 070a, 100abci, 110abci, 120abchip, 130abchip, 140abci, 150abci, 160abci, 160bc, 210cp, 230c, 240abi, 250abi, 260ab, 280cip, 300api, 310api, 320api, 330api, 340api, 360api, 370api, 390api, 400abci, 410i, 420ips, 430ip, 470acip, 500cih, 510ipsa, 520acph, 530ciph, 540a, 550ap, 570cip, 590acip, 600acmpi, 610acmpi, 620acmpi, 630acmpi, 640acmpi, 650acmpi, 680acmpi, 690acmpi, 700hilps, 710eilps, 730i, 740i, 760ipsl, 770ipsl, 780ipsl, 790ipsl, 820cpi, 830cpi, 840acpi, 850ci, 870cips, 880bctis, 890cis, 940ips, 950ips, 990acehilmps.
Agricultural and biological chemistry laboratory, T. G. Phillips.	
Agricultural experiment laboratory, M. G. Eastman.	
Biological laboratory, C. F. Jackson.	
Chemistry laboratory, H. A. Iddles.	
Civil engineering laboratory, E. W. Bowler.	
Engineering experiment laboratory, D. S. Eppelsheimer.	
Geological laboratory, G. W. White.	
Home economics laboratory, Mrs. H. F. McLaughlin.	
HANOVER:	
Dartmouth College	570c, 640c, 650c, 680c, 690c.
Biology laboratory, W. Byers Unger.	
Chemistry laboratory, Fletcher Low.	
Civil engineering laboratory, Frank W. Garran.	
Medical school laboratory, J. P. Bowler.	
Optical research laboratory, Adelbert Ames, Jr.	
Physics laboratory, Leslie F. Murch.	

NEW JERSEY

HOBOKEN:	
Stevens Institute of Technology	200c, 210c, 220c, 230c, 260c, 280c, 290c, 300a, 310a, 320a, 330a, 340a, 360a, 370a, 390a, 400a, 410ap, 420a, 430a, 470a, 480a, 490a, 500cph, 510cph, 520cph, 530cph, 540cph, 550cph, 560cph, 570cph, 590cph, 600acpm, 610acpm, 620acpm, 630acpm, 640acpm, 650acpm, 660acpm, 670am, 680acpm, 690acpm, 700p, 710ps, 790ps, 800c, 810c, 820c, 830c, 840ac, 850c, 860c, 870ac, 880c, 890c, 910ps, 970sc.
Chemical laboratory, Francis J. Pond.	
Electrical laboratory, Frank C. Stockwell.	
Mechanical laboratory, Richard F. Deimel.	
Physics laboratory, Edwin G. Schneider.	
NEW BRUNSWICK:	
Rutgers University and New Jersey State Agricultural Experiment Station.	000cb, 020cb, 030b, 060c, 090c, 110ca, 120b, 130b, 200c, 210c, 240cs, 250bc, 360ab, 410p, 500c, 510p, 520c, 530c, 540c, 550i, 560i, 570c, 590ci, 600cp, 630cp, 640cp, 650c, 680cp, 690cpi, 710s, 730s, 800c, 840c, 850c, 880bc, 890c, 910s.
Agricultural biochemistry laboratory, Walter C. Russell.	
Bacteriology laboratory, Thomas J. Murray.	
Ceramics laboratory, George H. Brown.	
Chemistry laboratory, William I. Read.	
Control laboratory—feeds, fertilizers, insecticides, etc., Chas. S. Cathcart.	
Dairy laboratory, John W. Bartlett.	
Engineering laboratories, Parker H. Daggett.	
Entomological laboratory, T. J. Headlee.	
Geological laboratory, Albert O. Hayes.	
Physiology and biochemistry laboratory, William H. Cole.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

NEW JERSEY—Continued

Location and name of laboratory	Commodities and nature of investigations[2]
NEW BRUNSWICK—Continued.	
Rutgers University and New Jersey State Agricultural Experiment Station—Continued.	
Physics laboratory, George Winchester.	
Plant pathology laboratory, Wm. H. Martin.	
Plant physiology laboratory, John W. Shive.	
Plant physiology and biochemistry laboratory in horticulture, O. Wesley Davidson.	
Poultry pathology laboratory, Frederick R. Beaudette.	
Rural engineering laboratory, Edward R. Goss.	
Seed laboratory, Miss Jessie G. Fiske.	
Soil chemistry and bacteriology laboratory, Firman E. Bear.	
Water supply and sewage disposal laboratory, Willem Rudolfs.	
Zoology laboratory, Thurlow C. Nelson.	
NEWARK:	
Newark College of Engineering	000c, 010c, 020c, 030c, 040c, 050, 060c, 070c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 200c, 210c, 220c, 230c, 240c, 250c, 260c, 280c, 290c, 300c, 310c, 320c, 330c, 340c, 360c, 370c, 390c, 400cp, 410p, 500cph, 510pc, 520c, 530c, 540c, 550c, 560c, 570c, 590c, 600apmc, 610apmc, 620apmc, 630c, 640apmc, 650c, 660c, 680c, 700ph, 710ep, 780peh, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c, 910cph, 950ph.
Chemical laboratory, V. T. Stewart.	
Electrical laboratory, James C. Peet.	
Heat treatment laboratory, Frank D. Carvin.	
Mechanical laboratory, Frank D. Carvin.	
Physics laboratory, F. N. Entwisle.	
Strength of materials laboratory, F. N. Entwisle.	
PRINCETON:	
Princeton University	410p, 510p, 600p, 610p, 630p, 640p, 650p, 680p, 690p, 700p, 710p, 720p, 740p, 910p.
Chemical engineering laboratory, J. C. Elgin.	
Electrical laboratory, C. H. Willis.	
Hydraulic laboratory, L. F. Moody.	
Materials laboratory, P. Kissam.	
Mechanical laboratory, A. E. Sorenson.	

NEW MEXICO

ALBUQUERQUE:	
University of New Mexico	000b, 020c, 100b, 120b, 170cp, 400ips, 410ips, 500acips, 510acips, 530ips, 540a, 550a, 560a, 570a, 590a, 600ips, 640ips, 700his, 710his, 730s, 740ps, 750ps, 760ps, 850c. 880c.
Aeronautical laboratory, M. E. Farris.	
Biological laboratory, E. F. Castetter.	
Chemical laboratory, J. D. Clark.	
Civil engineering laboratory, J. H. Dorroh.	
Electrical laboratory, Ralph W. Tapy.	
Engineering experiment station, M. E. Farris.	
Geology laboratory, S. A. Northrop.	
Mechanical laboratory, M. E. Farris.	
State gasoline testing laboratory, Walter Biddle.	
State health laboratory, Myrtle Greenfield.	
State highway testing laboratory, L. C. Campbell.	
SOCORRO:	
New Mexico School of Mines	500c, 510acp, 530acp, 540ac, 550pc, 570pc, 590acp, 600cm, 610c, 620cm, 630c, 640cm, 650cm, 660c, 680cm, 690cm, 820c, 850c, 880c.
Chemical laboratory, F. C. Smithson.	
Engineering laboratory, T. G. Spannagel.	
Metallurgical laboratory, A. S. Walter.	
Microscopical laboratory, S. B. Talmage.	
STATE COLLEGE:	
New Mexico College of Agriculture and Mechanic Arts	000bit, 010bit, 020bit, 050p, 090bit, 100ais, 110ai, 120ai, 130ai, 160c, 230acip, 240abi, 250ai, 300ip, 360i, 370i, 390i, 400i, 410i, 500ach, 510ac, 570aic, 600achimp, 610achimp, 620-achimp, 630achimp, 640achimp, 650achimp, 660achimp, 680achimp, 690achimp, 700pi, 710pie, 720pie, 740pie, 760aeilp, 800cmh, 930ia, 970ia.
Biological laboratory, R. F. Crawford.	
Chemical laboratory, C. W. Botkin.	
Dairy laboratory, C. C. Cunningham.	
Electrical laboratory, M. A. Thomas.	
Mechanical laboratory, Prof. Lewellyn.	
Metallurgical laboratory, L. B. Shires.	
Physics laboratory, G. Gardiner.	
Seed laboratory, J. C. Overpeck.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

NEW YORK

Location and name of laboratory	Commodities and nature of investigations [2]
ALFRED:	
Alfred University	020bc, 040c, 100i, 110i, 140c, 150c, 160c, 220c, 240ai, 250ai, 290ai, 300ac, 390ac, 500c, 520cmhx, 530cmhx, 540cmhx, 550cmhx, 570c, 590c, 800c, 810c, 820c, 830c, 840c, 850aic, 860c, 870c, 880c, 890c, 970c.
Ceramic chemistry laboratory, M. J. Rice.	
Clay laboratory, M. E. Holmes.	
Glass laboratory, S. R. Scholes.	
Inorganic laboratory, P. C. Saunders.	
Mineralogy laboratory, C. R. Amberg.	
New York State College of Ceramics.	
Organic laboratory, P. C. Saunders.	
BROOKLYN:	
Pratt Institute	040ci, 140ci, 170ci, 390ci, 400aps, 410aps, 420ap, 500chilps, 510p, 520chi, 600cehmps, 610hmps, 620emp, 630mp, 640cmp, 650mp, 680cmp, 700ps, 710eips, 720is, 740ps, 760ps, 780is, 790is, 800ci, 870ci, 890acp, 910ps.
Chemical laboratory, Tod G. Dixon.	
Electrical laboratory, C. C. Carr.	
Forge and heat treating laboratory, C. B. Jones.	
Foundry, R. E. Nesbitt.	
Machine shop, Otis Benedict.	
Mechanical laboratory, F. S. Egilsrud.	
Physics laboratory, A. W. Doll.	
Wood shop, F. E. Wittig.	
Polytechnic Institute of Brooklyn	140e, 200e, 210ce, 300es, 360e, 370e, 390e, 400cpa, 410ap, 470e, 500ahipe, 510ahip, 520e, 530ap, 550e, 600ahiplm, 610ahiplm, 630ahiplm, 650ahiplm, 680ahiplm, 690ahiplme, 700hilps, 710ehis, 720hilps, 740hilps, 750ips, 780hilps, 800c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c, 910aimpshe, 930ap.
Aerodynamic laboratory, R. P. Harrington.	
Analytical chemistry laboratory, G. B. L. Smith.	
Chemical microscopy laboratory, W. F. Whitmore.	
Dynamo laboratory, C. C. Whipple.	
Electrical communications laboratory, F. E. Canavaciol.	
Electrical laboratory, Robin Beach.	
Gas engineering and appliances laboratory, J. A. Lambertine.	
Highway materials testing laboratory, B. D. Greenshields.	
Hydraulic laboratory, C. A. Wright.	
Industrial chemistry laboratory, D. F. Othmer.	
Material testing laboratory, O. H. Henry.	
Mechanical engineering laboratory, W. J. Moore.	
Metallurgical laboratory, O. H. Henry.	
Photo-elastic stress analysis laboratory, R. C. Veit.	
Physical and optical laboratories, E. Hausmann.	
Physico-chemical analysis laboratory, H. F. Mark.	
Structural research laboratory, E. J. Squire.	
ELMIRA:	
Elmira College	010c, 020cb, 030c, 040c, 100c, 110c, 130c, 140c, 150c, 160c, 170cb, 280c, 300c, 330c, 390c, 500c, 520c, 590c, 600c, 640c, 650c, 690c, 870c, 890c.
Biological chemistry laboratory, E. L. Whittaker.	
Chemical laboratory, F. A. Richmond.	
Home management and nutrition laboratories, Alma Montgomery.	
ITHACA:	
Cornell University	390a, 400p, 410p, 420p, 470a, 490a, 500pc, 510pc, 520a, 530p, 600cpm, 610pc, 620p, 630pm, 640cpm, 650pm, 680pm, 690m, 700ps, 710ps, 750ps, 760s, 800ps, 820a, 830a, 840a, 880ab, 890a, 900a, 910s, 990ps.
Chemical microscopy laboratory, C. W. Mason.	
Chemistry laboratory, P. Debye.	
Electrical laboratory, W. A. Lewis.	
Engineering materials laboratory, H. H. Scofield.	
Highway laboratory, W. L. Conwell.	
Hydraulic laboratory, E. W. Schoder.	
Materials laboratory, A. C. Davis.	
Metallographic laboratory, G. B. Upton, A. C. Davis, C. W. Mason.	
Physics laboratory, R. C. Gibbs.	
Photo-elastic laboratory.	
Power-plant mechanical laboratory, V. R. Gage, A. C. Davis.	
Sanitary laboratory, C. L. Walker.	
NEW YORK CITY:	
The City College—College of the City of New York	040c, 140c, 150c, 300p, 470p, 500cp, 510cp, 520cp, 530cp, 540cp, 550cp, 570cp, 590cp, 600cmp, 610cmp, 620cmp, 630cp, 640cp, 650cp, 680cp, 690cp, 700s, 710s, 720s, 760s, 790s, 800c, 820c, 830c, 840c, 850c, 860c, 890c, 910px, 970c.
Analytical laboratory, W. L. Prager.	
Biological laboratory, A. L. Melander.	
Chemical engineering laboratory, G. E. White.	
Electrical laboratory, H. Baum.	
Materials laboratory, J. S. Peck.	
Mechanical laboratory, F. Kuhlen.	
Metallurgical laboratory, M. Kolodney.	
Physical chemical laboratory, R. Stevenson.	
Physics laboratory, S. Sonkin.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

