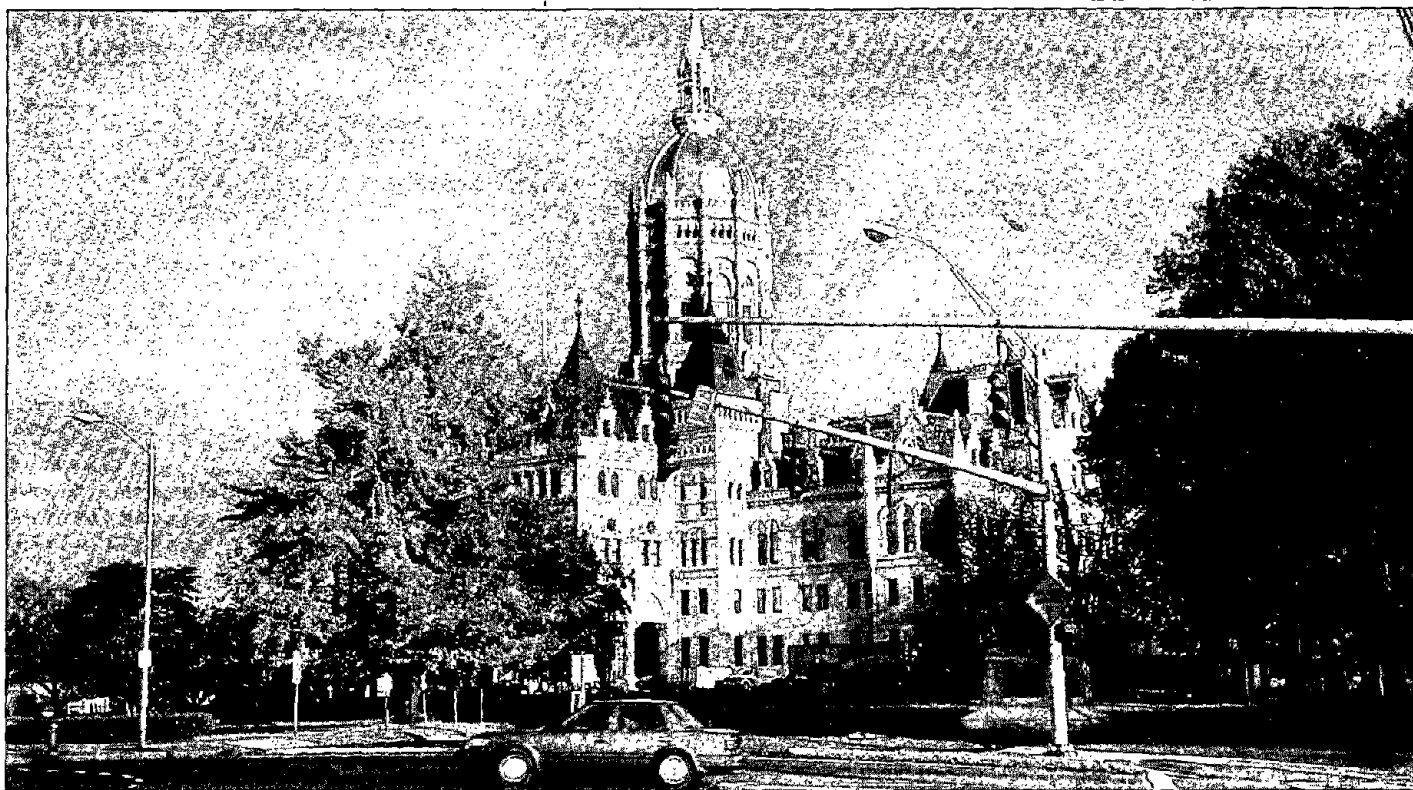




CONNECTICUT

By Donald K. Harrison and Robert J. Altamura

1992

U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

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CONNECTICUT



U.S.
DEPARTMENT
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INTERIOR

Bruce Babbitt
Secretary



BUREAU
OF
MINES

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COVER PHOTO:

The Connecticut Capitol Building in Hartford symbolizes the cooperative working relationship between the U.S. Bureau of Mines and the mineral agencies of the State.

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THE MINERAL INDUSTRY OF CONNECTICUT

This chapter has been prepared under a Memorandum of Understanding between the U.S. Bureau of Mines, U.S. Department of the Interior, and the State Geological and Natural History Survey of Connecticut, Department of Environmental Protection, for collecting information on all nonfuel minerals.