NEW YORK—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
NEW YORK CITY—Continued.	
Columbia University	010c, 020c, 030c, 040c, 050c, 060cp, 070c, 080c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 210c, 220c, 230c, 400cp, 410cp, 420c, 430c, 470c, 480c, 490c, 500acplx, 510acpx, 520acpx, 530acpx, 540acx, 550acx, 560acx, 570acx, 590acx, 600acmp, 610acmp, 620acmp, 630acmp, 640acmp, 650acmp, 660acmp, 670ces, 680acmp, 690acmpx, 700hls, 710aceips, 740is, 750aps, 760is, 770is, 780is, 790is, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
Chemical engineering laboratories, Arthur W. Hixson.	
Chemistry laboratories, H. C. Sherman.	
Civil engineering—materials, soils, photoelastic and hydraulic testing laboratories, Wm. J. Krefeld.	
Electrical engineering laboratories, F. W. Hehre.	
Mechanical engineering laboratories, Theodore Baumeister, Jr.	
Metallurgical laboratories, Eric Jeffe.	
Mineral dressing laboratories, A. F. Taggart.	
Mineralogy laboratories, Paul Kerr.	
Mining laboratories, P. B. Bucky.	
Physics laboratories, G. B. Pegram.	
Cooper Union Institute of Technology	300p, 370p, 400p, 410p, 470p, 500p, 510p, 600pem, 610pem, 620pem, 630em, 640pem, 650em, 660mp, 680pem, 700ps, 710es, 780ps, 790es, 800ci, 820c, 830c, 850c, 860ci, 880c, 910es.
Chemical, chemical engineering, and metallurgical laboratories, A. H. Radasch.	
Electrical machine laboratory, Norman L. Towle.	
Hydraulics laboratory, R. C. Brumfield.	
Materials testing laboratory, R. C. Brumfield.	
Steam, automotive, and instrument and auxiliaries laboratories, H. F. Roemmele.	
Hunter College of the City of New York	020abc, 100c, 140c, 240c, 300ca, 330ca, 360ca, 370ca, 640c, 650c, 680c, 810c, 850c.
Biological laboratory, M. A. Graham.	
Chemical laboratory, Charles J. Moore.	
Geology and mineralogy laboratory, E. M. Lehnerts.	
Physiology and hygiene laboratory, W. J. Fordrung.	
Manhattan College	020abcip, 040acip, 140acip, 170abcip, 500acip, 510acip, 530acip, 540acip, 600acip, 620acip, 630acip, 640acip, 650acip, 660acip, 680acip, 800acip, 820acip, 840acip, 850acip, 860acip, 870acip, 880abcip, 970acip.
Analytical laboratory, Arthur B. Kemper.	
Organic laboratory, Thomas B. Dorris.	
Technical laboratory, William F. O'Connor.	
New York University	010abi, 020abci, 030abc, 040abcpls, 050abc, 060abc, 110abc, 110abc, 120abc, 130abc, 140abclps, 150abc, 160abc, 170abc, 200abceps, 210abc, 220abc, 230abcps, 260abcps, 280abcps, 290abc, 300acps, 310acps, 320acps, 330acps, 340acps, 360acps, 370aceps, 390aceps, 400acps, 410acps, 420acps, 430ps, 470acps, 480acps, 490acps, 500cehlps, 510cipsh, 520acips, 530cihps, 540chips, 550chipse, 560acps, 570chilps, 590chips, 600chimps, 610chimps, 620chimps, 630chimps, 640chimps, 650chimps, 660chimps, 670eimps, 680chimps, 690chimps, 700ilmps, 710ielmps, 720ielmps, 730ielmps, 740ielps, 750ielmps, 760ilmps, 770ielmps, 780ielmps, 790ielmps, 800bchpst, 810bcpt, 820chps, 830chbpst, 840acipst, 850cs, 860chimps, 870abcps, 880bcipst, 890bcipst.
Aerodynamics laboratory, A. Klemin.	
Aero-engine laboratory, A. P. Fraas.	
Air conditioning laboratory, M. Giannini.	
Air transport communications laboratory, J. M. Coburn.	
Aircraft full-flight instrument laboratory, C. Colvin	
Aircraft structural laboratory, F. K. Teichmann.	
Aircraft vibration and flutter laboratory, A. Klemin.	
Analytical chemical laboratory, J. P. Simmons.	
Automotive engineering laboratory, E. H. Hamilton.	
Bacteriology laboratory, C. N. Sawyer.	
Cement testing and concrete laboratory, H. Gray.	
Chemical engineering laboratory, H. J. Masson.	
Chemical microscopy laboratory, F. C. Fair.	
Electrical communications laboratory, P. Greenstein.	
Electrical instruments laboratory, H. N. Walker.	
Electrical machinery laboratory, H. N. Walker.	
Electrical transients laboratory, P. G. Cromwell.	
Electrochemical laboratory, J. R. Huffman.	
Experimental boiler plant, A. C. Coonradt.	
Fuels and combustion laboratory, R. K. Toner.	
Gage laboratory, C. deZafra.	
Geology laboratory, E. R. Lilley.	
Heating and ventilation laboratory, M. Giannini.	
Highway materials testing laboratory, H. Gray.	
High voltage laboratory, H. Torgersen.	
Hydraulics laboratory, J. K. Vennard.	
Illumination laboratory, S. K. Barrett.	
Materials testing laboratory, W. A. Rose.	
Mechanical engineering laboratory, A. C. Coonradt.	
Metallographic laboratory, F. C. Fair.	
Meteorological laboratory, A. F. Spilhaus.	
Microchemical laboratory, F. C. Fair.	
Organic chemical laboratory, H. C. Lindwall.	
Photo-elastic stress analysis laboratory, H. C. Wessman.	
Physics laboratory, W. H. Crew.	
Sanitary engineering laboratory, R. Eliassen.	
Soil mechanics laboratory, H. Gray.	
Statistical analysis laboratory, A. Peterson.	
Steam engineering laboratory, J. M. Labberton.	
Structural research laboratory, H. E. Wessman.	
Time and motion study laboratory, D. B. Porter.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

NEW YORK—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
POTSDAM:	
Clarkson College of Technology Chemical engineering laboratory, Charles Hecker. Civil engineering laboratory, F. C. Wilson. Electrical laboratory, A. R. Powers. Hydraulics laboratory, J. H. Davis. Mechanical engineering laboratory, J. H. Davis. Physics laboratory, William H. Bair.	410p, 500cp, 510p, 570c, 590c, 600cpm, 610cm, 620cm, 630cpm, 640cpm, 650cpm, 680cpm, 690cpm, 700ehs, 710e, 730ehs, 740ehs, 800cp, 810cp, 820cp, 830cp, 840cp, 850cp, 870cp, 880c, 890c.
POUGHKEEPSIE:	
Vassar College Chemistry laboratory, Mary Landon Sague. Physics laboratory, Frances G. Wick.	020c, 040c, 100c, 140c, 160c, 500c, 510c (cement), 600c, 620c, 630c, 640c, 650c, 680c, 710p, 890c.
ROCHESTER:	
University of Rochester Bacteriology laboratory, George P. Berry Biology laboratory, Curt Stern. Biochemistry laboratory, Walter R. Bloor. Chemistry laboratory, Willard R. Line. Engineering laboratory, Joseph W. Gavett, Jr. Geology laboratory, J. Edward Hoffmeister. Music School, Howard Hanson. Optics laboratory, Brian O'Brien. Physics laboratory, Sidney W. Barnes. Radiology laboratory, Stafford L. Warren. Vital economics laboratory, John R. Murlin.	000abitchp, 010abitchp, 020abitchp, 030abitchp, 040abitchp, 090abitchp, 100achp, 110achp, 120achp, 130achp, 140achp, 160achp, 220ct, 240ab, 250ab, 330a, 340a, 360ac, 410a, 430a, 500ph, 510apc, 520paci, 530ac, 540ac, 550ac, 570ac, 590ac, 600acpm, 610acpm, 620ca, 630acpm, 640acpm, 650acpm, 680acpm, 690acpm, 780s, 800c, 820c, 830c, 840c, 850c, 880c, 890c, 910iap, 920ai.
SARATOGA SPRINGS:	
Skidmore College Bacteriology laboratory, Karl C. Hyde. Chemistry laboratory, Alton L. Markley. Textiles laboratory, Nellie Torrance.	010abc, 020abc, 040abc, 070a, 100c, 110c, 140c, 160c, 170c, 300cap, 310cap, 320cap, 330cap, 340cpa, 360cpa, 370cpa, 390cpa, 500c, 600c, 630c, 640c, 650c, 680c, 820c, 850c, 870c, 880c.
SCHENECTADY:	
Union College Chemical laboratory, Charles B. Hurd. Concrete laboratory, R. A. Hall. Electrical engineering laboratory, Frederick W. Grover. Materials testing and mechanical laboratory, M. F. Sayre. Physics laboratory, P. I. Wold.	020c, 040c, 100c, 120c, 130c, 140c, 400p, 410p, 500cp, 510pi, 600cpm, 610cpm, 630cpm, 640cpm, 650cpm, 660cp, 680cpm, 690cpm, 700is, 710s, 880c.
SYRACUSE:	
Syracuse University Bacteriological laboratory, H. N. Jones. Botanical laboratory, E. Reed. Chemical laboratory, C. R. McCrosky. Chemical engineering laboratory, C. D. Luke. Electrical engineering laboratory, C. W. Henderson. Hydraulic and materials testing laboratory, C. S. Camp. Mechanical engineering laboratory, H. W. Blackburn. Physical laboratory, W. R. Frederickson. Zoological laboratory, W. M. Smallwood.	000cb, 010cb, 020cb, 030cb, 040abcp, 050cb, 060cb, 090cb, 100cb, 110cb, 110cb, 120cb, 130cb, 140abc, 150bcp, 160bc, 170bc, 200bc, 210bc, 220bc, 230abc, 240bc, 250bc, 260bc, 280bc, 290bc, 300cbp, 310bcp, 320bcp, 330bcp, 340bcp, 360bcp, 370bcp, 390bcp, 400b, 410bc, 420bc, 430b, 470bc, 490bc, 500ch, 510cp, 520cp, 530cp, 540cp, 550ce, 560c, 570c, 590c, 600acepmx, 610acepm, 620epcm, 630acepm, 640acepm, 650acepm, 660c, 670c, 680acepm, 690acepm, 700hl, 710el, 720l, 730l, 740l, 750l, 760l, 770l, 780l, 790el, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c, 980c, 990c.
TROY:	
Rensselaer Polytechnic Institute Biological laboratory, A. W. Bray. Chemical laboratory, A. W. Davison. Electrical laboratory, W. J. Williams. Engineering materials laboratory, L. W. Clark. Hydraulic laboratory, G. K. Palsgrove. Mechanical laboratory, E. A. Fessenden. Metallurgical laboratory, M. A. Hunter. Physical laboratory, R. A. Patterson.	000ab, 010c, 020cb, 030bc, 040bcl, 060p, 090b, 110c, 120abc, 140cl, 160c, 170c, 200c, 210c, 220c, 250a, 280c, 290c, 300c, 320c, 330c, 360c, 370c, 390c, 400chpi, 410pi, 500ch, 510apchi, 520c, 530cpi, 540c, 550c, 570c, 590c, 600hcmpix, 610pimhx, 620chmpx, 630cmpx, 640cmpix, 650cmx, 660m, 670p, 680cmx, 690chimp, 700hilps, 710ep, 720hilps, 750ilps, 760ilps, 780ilps, 790ilps, 800c, 810c, 820c, 830c, 840ac, 850c, 860c, 870c, 880c, 890c, 920chips, 920p, 970c, 990aps.

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

NORTH CAROLINA

Location and name of laboratory	Commodities and nature of investigations [2]
CHAPEL HILL:	
University of North Carolina	000b, 010b, 020abc, 030bc, 040c, 050c, 070c, 100c, 110cb, 120bc, 130bc, 140bcp, 150c, 160c, 170bc, 210cp, 220cpt, 230c, 410ps, 510ps, 530cp, 600ps, 710ps, 800c, 810bcpt, 820c, 830c, 840c, 850c, 870cpt, 880abc.
Bacteriology laboratory, D. A. McPherson.	
Biological laboratory (foods), J. C. Andrews.	
Chemical laboratory, R. W. Bost.	
Highway testing laboratory, R. M. Trimble.	
Industrial pharmacy and pharmaceutical laboratories, H. M. Burlage.	
Materials testing laboratory, T. F. Hickerson.	
Pharmaceutical chemistry laboratories, M. L. Jacobs.	
Physical laboratory, A. E. Ruark.	
Sanitary engineering laboratory, H. G. Baity.	
RALEIGH:	
North Carolina State College of Agriculture and Engineering.	040cpa, 060cpa, 140cpa, 160cpa, 170cpa, 210cpa, 470cpa, 500cpam, 540cpa, 600cpam, 610cpam, 620cpam, 630cpam, 640cpam, 650cpam, 680cpam, 690cpam, 800cpa, 820cpa, 830cpa, 840cpa, 850cpa, 860cpa, 870cpa, 880cpa, 890cpa.
Chemical engineering laboratory, E. E. Randolph.	
Cotton fibre research laboratory, J. H. Moore.	
Engineering research laboratory, Harry Tucker.	
Nutritional laboratory, J. O. Halverson.	
Soil chemistry laboratory, J. R. Piland.	
Textile research laboratory, Thomas Nelson.	
WINSTON–SALEM:	
Salem College	010cb, 020cb, 030cb, 040cb, 090cab, 120cb, 130cb, 140c, 150ca, 160c, 170cb, 220c, 230c, 290cab, 300ca, 360ca, 370ca, 390ca, 500c, 510c, 600c, 610c, 630c, 640c, 650c, 680c, 800c, 810c, 820c, 830ca, 840ca, 850cb, 870ca, 880cab, 890ca, 910s, 930cs, 970c, 990cbas.
Biological laboratory, Roy J. Campbell.	
Chemical laboratory, Chas. H. Higgins.	

NORTH DAKOTA

FARGO:	
North Dakota Agricultural College	000ab, 010bc, 020bc, 030bc, 040bc, 090abc, 100abcp, 110abcp, 120abcp, 130abcp, 140abcp, 220abcp, 240abp, 250abp, 280abcp, 290abcp, 600p, 620c, 630c, 640c, 650c, 700ips, 730ips, 800c, 810act, 820c, 840aips, 860c.
Agricultural chemistry laboratory, E. P. Painter.	
Animal nutrition laboratory, F. W. Christensen.	
Bacteriology laboratory, C. I. Nelson.	
Botany department laboratory, E. A. Helgeson.	
Cereal chemistry laboratory, R. H. Harris.	
Dairy laboratory, J. R. Dice.	
Engineering materials testing laboratory, R. M. Dolve.	
Plant breeding laboratory, L. R. Waldron.	
Poultry department laboratory, F. E. Moore.	
Serum Institute laboratory, F. M. Bolin.	
State seed laboratory, R. C. Hastings.	
GRAND FORKS:	
University of North Dakota	000bt, 010bt, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 210ce, 500cahip, 510cp, 530cp, 540cp, 550cp, 590cp, 600cmpx, 610cmpx, 620cmpx, 630cmpx, 640cmpx, 650cmpx, 660cp, 680cmpx, 690cmpx, 710is, 740is, 750is, 790is, 800cp, 810c, 840cp, 880cps, 990c.
Chemical laboratory, G. A. Abbott.	
Division of mines and mining experiment laboratory, L. C. Harrington.	
Public health laboratory, H. E. French.	

OHIO

ADA:	
Ohio Northern University	220c, 600p, 610p, 620p, 700p, 810acx.
Biological laboratory, H. E. Huber.	
Chemical laboratory, J. R. Harrod.	
Civil engineering laboratory, A. R. Webb.	
Electrical laboratory, I. St. Clair Campbell.	
Mechanical laboratory, John A. Needy.	
Pharmaceutical laboratory, R. H. Raabe.	
Physics laboratory, F. L. Berger.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

OHIO—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
AKRON:	
University of Akron Bacteriological laboratory, R. D. Fox. Biological laboratory, W. C. Kraatz. Knight chemical laboratory, W. Cook. Testing laboratory, D. E. Anderson.	010abcit, 020abcit, 030abcit, 040cb, 100abc, 200achps, 300aps, 320aps, 330aps, 340aps, 360aps, 370aps, 390aps, 500cph, 510cph, 530cph, 570c, 590c, 600cp, 610c, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 810c, 820c, 830c, 840c, 850c, 860cp, 870ct, 880ct, 890c.
ATHENS:	
Ohio University Anatomy laboratory, R. Elliott. Bacteriology laboratory, C. Frey. Botany laboratories, A.H. Blickle, W. A. Matheny, M. T. Vermillion. Chemical laboratories, J. R. Morton, D. R. Clippinger, H. L. Dunlap, L. P. Eblin, F. B. Gullum. Civil engineering laboratory, E. H. Gaylord. Electrical engineering laboratory, D. B. Green. Entomology laboratory, W. C. Stehr. Physics laboratory, O. E. McClure, F. P. Bundy, H. H. Roseberry, J. E. Edwards. Physiology laboratory, E. Rowles. Psychology laboratory, J. P. Porter, A. C. Anderson, J. R. Patrick, G. B. Paulsen. Zoology and embryology laboratories, F. H. Krecker, H. T. Gier.	000ab, 020b, 030ab, 090b, 100cba, 110cba, 120cba, 130cba, 140cba, 150cba, 160cba, 170cba, 240b, 250b, 290b, 300cba, 320cba, 330cba, 340cba, 390cba, 400abp, 410abp, 420ab, 430ab, 500abcp, 510abcp, 530abcp, 540abcp, 560abcp, 600cp, 630c, 640cp, 650c, 680c, 690c, 700s, 710eps, 800bc, 820bc, 840bc, 880bc, 890bc, 910sp, 920e, 980c.
CINCINNATI:	
Ohio Mechanics Institute Chemistry laboratory, E. B. Duffy. Electrical laboratory, P. K. Johnson. Power laboratory, P. K. Johnson.	160c, 280cp, 300cp, 500cp, 510cp, 600cp, 610cp, 620cp, 630cp, 640cp, 650cp, 680cp, 690cp, 710e, 870c, 880c.
University of Cincinnati Applied science laboratory, Walter Soller. Bureau of city tests, G. A. Gray. Chemical laboratory, R. S. Tour. Civil engineering laboratory, H. B. Luther. Electrical laboratory, A. M. Wilson. Geology laboratory, John L. Rich. Industrial research laboratory, Herman Schneider. Lithographic research laboratory, R. F. Reed. Mechanical laboratory, C. A. Joerger. Physics laboratory, S. J. M. Allen. Tanners' Council laboratory, Fred O'Flaherty.	040a, 050abc, 060abcp, 140acp, 160a, 170c, 200cps, 210acp, 220c, 230c, 260acp, 300p, 310aps, 400p, 410p, 470s, 490s, 500ch, 510acp, 520acp, 530acp, 550p, 560p, 590p, 600acmspx, 610cp, 620cmp, 630cmp, 640acmpsx, 650c, 680cmp, 690cm, 760p, 800c, 810c, 820c, 830c, 840acps, 850c, 860c, 870ac, 880abc, 890c, 910s, 920p, 930icps, 950p.
CLEVELAND:	
Case School of Applied Science 10900 Euclid Avenue Biochemical laboratory, F. M. Whitacre. Chemical and chemical engineering laboratory, C. F. Prutton. Electrical engineering laboratory, P. L. Hoover. Hydraulic and sanitary engineering, G. E. Barnes. Mechanical engineering laboratory, F. H. Vose. Mechanics and materials laboratory, R. H. Danforth. Metallurgy and minerals laboratory, K. H. Donaldson. Physics laboratory, R. S. Shankland.	040bcp, 050c, 060cp, 140cp, 150cp, 160cp, 170cp, 200cp, 210cp, 220bcp, 230cp, 280cp, 290cp, 420p, 500acps, 510acps, 520cp, 530acp, 540acp, 550acp, 560acp, 570acp, 590acp, 600cpmx, 610cpmx, 620cpmx, 630cpmx, 640cpmx, 650cpmx, 660cp, 680cpmx, 690cpmx, 700pls; 710eps, 720pls, 730pl, 740pls, 750pls, 760pls, 770pl, 780pl, 790pl, 800abcp, 810abcp, 820abcp, 830abcp, 840abcp, 850abcp, 860abcp, 870abcp, 880abcps, 890abcp, 910abcp, 920cp, 970cp.
COLUMBUS:	
Ohio State University Agricultural chemistry laboratory, J. F. Lyman. Agricultural engineering laboratory, G. W. McCuen. Agronomy laboratory, R. D. Lewis. Anatomy (medical) laboratory, R. C. Baker. Animal husbandry laboratory, D. J. Kays. Applied optics laboratory, Glenn A. Fry. Architecture laboratory, Chas. St. John Chubb, Jr. Bacteriology laboratory, N. Paul Hudson. Botany laboratory, E. N. Transeau. Ceramics laboratory, A. S. Watts. Chemical engineering laboratory, J. R. Withrow. Chemistry laboratory, Wm. McPherson, Ed. Mack, Jr.	000abc, 010abc, 020abc, 030abc, 100abcip, 110abcp, 120abcp, 130abcp, 140abc, 150abc, 160abc, 200abcp, 210abc, 220abc, 230abc, 240abcp, 250aip, 280abc, 290abc, 300acp, 310acp, 330acp, 340acp, 360acp, 390acp, 410p, 500chp, 510chp, 520cp, 530chp, 540cp, 550chp, 560acp, 570acp, 590cp, 600cmpx, 610cmpx, 680cmpx, 690cmpx, 700s, 710s, 720s, 730s, 740s, 750s, 760s, 770s, 780s, 790s, 800c, 810abcpst, 820cs, 830acs, 880acp, 890acp.