By Donald K. Harrison¹ and Robert J. Altamura²

The value of nonfuel mineral production in 1992 was \$97.2 million, a \$6.4 million increase over that of 1991. This increase was largely attributable to an increase in output of construction sand and gravel over the 1991 estimate. Estimated output of crushed stone, the State's leading mineral commodity produced, in terms of value, remained essentially the same as that of 1991. Other mineral commodities produced included clays, industrial sand, and dimension stone.

TRENDS AND DEVELOPMENTS

In 1992, the average annual value of total construction contracts was down 4% from that of 1991. The 1992 value was also 42% lower than the peak building year of 1988. The largest declines in construction contracts were recorded in 1989 and 1990. The modest 4% drop in

1992, compared with that of the past few years, indicated that the industry was showing some signs of recovery. In 1992, the value of residential construction contracts, which had not risen since 1987, was up by 15% over that of 1991. This was offset, however, by declines in the value of nonbuilding contracts (down 31%) and nonresidential contracts (down 3%). Because the aggregate industry (crushed stone and sand and gravel) is highly dependent on the State's construction industry, the modest decline in 1992 actually helped to at least stabilize this industry. Continuing infrastructure improvements to the State's roads, bridges, sewers, and water systems also have benefited this industry.

In August, the Associated General Contractors of Connecticut (AGC) agreed to affiliate with the Connecticut Construction Industries Association (CCIA). The AGC chapter became a division of CCIA. This was the second

recent affiliation of a major organization in the State with the CCIA. The Utility Contractors Association of Connecticut affiliated with the CCIA in 1991 to become a new division of CCIA. The newest affiliation makes the CCIA, a nonprofit trade association, the State's leading construction industry organization, which represents all aspects and disciplines of the industry. CCIA will now have seven divisions, including the Connecticut Road Builders Association; Connecticut Ready-Mixed Concrete Association; Connecticut In-Plant Operators Association; and the Connecticut Equipment Dealers Div. The association also includes the State's bituminous plant operators, crushed stone and sand and gravel operators, excavators, and a wide variety of associate members involved in the construction industry.

TABLE 1
NONFUEL MINERAL PRODUCTION IN CONNECTICUT¹

Mineral	1990		1991		1992	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Gemstones	NA	\$2	NA	\$62	NA	\$5
Sand and gravel (construction) thousand short tons	*8,416	*37,387	*5,400	*24,800	6,025	30,107
Stone:						
Crushed ² do.	*10,200	*70,600	5,873	52,701	*5,900	*54,500
Dimension short tons	*4,156	*7,113	*16,545	1,739	W	W
Combined value of clays (common), feldspar (1990-91), mica (scrap (1990-91)), sand and gravel (industrial), stone [crushed dolomite and other (1991-92), crushed granite (1990)], and values indicated by symbol W	XX	*7,165	XX	11,531	XX	12,580
Total	XX	*122,267	XX	90,833	XX	97,192

¹Estimated. ²Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data. XX Not applicable.

³Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

⁴Excludes certain stones; kind and value included with "Combined value" data.

EMPLOYMENT

In 1992, the average number of workers employed in the minerals extractive industries in Connecticut was 744.³ This included 251 workers at sand and gravel operations, 272 at stone operations, and 2 workers at other nonmetal mines. In addition, 219 employees worked at mineral-related mills and preparation plants in the State.⁴

Since the end of 1988, Connecticut's construction and mining industries suffered the worst during the recent recession with a 41.4% decrease in jobs. Connecticut's manufacturing industry also lost a significant number of jobs. In statistics released by the State Department of Labor, stone, clay, and glass manufacturing lost 27.5% of its jobs, down 1,400 from 5,100 at the end of 1988 to 3,700 in the beginning of 1992. The primary metals industry, which includes those industries that produce metal extracted from ores, natural brines, or ocean water or ingot cast from reduced and/or refined metal, lost 2,800 jobs or 22%, dropping from 12,700 to 9,000 in the same period. Likewise, the fabricated metals industry lost 21.8% of its jobs, from 43,200 to 33,800.

LEGISLATION AND GOVERNMENT PROGRAMS

Several bills that would affect mineral producers were introduced in the 1992 State legislative session. House bill (H.R.) 5611 would require quarry owners or operators to conduct a preblast survey. H.R. 5230 would give the local fire marshall the authority to stop any excavation, demolition, or discharge of explosives. Both of these bills died in committee. Another bill, which never made it out of committee, was Raised House Bill 5699, "An Act Adopting the Model Surface Use and Mineral Development Accommodation Act." The purpose of the bill was to establish mineral development standards to protect surface owners from physical damage to their land from exploration through development.