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

OHIO—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
COLUMBUS—Continued.	
Ohio State University—Continued.	
Civil engineering laboratory, Clyde T. Morris.	
Dairying laboratory, R. B. Stoltz.	
Electrical engineering laboratory, E. E. Dreese.	
Engineering drawing laboratory, Thos. E. French.	
Fine arts laboratory, Jas. R. Hopkins.	
Geology laboratory, J. E. Carman.	
Home economics laboratory, Faith R. Gorrel.	
Horticulture laboratory, J. H. Gormley.	
Industrial engineering laboratory, John Younger.	
Mechanical engineering laboratory, F. W. Marquis.	
Mechanics laboratory, P. W. Ott.	
Metallurgy laboratory, D. J. Demorest.	
Mine engineering laboratory, H. E. Nold.	
Mineralogy laboratory, W. J. McCaughey.	
Pathology laboratory, Emmerich von Haam.	
Pharmacy laboratory, Bernard V. Christensen.	
Physics laboratory, Alpheus W. Smith.	
Physiological chemistry laboratory (medical), Clayton S. Smith.	
Physiology laboratory, F. A. Hartman.	
Soils laboratory, R. D. Lewis.	
Veterinary medicine laboratory, O. V. Brumley.	
Zoology and entomology laboratories, R. C. Osburn.	
DAYTON:	
University of Dayton	020c, 040c, 090c, 110c, 140c, 150c, 160c, 170c, 200c, 260c, 280c, 370a, 390a, 400p, 410p, 500ch, 510c, 530p, 540p, 550pa, 560a, 570ac, 590ac, 600acmp, 610acmp, 620acm, 630acm, 640acmp, 650cp, 680cmp, 690cmp, 710e, 800c, 810c, 820c, 840c, 850c, 870c, 880c, 890c.
Biological laboratory, Francis Molz.	
Chemical engineering laboratory, William J. Wohlleben.	
Civil engineering laboratory, Charles J. Belz.	
Electrical engineering laboratory, Louis H. Rose.	
Geology laboratory, Louis A. Saletel.	
Mechanical engineering laboratory, G. Adam Hofmann.	
Physics laboratory, Anthony B. Bishop.	
DELAWARE:	
Ohio Wesleyan University	020cb, 300cp, 310cp, 390cp, 500c, 520e, 890c.
Botany laboratory, C. E. O'Neal.	
Chemistry laboratory, Wm. A. Manuel.	
Geology laboratory, J. R. Cooper.	
Physics laboratory, C. W. Jarvis.	
Psychology laboratory, P. E. Fields.	
Zoology laboratory, W. F. Hahnert.	
GRANVILLE:	
Denison University	510c, 520c, 530c, 600c, 620c, 640c.
Chemistry laboratory, W. C. Ebaugh.	
NEW CONCORD:	
Muskingum College	020b, 300cp, 500caph, 510ap, 520a, 540ah, 560ap, 590ap, 690ap, 710sp, 840p, 850c, 870c, 880c, 910ps.
Biology laboratory, E. R. Bryant.	
Chemistry laboratory, J. G. Ralston.	
Geology laboratory, C. F. Moses.	
Physics laboratory, P. E. Martin.	
OXFORD:	
Miami University	000b, 010c, 020abci, 040c, 100abci, 110abci, 120abci, 130abcit, 140abct, 150bct, 160bct, 170bct, 210achpx, 220c, 240abi, 250abi, 260b, 290c, 310c, 330is, 340ai, 400abis, 410abis, 430abis, 470abis, 480abis, 490abis, 500ac, 510ap, 520ap, 530ap, 540ap, 550ap, 560ap, 570acp, 590acp, 600acehp, 610acp, 620acehp, 630acehp, 640acehp, 650acehp, 660c, 670a, 680acehp, 690acehp, 700s, 710es, 760s, 770s, 780s, 790s, 800c, 810c, 820c, 830c, 840c, 850bci, 870bc, 880bc, 890c, 910is, 920ip, 970ps.
Botany laboratory, Arthur T. Evans.	
Chemistry laboratory, H. C. Brill.	
Geology laboratory, W. H. Shideler.	
Physics laboratory, R. L. Edwards.	
Physiology laboratory, W. C. McNelly.	
Zoology laboratory, R. A. Hefner.	
SPRINGFIELD:	
Wittenberg College	010b, 020b, 030b, 100c, 110c, 120b, 130b, 160bc, 170c, 300c, 320c, 330c, 360c, 500c, 570c, 590c, 600cm, 620cm, 630c, 640c, 650c, 660c, 670c, 680c, 690c, 850c, 880bc, 890c, 910i, 970i, 980b.
Biological laboratory, W. C. Beaver.	
Chemistry laboratory, J. W. Barker.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

OHIO—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
YELLOW SPRINGS:	
Antioch College	010ab, 020ab, 030ab, 100c, 110c, 140c, 150c, 170c, 200hp, 210hp, 600acm, 620acm, 630acm, 640acm, 650acm, 680acm, 690acm, 710s, 930i.
Antioch Industrial Research Institute, S. Vernet.	
Bacteriology laboratory, H. Federighi.	
Biology laboratory and photosynthesis research, O. L. Inman.	
Chemistry laboratory, C. S. Adams.	
Geology laboratory, A. C. Swinnerton.	
Physics laboratory, G. E. Owen.	

OKLAHOMA

CHICKASHA:	
Oklahoma College for Women	020c, 040c, 140c, 300ac, 330ac, 340ac, 370ac, 390ac.
Chemical laboratory, Edith S. Hammond.	
Organic chemistry laboratory, Meriam Buck.	
ENID:	
Phillips University	020b, 100c, 200c, 300c, 700p, 800c.
Biology laboratory, J. C. Shirley.	
Chemical laboratory, F. B. Moore.	
Geology laboratory, A. R. Ostrander.	
Physics laboratory, F. E. Knowles.	
NORMAN:	
University of Oklahoma	040cpa, 140cpa, 170cpa, 500c, 510cp, 530cp, 570c, 600cpx, 610x, 620x, 630x, 640px, 650x, 660x, 670x, 680x, 690x, 710e, 810abcp, 820c, 830cp, 840p.
Electrical laboratory, F. G. Tappan.	
Materials testing laboratory, R. V. James.	
Mechanical laboratory, W. H. Carson.	
Petroleum laboratory, W. H. Carson.	
Pharmacy laboratory, D. B. R. Johnson.	
Physics laboratory and research institute, Homer L. Dodge.	
STILLWATER:	
Oklahoma Agricultural and Mechanical College	000ab, 010c, 020abc, 030c, 040c, 090ab, 100c, 110c, 120c, 130c, 140c, 160c, 240c, 290c, 300cp, 400pi, 410pi, 500cp, 510acpi, 520cp, 530cpi, 540cp, 570cp, 600cpi, 610cpi, 620c, 630c, 640c, 650c, 660c, 680c, 690c, 700ip, 790ips, 800c, 820c, 830c, 840c, 850c, 870c, 880bc, 890c, 970cp.
Agricultural chemistry research laboratory, V. G. Heller.	
Bacteriology and veterinary science laboratory, C. H. McElroy.	
Cement laboratory, R. G. Saxton.	
Chemical engineering laboratory, O. M. Smith.	
Chemistry laboratory, O. M. Smith.	
Hydraulics laboratory, R. G. Saxton.	
Materials testing laboratory, R. G. Saxton.	
Physics laboratory, J. H. Cloud.	
Road materials laboratory, R. G. Saxton.	
Soils laboratory, H. J. Harper.	
Steam and gas laboratory, E. C. Baker.	

OREGON

CORVALLIS:	
Oregon State College	000abic, 010ai, 020abc, 030abci, 070a, 090ai, 100ai, 110ai, 120aibc, 130ai, 140ai, 160abci, 170abci, 210c, 220c, 230ca, 240ai, 250abci, 290abci, 340i, 360ai, 390ap, 400p, 410p, 420p, 430ai, 470p, 500cp, 510cp, 530p, 590c, 600acpx, 610acpx, 620acpx, 630acpx, 640acpx, 650acpx, 690cp, 710esx, 760ai, 780is, 800cp, 830cs, 840c, 850c, 880cs, 890cs, 910ps.
Bacteriological laboratory, G. V. Copson.	
Chemistry laboratory, E. C. Gilbert.	
Chemical engineering laboratory, G. W. Gleeson.	
Dairy products laboratory, G. Wilster.	
Electrical engineering laboratory, F. O. McMillan.	
Food industries laboratory, E. H. Wiegand.	
Grain and forage laboratory, and experimental farm laboratory, G. R. Hyslop.	
Hydraulic laboratory, C. A. Mockmore.	
Materials testing laboratory, S. H. Graf.	
Mechanical laboratory, S. H. Graf.	
Mines laboratory, J. H. Batcheller.	
Oenological laboratory (OLCC), D. R. Mills.	
Physical laboratory, W. Weniger.	
Seed laboratory, G. R. Hyslop.	
Veterinary medicine laboratory, J. N. Shaw.	
PORTLAND:	
Oregon Institute of Technology	410p, 510ch, 600p, 710eips.
Aeronautical instruments laboratory, Dougald Balsilie.	
Civil engineering laboratory, Nathan Bickford.	
Electrical laboratory, Walter Haynes.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

PENNSYLVANIA

Location and name of laboratory	Commodities and nature of investigations [2]
BETHLEHEM:	
Lehigh University	020cp, 040cp, 050c, 060cp, 140cp, 160cp, 200p, 410p, 500cm, 510p, 530c, 600cpm, 610cpm, 620cpm, 630cpm, 640cpm, 650cp, 680cp, 690cp, 700s, 710es, 750s, 800c, 820c, 830c, 840c, 860c, 870c, 890c, 910s.
Bacteriology laboratory, S. J. Thomas.	
Chemical laboratory, H. A. Neville.	
Electrical laboratory, L. V. Bewley.	
Fuel laboratory, A. C. Callen.	
Mechanical laboratory, M. C. Stuart.	
Metallurgy laboratory, G. E. Doan.	
Physics laboratory, C. C. Bidwell.	
Structural Materials laboratory, Hale Sutherland.	
EASTON:	
Lafayette College	330cp (rope), 410p, 420p, 500ceph, 510cep, 520cp, 530cp, 550e, 600cehmp, 610ep, 640cemp, 680cemp, 690cemp, 700hs, 710s, 750s, 880c, 890c, 910ep, 920p.
Chemical engineering laboratory, E. L. McMillen.	
Chemistry laboratory, J. Hunt Wilston.	
Mechanical laboratory, P. B. Eaton.	
Mining and metallurgy laboratory, W. B. Plank.	
Physics laboratory, C. M. Gordon.	
GETTYSBURG:	
Gettysburg College	020c, 140c, 170c, 410p, 510p, 600p, 850c.
Chemical laboratory, John B. Zinn.	
LEWISBURG:	
Bucknell University	010b, 220bc, 100b, 110b, 150b, 170b, 240b, 250b, 280b, 470b, 510c, 530c, 600c, 610c, 620c, 630c, 640c, 650c, 710p, 760p, 800c, 820c, 830c, 880b, 950b, 980b.
Bacteriological laboratory, J. W. Rice.	
Biological laboratory, N. H. Stewart.	
Botany laboratory, W. H. Eyster.	
Chemical laboratory, B. J. Miller.	
Chemical engineering laboratory, C. S. Keevil.	
Civil engineering laboratory, D. M. Griffith.	
Electrical engineering laboratory, G. A. Irland.	
Mechanical engineering laboratory, R. L. Anthony.	
Pattern making and foundry laboratory G. M. Kunkel.	
Physics laboratory, W. B. Lowry.	
PHILADELPHIA:	
Drexel Institute	010abc, 020abc, 030abc, 040abc, 120abc, 130abc, 160abc, 300abcp, 330abcp, 360abcp, 370abcp, 390abcp, 500chis, 510cpm, 530c, 540ac, 550c, 570c 590ac, 600cpm, 610cpm, 620cpm, 630cpm, 640cpm, 650apm, 680cpm, 690cpm, 700ips, 710eis, 720eps, 740eips, 760eips, 770eps, 780eps, 790eips, 880c, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
Biological science laboratory, Walter L. Obold.	
Chemical laboratory, L. D. Stratton.	
Electrical engineering laboratory, R. C. Disque.	
Foods and textiles laboratories, Miss Grace Godfrey.	
Mechanical engineering laboratory, J. H. Billings.	
Testing laboratory, H. L. Bowman.	
Philadelphia Textile School	300acp, 310acp, 320acp, 330acp, 340acp, 360acp, 370acp, 390acp, 800c.
University of Pennsylvania	140c, 150c, 160c, 170c, 200ep, 210ep, 300e, 320e, 330e, 360e, 370e, 470e, 490e, 500e, 510e, 520pe, 530e, 540e, 550e, 560e, 570e, 590e, 600ecpmx, 610ecm, 620ecm, 630ecpmx, 660ec, 670e, 680ecpx, 690ecm, 700e, 710e, 720e, 780e, 790e, 800ec, 810c, 820ec, 830ec, 840ec, 850c, 860c, 870c, 880ec, 890ec, 910e, 920e, 940e, 950e, 970c, 990e.
Chemistry and chemical engineering laboratory, Hiram S. Lukens.	
Civil engineering laboratory, F. P. Witmer.	
Electrical engineering laboratory, Harold Pender.	
Mechanical engineering laboratory, J. A. Goff.	
Physics laboratory, G. P. Harnwell.	
X-ray research laboratory, C. Weyl.	
PITTSBURGH:	
Carnegie Institute of Technology	010bc, 020bc, 030bc, 040bc, 050c, 060c, 070c, 090bc, 100c, 110c, 120bc, 130bc, 140bc, 160c, 170bc, 200c, 210c, 220c, 230c, 240c, 250c, 260c, 280c, 290c, 300c, 310c, 320c, 330c, 340c, 360c, 370c, 390c, 400cp, 410cp, 420c, 470c, 480c, 490c, 500achp, 510achp, 520-achp, 530achp, 540achp, 550achp, 570achp, 590achp, 600acmphisxe, 610acmphisx, 620acmphisx, 630acmpi, 640acmpixe, 650acmpi, 680acmpi, 690acmpix, 700s, 710es, 720s, 730s, 740s, 750s, 760s, 770s, 780s, 790s, 800bcp, 810bc, 820cp, 830chp, 840-acps, 850c, 860cp, 870c, 880bc, 890cp, 910pse, 970c.
Automotive laboratory, L. Andrew.	
Bacteriological laboratory, H. L. Lang.	
Chemical engineering laboratory, W. L. McCabe.	
Chemistry laboratory, J. C. Warner.	
Heat treatment laboratory, John Blackhall.	
Hydraulic and materials testing laboratory, F. M. McCullough.	
Mechanical engineering laboratory, W. Trinks.	
Metals research laboratory, R. F. Mehl.	
Physics laboratory, H. S. Hower.	
Plumbing, heating, ventilating, and welding laboratories, C. L. Humphreys.	
Research laboratory of applied chemistry, E. Berl.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

PENNSYLVANIA—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
PITTSBURGH—Continued	
University of Pittsburgh	010cb, 020cb, 040c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 200csx, 210cs, 220cs, 230cs, 280cs, 290c, 300ca, 340c, 360c, 370c, 390c, 400a, 410a, 420c, 430c, 470c, 500cs, 510cas, 520cas, 530cas, 540cs, 550cs, 560cx, 570cs, 590cs, 600cxahs, 610cxahs, 620cxahs, 630cxahs, 640cxahs, 650cxahs, 660c, 680cxas, 690cxas, 700ilps, 710eilps, 720ilps, 730ilps, 740ilps, 750ilps, 760ilps, 770ilps, 780ilps, 790ilps, 800-catbs, 810cxabs, 820cbts, 830cbts, 840catbs, 850cabs, 860caxts, 870ctbs, 880cbs, 890ctbs, 910xaehs.
Bacteriology laboratory, A. B. Wallgren.	
Biology laboratory, W. H. Emig.	
Chemical laboratory, Alexander Silverman.	
Chemical engineering laboratory, James Coull.	
Electrical engineering laboratory, H. E. Dyche.	
Mechanical engineering laboratory, Frank Stiening.	
Metallurgical engineering laboratory, Ray Fitterer.	
Physics laboratory, Elmer Hutchisson.	
STATE COLLEGE:	
The Pennsylvania State College	000cpax, 010cpab, 020cpab, 030cpab, 040cpab, 090cpab, 100cpa, 110cpa, 120cpa, 130cpa, 140cpa, 150cpa, 160-cpa, 170ca, 400ap, 410ap, 500achp, 510xpcals, 520achpx, 530aips, 540-achpx, 550ai, 560ai, 570cp, 590cp, 600acips, 610acipscmx, 620acipscmx, 630cmpx, 640acipscmx, 650achpmx, 660cpm, 680chmpex, 690chmpex, 700-aipshl, 710aipshl, 720aipshl, 760aipshl, 800cp.
Agricultural biochemistry laboratory, R. A. Dutcher.	
Analytical service laboratory, A. L. Haskins.	
Astronomical industries laboratory, H. L. Yeagley.	
Ceramics Laboratory, N. W. Taylor.	
Chemical engineering laboratory, D. S. Cryder.	
Chemical microscopy laboratory, M. L. Willard.	
Cryogenic laboratory, J. G. Aston.	
Engineering experiment station, F. G. Hechler.	
Foods and cereal technology laboratory, H. O. Triebold.	
Foods and nutrition laboratory, R. A. Dutcher.	
Fuel technology laboratory, A. W. Gauger.	
High pressure laboratory, R. B. Dow.	
Highway engineering laboratory, F. T. Mavis.	
Industrial engineering laboratory, C. E. Bullinger.	
Inorganic chemistry laboratory, G. C. Chandlee.	
Insecticides and fungicides laboratory, D. E. H. Frear.	
Materials testing laboratory, R. K. Bernhard.	
Meat products laboratory, R. C. Miller.	
Mechanical engineering laboratory, H. A. Everett.	
Metallurgy laboratory, D. F. McFarland.	
Micro-analytical laboratory, G. H. Fleming.	
Mineral industries experiment station laboratory, A. W. Gauger.	
Molecular diffusion laboratory, W. R. Ham.	
Organic chemistry laboratory, F. C. Whitmore.	
Organic chemistry of biological products laboratory, R. E. Marker.	
Petroleum refining laboratory, M. R. Fenske.	
Physical chemistry laboratory, J. H. Simons.	
Soils and plant chemistry, D. E. Haley.	
Spectroscopic laboratory, D. H. Rank.	
Supersonics laboratory, W. H. Pielemeier.	
Textile chemistry laboratory, Pauline Beery Mack.	
Vitamins and nutrition laboratory, N. B. Guerrant.	
X-ray laboratory, W. P. Davey.	
SWARTHMORE:	
Swarthmore College	410p, 500p, 510p, 600mp, 610p, 630mp, 640mp, 680mp, 690mp, 700p, 710es.
Civil engineering laboratory, Scott B. Lilly.	
Electrical engineering laboratory, H. M. Jenkins.	
Mechanical engineering laboratory, Charles G. Thatcher.	
VILLANOVA:	
Villanova College	020b, 500c, 510cp, 570c, 590c, 600cp, 610cp, 620cp, 630c, 640cp, 650c, 680c, 700p, 710p, 760p, 790p, 800c, 810c, 820c, 830c, 850c, 870c, 880b.
Analytical chemistry laboratory, E. L. Haenisch.	
Biological and bacteriological laboratories, J. M. Dougherty.	
Electrical testing laboratories, H. S. Bueche.	
Highways testing laboratory, J. A. Oakey.	
Materials testing laboratory, J. S. Morehouse.	
Metallurgical laboratory, F. J. Limacher.	
Physics laboratory, J. H. Crawford.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

PHILIPPINES

Location and name of laboratory	Commodities and nature of investigations [2]
MANILA:	
University of the Philippines	010cpa, 020cpab, 030cpab, 040cpa, 050cpa, 060cps, 070c, 080cb, 100cpa, 110cpa, 120cpab, 130cpab, 140cap, 150cap, 160cap, 170cpb, 200c, 210ac, 220acp, 230c, 240cab, 250ab, 260c, 280ac, 290c, 300cpa, 310cpa, 320cpa, 330cpa, 340cpa, 360cpa, 370cpa, 390cpa, 400p, 470c, 490c, 500chlps, 510cp, 520cpa, 530c, 540cps, 570c, 590c, 600cpamhs, 610cp, 620c, 630cmahps, 640cmahps, 640cmahps, 650cmahps, 680cmahps, 690c, 700plsi, 710plsi, 720p, 730pl, 740sl, 750sl, 760isl, 780pls, 790sl, 800c, 810cpa, 820c, 830c, 840c, 850c, 870cpa, 880cspa, 890c, 910isp.
Agricultural chemistry laboratory, F. O. Santos.	
Agricultural engineering laboratory, A. L. Teodoro.	
Agronomy laboratory, L. G. Gonzalez.	
Animal husbandry laboratory, V. Villegas.	
Cement testing laboratory, A. Albert.	
Chemistry laboratory, A. Clemente.	
Entomology laboratory, L. B. Uichanco.	
Fiber tests laboratory, P. A. David.	
Food, drug, and nutrition laboratories, Pablo I. de Jesus.	
Mechanical laboratory, L. S. Eaton.	
Physicochemistry laboratory, J. Banzon.	
Physics laboratory, C. del Rosario.	
Plant pathology laboratory, G. O. Ocfemia.	
Plant physiology laboratory, R. B. Espino.	
Veterinary science laboratory, G. San Agustin.	

PUERTO RICO

RIO PIEDRAS:	
University of Puerto Rico	010bc, 020bc, 030bc, 040bc, 120bc, 130bc, 140bc, 150bc, 160c, 290bc, 410p, 500c, 510p, 600cp, 620cp, 630cp, 640cp, 650cp, 680cp, 690cp, 850c.
Biology laboratory.	
Chemistry of foods laboratory.	
Engineering laboratory.	
Sugar chemistry laboratory.	

RHODE ISLAND

KINGSTON:	
Rhode Island State College	020c, 100ca, 110c, 120c, 130c, 140c, 200c, 210c, 280c, 290c, 300ac, 470ac, 480ac, 490ac, 500cp, 530ac, 570ac, 600p, 610p, 630p, 640p, 710e, 850c, 910e, 930cs, 970c.
Chemical laboratory, J. W. Ince.	
Chemical engineering laboratory, T. S. Crawford.	
Civil engineering laboratory, Frank W. Stubbs, Jr.	
Electrical laboratory, Wesley B. Hall.	
Experiment station laboratory, John B. Smith.	
Materials testing laboratory, E. L. Carpenter.	
Radio and electronics laboratory, Wesley B. Hall.	
PROVIDENCE:	
Brown University	020abc, 030abc, 300p, 320p, 370p, 390psa, 400abip, 410pi, 500ap, 510ap, 520acehp, 530pa, 540a, 550a, 560a, 570a, 590a, 600apehix, 620aehpx, 620aehpx, 630aehpx, 640aehpx, 650apehx, 670s, 680apehx, 690ap, 700pi, 710pi, 720pi, 730p, 740pi, 750pi, 760pi, 770pi, 780pi, 790pi, 800abcp, 820ac, 830abc, 880abp, 910aisp.
Astronomical laboratory, C. H. Smiley.	
Biology laboratory, P. H. Mitchell.	
Botany laboratory, W. H. Snell.	
Chemistry laboratory, C. A. Kraus.	
Engineering laboratory, L. T. Bohl.	
Geology laboratory, A. W. Quinn.	
Physics laboratory, R. B. Lindsay.	

SOUTH CAROLINA

CHARLESTON:	
The Citadel	300c, 400pi, 410pi, 500c, 510cpi, 530cpi, 600pic, 610c, 620c, 630c, 640c, 650c, 680c, 710s, 820c, 840c, 850c, 880c, 910cs.
Chemistry laboratory, Louis Knox.	
Engineering laboratory, L. S. Le Tellier.	
Physics laboratory, N. F. Smith.	
CLEMSON COLLEGE:	
Clemson Agricultural College	020abc, 100c, 110c, 120c, 160b, 170bc, 260c, 280c, 300aip, 310aip, 320aip, 310aip, 390aip, 410p, 500ac, 510p, 520c, 530ip, 540ip, 550ip, 560ip, 570ip, 590ipc, 600acp, 610acp, 600ac, 630ac, 640ac, 650ac, 680ac, 690ac, 730s, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880cb, 890c.
Agricultural engineering laboratory, G. B. Nutt.	
Botany and bacteriology laboratory, W. B. Aull.	
Chemical laboratory, H. J. Webb.	
Civil engineering laboratory, E. L. Clarke.	
Electrical laboratory, S. R. Rhodes.	
Engineering experiment station laboratory, S. B. Earle.	
Geology and mineralogy laboratory, F. H. H. Calhoun.	
Mechanical laboratory, B. E. Fernow.	
Research laboratory, H. P. Cooper.	
Textile laboratory, H. H. Willis.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

SOUTH CAROLINA—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
COLUMBIA:	
University of South Carolina	200acps, 210acps, 220ac, 280c, 500cp, 510cp, 520cp, 530cp, 540cp, 550cp, 570cp, 590cp, 710el, 720e, 740e, 750e, 760e, 770e, 790e, 800cp, 810cp, 820cp, 830c, 870cp, 910aelps.
Biological laboratory, W. E. Hoy.	
Chemical laboratory, G. F. Lipscomb.	
Electrical engineering laboratory, S. Litman.	
Geology laboratory, Stephen Taber.	
Pharmacy laboratory, E. T. Motley.	
Physics laboratory, C. F. Mercer.	
Strength of materials laboratory, W. E. Rowe.	
GREENVILLE:	
Furman University	000a, 100a, 110a, 120a, 130a, 240a, 290a, 500ac, 510ac, 520ac, 530ac, 540ac, 550ac, 560ac, 570ac, 590ac, 600c, 610c, 640c, 650c, 680c, 690c, 830c.
Biological laboratory, S. A. Ives.	
Chemical laboratory, J. R. Sampey.	
Geological laboratory, W. C. Holland.	
Physical laboratory, J. A. Osteen.	
SPARTANBURG:	
Wofford College	710s (motors, generators, small), 850c, 880c.
Biological laboratory, C. B. Waller.	
Chemical laboratory, C. B. Waller.	
Electrical laboratory, E. H. Shuler.	
Mineralogy laboratory, C. S. Pettis.	
Physics laboratory, C. S. Pettis.	

SOUTH DAKOTA

BROOKINGS:	
South Dakota State College	000p, 010cb, 020cb, 100cs, 110p, 120c, 130c, 140c, 160c, 170c, 200c, 210cp, 240cs, 250b, 300c, 320cp, 330c, 340c, 360cp, 370c, 410p, 500h, 510cp, 530cp, 600p, 610p, 710s, 730s, 810c, 820c, 830c, 850c, 860c, 880c, 890c.
Animal health laboratory, C. C. Lipp.	
Bacteriology laboratory, A. R. Grismer.	
Botanical laboratory, W. L. Miller.	
Cement concrete testing laboratory, H. B. Blodgett.	
Chemical laboratory, Alvin Moxon.	
Dairy products laboratory, T. M. Olsen.	
Drug assay laboratory, F. J. LeBlanc.	
Electrical machinery laboratory, H. M. Crothers.	
Fuel and steam laboratory, R. E. Gibbs.	
Nutrition laboratory, Minerva Kellogg.	
Seed testing laboratory, A. N. Hume.	
Textile laboratory, Barbara Bailey.	
Zoology and entomology laboratory, H. C. Severin.	
RAPID CITY:	
South Dakota School of Mines	410p, 500cph, 510cp, 600cpm, 620cpm, 630cpm, 640cpm, 650cpm, 680cpm, 690cpm, 700s, 710s, 820c, 830c, 880c, 910s.
Chemical laboratory, Andrew Karsten.	
Civil engineering laboratory, E. D. Dake.	
Electrical laboratory, J. O. Kammerman.	
Metallurgical laboratory, Bancroft Gore.	
Mining experiment station laboratory, Charles Bentley.	
Mining laboratory, F. C. Lincoln.	
Physics laboratory, J. G. Potter.	
VERMILION:	
University of South Dakota	020cb, 040c, 100c, 110c, 140c, 150c, 160c, 170cb, 500cp, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c.
Department of chemistry laboratory, Arthur M. Pardee.	
Physical and mechanical testing laboratory, M. W. Davidson.	
Physics laboratory, J. W. Jordan.	
State chemical laboratory, Guy G. Frary.	
State geological survey laboratory, E. P. Rothrock.	
State health laboratory, J. C. Ohlmacher.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

TENNESSEE

Location and name of laboratory	Commodities and nature of investigations [2]
KNOXVILLE:	
University of Tennessee	000b, 010b, 020b, 400p, 410p, 510p, 530p, 600p, 610p, 640p, 880b.
Bacteriology laboratory, Paul W. Allen.	
Chemical engineering laboratory, R. M. Boarts.	
Civil engineering laboratory, N. W. Dougherty.	
Electrical laboratory, J. G. Tarboux.	
Engineering experiment station laboratory, C. A. Perkins.	
Hydrualic laboratory, R. A. Kampmeier.	
Materials testing laboratory, H. B. Aikin.	
Mechanical laboratory, R. W. Morton.	
Physics laboratory, K. L. Hertel.	
MARYVILLE:	
Maryville College	170ac.
Biology laboratory, Susan A. Green.	
Chemistry laboratory, George D. Howell.	
Physics laboratory, Edgar R. Walker.	
NASHVILLE:	
Vanderbilt University	000a, 010ac, 140acp, 160cp, 470acp, 500chip, 510ip, 520p, 530chp, 540acp, 550acp, 560a, 570ch, 590chp, 600cip, 610chm, 620ch, 630chm, 680chm, 690chm, 800cs, 810c, 820c, 830c, 840cs, 850c, 860c, 870c, 880c, 890c, 910s, 970cs.
Analytical chemistry laboratory, F. L. Conover.	
Biological laboratory, C. S. Shoop.	
Engineering laboratory, F. J. Lewis.	
Geological laboratory, W. B. Jewell.	
Industrial chemistry laboratory, J. M. Breckenridge.	
Metallurgical laboratory, W. P. Fishel.	
Organic chemistry laboratory, A. W. Ingersoll.	
Physical chemistry laboratory, L. J. Bircher.	

TEXAS

Location and name of laboratory	Commodities and nature of investigations [2]
AUSTIN:	
University of Texas	010p, 030p, 060c, 120p, 130p, 700p, 710p, 750p, 760p.
Engineering experiment station, W. R. Woolrich.	
Industrial chemistry experiment station, E. P. Schoch.	
BELTON:	
Mary Hardin-Baylor College	020ac, 040ac, 050a, 060a, 070a, 100ac, 110ac, 120ac, 130ac, 140ac, 150ac, 160ac, 170ac, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 510ac, 520ac, 530ac, 540ac, 550ac, 560ac, 570ac, 590ac, 600ac, 610ac, 620ac, 630ac, 640ac, 650ac, 660ac, 680ac, 690ac, 870ac, 880ac, 910as, 970ac.
Botany laboratory, Lucile Capt.	
Chemistry laboratory, Amy Le Vesconte.	
Nutrition laboratory, Rowena Anderson.	
Physics laboratory, Walter Gordy.	
Textiles laboratory, Lee Hamilton.	
Zoology laboratory, Anna Mae Melton.	
BROWNWOOD:	
Howard Payne College	500cp, 510cp, 530cp, 540cp, 550cp, 570cp, 590cp, 600cm, 620cm. 630cm, 640cm, 650cm, 680cm, 690cm, 800cpba, 810cpba, 820cpba, 830cpba, 850cpba, 870cpba, 880cpba, 890cbpa.
Biology laboratory, O. E. Winebrenner.	
Chemistry laboratory, O. E. Winebrenner.	
Physics laboratory, Edwin Moore.	
COLLEGE STATION:	
Agricultural and Mechanical College of Texas	000b, 010cb, 020cbm, 030c, 040c, 050c, 090c, 100c, 110c, 120c, 130c, 140c, 150c, 160c, 170c, 240cb, 250b, 300p, 310p, 360p, 410p, 500cp, 510cp, 530cph, 600cpm, 640cpm, 700p, 710ep, 730p, 750p, 800c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
Agricultural engineering laboratory, F. R. Jones.	
Agricultural experiment station, A. B. Conner.	
Biology laboratory, C. C. Doak.	
Chemical engineering laboratory, J. D. Lindsay.	
Chemistry laboratory, C. C. Hedges.	
Civil engineering laboratory, J. T. L. McNew.	
Cotton laboratory, J. B. Bagley.	
Electrical engineering laboratory, M. C. Hughes.	
Engineering experiment station, T. R. Spence.	
Geology laboratory, C. L. Baker.	
Mechanical engineering laboratory, C. W. Crawford.	
Physics laboratory, O. W. Silvey.	
State chemist laboratory, G. S. Fraps.	
Wool laboratory, J. M. Jones.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

TEXAS—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
GEORGETOWN:	
Southwestern University	140c, 500c, 510c, 600c, 630c, 640c, 650c, 680c.
Biological laboratory, G. B. Wolcott.	
Chemical laboratory, J. C. Godbey.	
Geology laboratory, G. B. Wolcott.	
Physics laboratory, B. Dunn.	
HOUSTON:	
The Rice Institute	020cp, 140cp, 160cp, 170cp, 410p, 500chl, 510cp, 530cps, 540c, 570c, 600cpm, 620cpm, 630cpm, 640cpm, 650cpm, 660cpm, 680cpm, 690cpm, 700s, 710s, 750ps, 760ps, 780s, 790ps, 820c, 830c, 840c, 850c, 870c, 880cb, 890c, 910s.
Biology laboratory, A. C. Chandler.	
Chemistry laboratory, H. B. Weiser.	
Civil engineering laboratory, L. B. Ryon.	
Electrical engineering laboratory, J. S. Waters.	
Industrial chemistry laboratory, A. J. Hartsook.	
Mechanical laboratory, J. H. Pound.	
Physics laboratory, H. A. Wilson.	
LUBBOCK:	
Texas Technological College	020abcip, 100abcp, 110abcp, 120abcp, 130abp, 140ac, 240abp, 250abt, 300acips, 310ps, 360acips, 370acips, 410p, 500acpis, 510acpis, 520c, 530ca, 540a, 550a, 560a, 570a, 590a, 600cpe, 630cp, 640ce, 650ce, 680ce, 690c, 710e, 730aip, 770is, 800c, 820c, 850c, 860p, 880cb, 990abcp.
Biological laboratory, R. A. Studhalter.	
Chemical laboratory, R. C. Goodwin.	
Dairy manufactures laboratory, K. M. Renner.	
Electrical laboratory, C. V. Bullen.	
Geology laboratory, L. T. Patton.	
Materials testing laboratory, J. H. Murdough.	
Plant industry laboratory, A. W. Young.	
Physical laboratory, E. F. George.	
Textile laboratory, C. M. Stanley, Jr.	
WACO:	
Baylor University	000ct, 010b, 020b, 030b, 070b, 100ct, 110ct, 120b, 140c, 170c, 240b, 300a, 400b, 500cp, 510cp, 530cp, 810ca, 850c, 890cb, 910b.
Biology and bacteriology laboratory, J. A. Yarborough.	
Chemical laboratory, W. T. Gooch, W. R. Stephens.	
Physiology laboratory, I. H. Horton.	
WAXAHACHIE:	
Trinity University	020c, 100c, 140c, 150c, 170c, 500c, 510c, 530c, 570c, 640c, 690c, 810c, 890c.
Biology laboratory, F. B. Isely.	
Chemistry laboratory, F. M. Garland.	
Home economics laboratory, Mrs. F. M. Kelsey.	
Physics laboratory, Tarvar Morris.	

UTAH

SALT LAKE CITY:	
University of Utah	000ab, 010c, 020abc, 030abc, 040cp, 050ab, 070ab, 100abc, 110abcp, 120abc, 130abc, 140cp, 150c, 160cp, 170cp, 240ab, 250ab, 260b, 280abc, 290ab, 300c, 370c, 400ab, 410ps, 500achmp, 510acp, 530a, 540a, 550a, 560a, 570acm, 590acm, 600cpm, 610cpm, 620acpm, 630acpm, 640acpm, 650acpm, 660acpm, 680acpm, 690acpm, 700ps, 710ps, 740ps, 750ps, 800c, 810c, 820c, 830c, 840c, 850c, 870c, 880c, 890c, 910s.
Bacteriology and pathology laboratories L. L. Daines.	
Chemistry laboratory, W. D. Bonner.	
Electrical engineering laboratory, A. L. Taylor.	
Geology and mineralogy laboratories, H. Schneider.	
Home economics laboratory, Rose H. Widtsoe.	
Mechanical engineering laboratory.	
Metallurgy and ore-dressing laboratories, S. F. Ravitz.	
Mining laboratory, R. S. Lewis.	
Physics laboratory, Orin Tugman.	
Road materials laboratory, A. Diefendorf.	

VERMONT

BURLINGTON:	
University of Vermont	000b, 010bc, 020bc, 100c, 140apc, 240c, 250ap, 400p, 410p, 500ch, 510p, 560i, 600cp, 610cp, 620cp, 630cp, 640cp, 650cp, 660cp, 680cp, 690cp, 700ps, 710ps, 720ps, 730ps, 740ps, 750ps, 760ps, 770ps, 780ps, 790ps, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880cb, 890c.
Agricultural experiment station laboratory, J. L. Hills.	
Botany laboratory, G. P. Burns.	
Chemical laboratory, G. H. Burrows.	
Dairy products testing laboratory, J. L. Hills.	
Engineering experiment station, G. F. Echhard.	
Materials testing laboratory, L. B. Puffer.	
Mechanical engineering laboratory, H. L. Daasch.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

VERMONT—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
BURLINGTON—Continued.	
University of Vermont—Continued.	
Mineralogical and geological laboratory, E. C. Jacobs.	
Pathological laboratory, E. H. Buttles.	
Physiological laboratory, R. G. Daggs.	
State laboratory of hygiene, C. F. Dalton.	
Zoology laboratory, H. F. Perkins.	
MIDDLEBURY:	
Middlebury College	020bcpa, 090c, 160ct, 170ct, 200c, 230c, 300cb, 360cb, 470ca, 500c, 510c, 520c, 530c, 540c, 550c, 560c, 570c, 590c, 600cm, 610cm, 620cm, 630cm, 640cm, 650cm, 660cm, 680cm, 690cm, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c.
Biological laboratory, S. E. Longwell.	
Chemical laboratory, P. Conant Voter.	
Geological and mineralogical laboratory, Phelps N. Swett.	
Physical laboratory, Benjamin F. Wissler.	
NORTHFIELD:	
Norwich University	400p, 410p, 500cp, 510cp, 600ap, 610ap, 700s, 710s.
Chemical laboratory, S. F. Howard.	
Civil engineering laboratory, C. S. Carleton.	
Electrical laboratory, F. A. Spencer.	
Mechanical laboratory, W. D. Emerson.	
WINOOSKI:	
St. Michael's College	010c, 020c, 040c, 120c, 130c, 150c, 160c, 260c, 280c, 500pc, 570c, 590c, 600c, 630c, 640c, 650c, 680c, 690c, 800c, 820c, 830c, 840c, 850c, 870c, 880cb, 890c, 970pc.
Biological laboratory, B. H. Candon.	
Chemistry laboratory, F. S. Quinlan.	
Physics laboratory, J. M. Holcomb.	

VIRGINIA

BLACKSBURG:	
Virginia Polytechnic Institute	000b, 010bc, 020bc, 040cl, 100bc, 110c, 120c, 130c, 140cl, 150c, 160c, 170c, 230c, 240c, 250i, 260abc, 280cs, 290cb, 300ac, 310ac, 320ac, 330ac, 340ac, 360ac, 370ac, 390ac, 400acip, 410acip, 420acip, 430aip, 470ac, 500cps, 510acp, 520acp, 530acp, 550a, 570c, 590ac, 600cmp, 610cmp, 620cmp, 630cmp, 640cmp, 650cmp, 680cmp, 690cmp, 700ps, 710eps, 720ps, 730ps, 760ps, 800c, 810c, 820c, 830c, 840c, 850c, 860c, 870c, 880bcs, 890c, 910ps.
Aeronautical laboratory, D. H. Pletta.	
Agricultural chemistry laboratory, W. B. Ellett.	
Agricultural engineering laboratory, C. E. Seitz.	
Agricultural experiment station, A. W. Drinkard.	
Animal pathology laboratory, I. D. Wilson.	
Ceramic laboratory, J. W. Whittmore.	
Chemical engineering laboratory, J. W. Watson.	
Chemistry laboratory, J. W. Watson.	
Concrete materials laboratory, R. E. L. Gildea.	
Dairy husbandry laboratory, C. W. Holdaway.	
Electrical engineering laboratory, W. A. Murray.	
Engineering experiment station, E. B. Norris.	
Engineering materials laboratory, L. O'Shaughnessy.	
Geology and mineralogy laboratory, R. J. Holden.	
Highway materials laboratory, R. B. H. Begg.	
Lubrication laboratory, J. I. Clower.	
Mechanical engineering laboratory, J. B. Jones.	
Metallurgy laboratory, H. V. White.	
Mining laboratory, L. I. Cothern.	
Physics laboratory, F. L. Robeson.	
Plant pathology laboratory, S. A. Wingard.	
Sanitary engineering laboratory, P. H. McGauhey.	
Soils and crops laboratory, T. B. Hutcheson.	
CHARLOTTESVILLE:	
University of Virginia	
Anatomical laboratory, H. E. Jordan.	
Astronomical laboratory, S. A. Mitchell.	
Biochemical laboratory, A. Chanutin.	
Biological laboratory, I. F. Lewis.	
Chemical laboratory, A. F. Benton.	
Chemical engineering laboratory, J. H. Rushton.	
Civil engineering laboratory, T. H. Evans.	
Clinical laboratory, W. E. Bray.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

VIRGINIA—Continued

Location and name of laboratory	Commodities and nature of investigations [2]
CHARLOTTESVILLE—Continued.	
University of Virginia—Continued.	
Electrical engineering laboratory, J. M. Miller, Jr.	
Embryological and histological laboratories, H. E. Jordan.	
Mechanical engineering laboratory, C. Henderson.	
Pathological laboratory, J. R. Cash.	
Pharmacological laboratory, J. A. Waddell.	
Physical laboratory, L. G. Hoxton.	
Physiological laboratory, S. W. Britton.	
Public health and bacteriological laboratory, G. M. Lawson.	
LEXINGTON:	
Virginia Military Institute	410p, 500p, 510p, 600p, 610p, 620p, 640p.
Biological laboratory, R. P. Carroll.	
Chemical laboratory, L. German.	
Electrical laboratory, S. W. Anderson.	
Highway and building materials testing laboratory, J. A. Anderson.	
Mineralogical laboratory, Edward Steidtmann.	
Physics laboratory, S. M. Heflin.	
Washington and Lee University	510ap, 700es.
Biology laboratory, W. D. Hoyt.	
Chemistry laboratory, L. J. Desha.	
Geology laboratory, M. H. Stow.	
Physics and electrical laboratory, R. W. Dickey.	
WILLIAMSBURG:	
College of William and Mary	020cab, 140c, 160c, 300c, 500chpa, 550p, 600c, 630pc, 640ce, 680c, 690c, 700ps, 710ps, 800c, 820c, 830c, 850c, 880bc, 890c, 910s.
Biological laboratory, D. W. Davis.	
Chemical laboratory, R. G. Robb.	
Physical laboratory, R. C. Young.	

WASHINGTON

PULLMAN:	
State College of Washington	000bpa, 010abpa, 020ab, 030bpa, 040ac, 100ac, 110c, 120b, 130b, 140ac, 150ac, 160ac, 170c, 210c, 220ac, 240c, 260c, 300p, 360p, 370p, 410ip, 500ah, 510ah, 520a, 530a, 540a, 550a, 560a, 570a, 590a, 600mp, 620mx, 630mp, 640mp, 650mx, 660mx, 680mx, 690mx, 700hpl, 710ep, 800acp, 810act, 820acp, 830acp, 850c, 870c, 890acp, 910achimps.
Chemistry laboratory, C. C. Todd.	
Chemistry laboratory, experiment station, J. L. St. John.	
Communication laboratory, H. J. Dana.	
Dairy industry laboratory, H. A. Bendixen.	
Electrical machinery laboratory, R. D. Sloan.	
Electrical measurements and standards laboratory, H. F. Lickey.	
Engineering materials laboratory, R. Weller, C. Zener.	
Fire assaying laboratory, J. F. Williams.	
Fuels and lubrication laboratory, F. W. Candee.	
Home economics laboratory, L. K. Pickles.	
Metallographic laboratory, H. P. Nielsen.	
Metallurgical laboratory, J. F. Williams.	
Mineralogy and petrography laboratory, C. D. Campbell.	
Ore dressing laboratory, A. McHugh.	
Pharmacy laboratory, P. H. Dirstine.	
Seed laboratory, E. G. Schafer.	
Steam and gas power laboratory, H. H. Langdon.	
Veterinary bacteriology laboratory, E. C. McCulloch.	
Veterinary pathology laboratory, D. R. Cordy.	
SEATTLE:	
University of Washington	020c, 030b, 040c, 140c, 150c, 160c, 170c, 240c, 260c, 400ahp, 410b, 420ahp, 430abp, 470ap, 480ca, 500c, 510h, 520h, 530h, 540h, 550h, 570m, 590m, 600m, 620cm, 630cm, 640m, 650m, 660m, 680m, 690m, 820c, 830c, 840c, 850c, 860c, 870c, 880c, 890c, 910s.
Aeronautical, civil, electrical, and mechanical engineering laboratories, E. A. Loew.	
Chemistry and chemical engineering laboratory, H. K. Benson.	
Fisheries laboratory, William F. Thompson.	
Forestry laboratory, Hugo Winkenwerder.	
Mining, metallurgical, and ceramics laboratory, Milnor Roberts.	
Pharmaceutical, drug laboratory, F. J. Goodrich.	
Physics laboratory, Henry L. Brakel.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

WEST VIRGINIA

Location and name of laboratory	Commodities and nature of investigations [2]
MORGANTOWN:	
West Virginia University	020cb, 100cp, 120c, 130c, 240p, 250i, 260t, 410p, 500ct, 510pc, 520c, 530c, 570c, 590t, 600cmp, 610cmp, 620cmp, 630cmp, 640cmp, 650cmp, 660cmp, 680cmp, 690cmp, 700s, 720s, 730s, 750s, 800cp, 810cp, 820c, 830c, 870cp, 880cp.
Agricultural chemistry laboratory, R. B. Dustman.	
Biochemistry laboratory, P. L. MacLachlan.	
Dairy laboratory, H. O. Henderson.	
Department of chemistry laboratory, Friend E. Clark.	
Electrical laboratory, A. H. Forman.	
Engineering chemistry laboratory, William Hodge.	
Entomology laboratory, L. M. Peairs.	
Experimental engineering laboratory, J. B. Grumbein.	
Feeds and fertilizer laboratory (at Charleston), T. B. Leith.	
Mechanical laboratory, G. P. Boomsliter.	
Plant pathology laboratory, C. R. Orton.	
Seeds laboratory.	

WISCONSIN

APPLETON:	
Institute of Paper Chemistry (affiliated with Lawrence College).	280acp, 340c (straw), 360ac (wool), 400cp (logs), 470acp, 490acp, 530acp, 640acp (copper alloys), 680acp (zinc alloys), 710ips, 780ips, 910ips, 950cp.
Analytical laboratory, B. L. Browning.	
Cellulose laboratory, E. Heuser.	
Colloid chemistry laboratory, B. W. Rowland.	
Fibre microscopy laboratory, John Graff.	
Microbiology laboratory, J. W. Appling.	
Organic chemistry laboratory, H. F. Lewis.	
Physics laboratory, J. A. Van den Akker.	
Pulp and paper testing laboratory, C. M. Koon.	
Wood technology laboratory, I. H. Isenberg.	
Lawrence College	030b, 040b, 160cb, 470cp, 490cp, 500cp, 600cp, 630cp, 680cp, 800cp, 820cp, 870cp, 880cp, 910cp.
Bacteriology laboratory, Olga Smith.	
Botany laboratory, W. Rogers.	
Chemistry laboratory, S. Darling.	
Geology laboratory, L. R. Thiesmeyer.	
Physics laboratory, P. Gilbert.	
Zoology laboratory, W. Van Horn.	
MADISON:	
University of Wisconsin	040b, 090c, 100ac, 110ac, 300a, 320a, 330a, 340a, 360a, 370a, 390a, 400abcehpst, 410abcehpst, 420abcehpst, 470acbehpt, 490abcehpt, 500cp, 510pc, 520es, 530apcmx, 570c, 590acmp, 600acpm, 610pacm, 620acmp, 640acpm, 650acmp, 680acmp, 700s, 710es, 740sip, 750sip, 760sip, 780s, 800cp, 820cp, 830cp, 850c, 880bc, 890cp, 910es.
Chemical engineering laboratory, R. A. Ragatz.	
Electrical engineering laboratory, J. W. Watson.	
Feeds and fertilizer laboratory, Walter Griem.	
Hydraulic laboratory, L. F. VanHagen.	
Materials testing laboratory, M. O. Withey.	
Mechanical engineering laboratory, G. L. Larson.	
Mining and metallurgy laboratory, J. F. Oesterle.	
Soils laboratory, Emil Truog, H. H. Hull.	
U. S. Forest products laboratory, C. P. Winslow.	
MILWAUKEE:	
Marquette University	000abcx, 020c, 040c, 140c, 160c, 170c, 400hip, 410hip, 510p, 530p, 600pm, 620pm, 630pm, 640pm, 650pm, 680pm, 690pm, 710es, 870c, 910is.
Anatomy laboratory, Eben J. Carey.	
Biochemistry laboratory, Joseph C. Bock.	
Electrical laboratory, Franz A. Kartak.	
Materials laboratory, O. Neil Olson.	
Metallurgical laboratory, John E. Schoen.	
Pathology laboratory, Fernan Nunez.	
Pharmacology laboratory, Harry Beckman.	
Physiology laboratory, P. F. Swindle.	

[2] See p. 1 and 2 for symbolic references.

GEOGRAPHICAL LISTING OF COLLEGES—Continued

WYOMING

Location and name of laboratory	Commodities and nature of investigations [2]
LARAMIE:	
University of Wyoming	000bct, 010abc, 020abc, 030abc, 040aci, 070acips, 090abc, 100abct, 110abct, 120abct, 130abct, 140abct, 150abct, 160abct, 170abct, 220ac, 240abcips, 250abcip, 290abc, 300ac, 310ac, 320a, 330a, 340a, 360acips, 370a, 390a, 400p, 410p, 500c, 510acip, 520acep, 530acep, 540ac, 550ac, 570ac, 590ac, 600cmp, 610cmp, 620cmp, 630cmp, 640c, 650c, 660c, 710s, 810abc, 830ct, 840c, 850abcps, 880c, 890c, 970c.
Apiculture laboratory, C. H. Gilbert.	
Assaying laboratory.	
Botany laboratory, W. G. Solheim.	
Chemistry laboratory, O. A. Beath.	
Egg laboratory, Mack O. North.	
Engineering laboratory, R. D. Goodrich.	
Farm crops laboratory, Wm. Riedel.	
General chemistry instruction laboratory, P. T. Miller.	
Geological and mineralogical laboratory, S. H. Knight.	
Home economics laboratory, Elizabeth J. McKittrick.	
Metabolism laboratory, Elizabeth J. McKittrick.	
Physics laboratory, P. F. Hammond.	
Plant pathology laboratory, G. H. Starr.	
Psychology laboratory, Lillian Portenier.	
Seeds laboratory, L. E. Walter.	
Soils laboratory, T. J. Dunnewald.	
State chemist, L. E. Walter.	
Veterinary and animal pathology and bacteriology laboratory, A. M. Lee.	
Wool and fur laboratory, R. H. Burns.	
Zoology and parasitology, John W. Scott.	

[2] See p. 1 and 2 for symbolic references.

FACILITATING THE USE OF SPECIFICATIONS

Many excellent specifications well recognized throughout industry are not being widely used at the present time because of inability on the part of most purchasers to determine whether or not commodities delivered correspond to the specification requirements. As a solution to the problem of minimizing the above-mentioned disadvantage and thereby facilitating the use of specifications, use is being made of the so-called "certification" or written-guarantee plan.

CERTIFICATION PLAN

In carrying out this plan there are compiled lists of manufacturers who have expressed their desire to supply material in accordance with certain selected specifications and are willing to issue a written guarantee to the purchaser, upon request, that the material thus supplied complies with the requirements and tests of the specifications.

From time to time State and other tax-supported purchasing agents have sought the assistance of the United States Department of Commerce in the formulation of standards, specifications, and methods of tests for their purchases. Every effort is therefore being exerted to make the certification plan as effective as possible for purchasers for the Federal, State, and municipal Governments, who are spending money collected from the public in the form of taxes.

There already have been compiled by the National Bureau of Standards more than 860 lists of firms that have expressed to the Bureau (up to January 1, 1942) their desire to have their names placed on the lists of manufacturers willing, when requested to do so, to guarantee to purchasers that material supplied in accordance with the designated Federal specifications and commercial standards complies with the requirements and tests of these specifications. Copies of any of these lists of sources of supply, to which additions are being made from time to time, can be obtained upon request.

SUMMARY OF FEDERAL SPECIFICATIONS AND COMMERCIAL STANDARDS TO WHICH THE CERTIFICATION PLAN HAS BEEN APPLIED

Group symbol	Commodity groups	Number of lists
C	Animal products	3
H	Brooms and brushes	49
J	Cable and wire	4
K	Canvas-articles	2
M	Ceramics	1
N	Cereals and products	1
O	Chemicals	19
P	Cleaning and polishing materials	28
Q	Coal and products	1
R	Coal-tar and products	3
T	Cordage	11
U	Drugs and medicines	1
V	Dry goods and notions	7
W	Electrical apparatus	12
AA	Furniture	23
DD	Glass and glassware	9
FF	Hardware	22
GG	Instruments	28
HH	Insulating materials	36
JJ	Knit goods, netting, and webbing	12
KK	Leather and leather goods	19
MM	Lumber and timber	2
NN	Lumber products	5
OO	Machinery	11
QQ	Metals	65
RR	Metal products	30
SS	Minerals and products	33

SUMMARY OF FEDERAL SPECIFICATIONS AND COMMERCIAL STANDARDS TO WHICH THE CERTIFICATION PLAN HAS BEEN APPLIED—Continued

Group symbol	Commodity groups	Number of lists
TT	Paints, pigments, varnishes and products	48
UU	Paper and products	49
VV	Petroleum and products	21
WW	Pipe, pipe-fittings, plumbing-fixtures, tubes and tubing	38
ZZ	Rubber and rubber goods	53
AAA	Scales	2
BBB	Suits and uniforms	4
CCC	Textiles (yardage)	45
DDD	Textile products	51
GGG	Tools	47
JJJ	Vegetable products	4
LLL	Wood products	7
CS	Commercial standards	54
	Total	860

For the purpose of securing economy in the procurement of material used by the Government, the Federal Specifications Executive Committee makes a strenuous effort to formulate such specifications as will cover commercial materials and supplies. Before the specifications are promulgated as official Federal specifications for the use of the departments and establishments of the Government, comments and criticisms from the manufacturers and interested agencies are given careful consideration. A list of the specifications thus far adopted by the committee is given in section IV, part 1, of the Federal Standard Stock Catalog, which can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 15 cents.

Among the duties assigned to the committee are not only the compilation and adoption of standard specifications for materials and services, but also the bringing of the Government specifications into harmony with the best commercial practice whenever conditions permit, bearing in mind the broadening of the field of supply.

Encouraging the maximum possible number of purchasing agents to make use of the specifications of the Federal Specifications Executive Committee broadens the field of supply by inducing the maximum possible number of persons to manufacture commodities meeting the requirements of the Federal Government. Moreover, the widespread use of Federal specifications serves to draw attention to such modifications as might well be made therein in order to render them satisfactory to the buying public and to bring them into harmony with the best commercial practice.

Reference is made herein specifically to Federal specifications as the lists referred to are those of manufacturers willing to guarantee compliance with these specifications. However, the plan outlined could readily be, and is being, applied to other groups of nationally recognized specifications, including commercial standards formulated under the auspices of the National Bureau of Standards by interested cooperating agencies. The application of the plan is of benefit not only in the general promotion of the use of specifications by both the small and the large consumers, but also in the unification of specifications having national recognition.

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NATIONAL BUREAU OF STANDARDS PUBLICATIONS ON TESTING

(Continued from p. 2 of cover)

Textiles, flexometer for evaluating flexural properties of, RP555. Price 5¢.
Thermocouples, methods of testing, RP768. Price 10¢.
Thermometers, testing of, C8. Price 10¢.
Tires, automobile, dynamometer tests of, T240. Price 10¢.
Tires, endurance tests of, T318. Price 10¢.
Timepieces, testing of, C432. Price 15¢.
Transformers, current, equipment for testing, RP580. Price 5¢.
*Transformers, current, method for testing, S309.
*Transformers, potential, testing of, S217.
Typewriter ribbons and carbon paper, C431. Price 10¢.
*Varnishes, test for durability, RP333.
Volt boxes, testing and performance, RP1419. Price 10¢.
*Zinc-coated steel, accelerated laboratory corrosion tests, RP10.
*Zinc coatings, Preece test, (copper-sulfate dip), RP688.

THIS VOLUME represents a project on the part of the United States Department of Commerce to collect and publish a directory of the commercial testing and college research laboratories in the United States of America. The data recorded in the Directory have been obtained from responsible officers of the laboratories listed therein. Laboratories of consulting chemists, engineers, and metallurgists, and research laboratories of manufacturing companies and other industrial research laboratories, have been listed only in case definite information has been supplied that they are engaged in commodity acceptance testing on a commercial basis. A list of 2,264 industrial research laboratories, including consulting research laboratories, has been compiled by the National Research Council, Washington, D. C., and published in Bulletin 104, December 1940.

Criticisms and suggestions are desired from all interested persons, so that the lists of commercial testing and college research laboratories and the services they are willing to render may be kept as nearly complete, accurate, and up to date as possible. All recommendations for improvement received will be given careful consideration when future editions are issued.