In 1992, the Connecticut Legislature approved construction bonds totaling \$867 million. Bond authorizations included: transportation projects, \$244.1 million; clean water fund, \$60 million; Long Island Sound cleanup, \$50 million; public works projects, \$483.5 million; and capital improvements, \$30 million.

Connecticut's local chambers of commerce began working in conjunction with the State Department of Environmental Protection (DEP) in setting up regional-business recycling councils to help private enterprise establish individual recycling programs. The councils, which serve as information clearinghouses, are concerned primarily with recycling nine items mandated by law. That list includes metal food and beverage containers, scrap metal, and lead-acid batteries. Under State law, Connecticut businesses and certain residential areas were to begin recycling those items in January 1991. The local chambers of commerce are acting as a communications link to businesses and do not have enforcement authority. The individual towns where the recycling occurs have enforcement authority.⁵

The Connecticut Geological & Natural History Survey (CGNHS), as the research arm of the parent agency, the Natural Resources Center of the State Department of Environmental Protection, continued programs on the collection, interpretation, and dissemination of information on the State's natural resources. Major efforts for the year included topographic, bedrock, glacial geological mapmaking, soil mapmaking, a continued geophysical investigation of Long Island Sound, and a continued study of the distribution of radon in Connecticut. An effort was made for the continuation of work on Statewide digital data sets of natural resource significance for the office's Geographic Information System. During the year, the Natural Resources Center made contributions in the areas of water resources basic data collection, aquifer modeling and protection, endangered species, and natural heritage identification. In addition, the Center developed a public library of basic resource data on Long Island Sound at its

satellite office at Avery Point in Groton as part of the center's continuing Connecticut marine geology emphasis. A volume of the Journal of Coastal Research was published during the year devoted to Connecticut marine geology with papers written by State Survey staff, researchers at Wesleyan University and institutions and agencies outside the State. A full-color map entitled, "The Surficial Materials Map of Connecticut," a cooperative effort on the part of the CGNHS and the U.S. Geological Survey (USGS), was published by the USGS.⁶ Work on a companion map, the Quarternary Geological Map of Connecticut, continued. An evaluation of the volume of existing sand and gravel deposits in the State, not necessarily that available for excavation, was under way as part of a project initiated by the New England Governors' Conference. A scientific and economic investigation on a giant hydrothermal silica ore deposit, a source of industrial sand and gravel in the southeastern part of the State, also was being conducted.⁷

REVIEW BY NONFUEL MINERAL COMMODITIES

Industrial Minerals

Calcium Metal.—Mineral Technologies Inc. (MTI) produced calcium metal at a plant in Canaan, Litchfield County. The company used the Pidgeon process in which high-purity calcium oxide and aluminum powder are compacted into briquettes and heated in vacuum retorts where the calcium metal is vaporized and collected in a water-cooled condenser.

In October, MTI was officially spun off from Pfizer Inc. MTI is a new company composed substantially of all of the net assets of what were formerly the specialty minerals business of Pfizer, which included the company's specialty minerals operations in Canaan. The spinoff was the result of a decision by Pfizer to focus on health care, although Pfizer retained a 40% interest in MTI.

Clays.—Two companies mined

common clay and shale for use in manufacturing common and face brick. K-F Brick Co., a subsidiary of the Susquehanna Corp., mined Pleistocene glacial lake clay near South Windsor and Jurassic age shale near Suffield, both in Hartford County. The Michael Kane Brick Co. reported production from an open pit mine into glacial lake clay in Middlesex County.

Feldspar.—As of the first of the year, The Feldspar Corp. officially ceased excavation at its open pit quarries in Middletown and Portland.⁸ Miners had excavated granitic pegmatite from rock bodies within the Middletown Pegmatite District. This shutdown represented the closing of the last operations in this historic feldspar mining district. The company's feldspar refining plant at Middletown also ceased operation, and reclamation of mined land was begun. In addition to feldspar, the company also recovered byproduct mica and industrial sand. Several months prior to the closure, the Inland Wetlands and Waterways Agency (IWWA) had approved a plan from The Feldspar Corp. to hoist approximately 700 tons of pegmatite feldspar out of a wetlands area adjacent to the mine. The boulders had fallen the wrong way when a blast went awry at the mining operations. However, in early 1992, the company sought an amendment to the permit indicating that it could not get the boulders out of the wetlands without doing more damage. In February, the IWWA approved the modification of the plan and agreed that the material should be left in place rather than to cause additional environmental damage.

Gemstones.—The Strickland-Cramer pegmatite mines near Portland, perhaps the most scientifically studied geologic site in the State, had produced feldspar and mica when it was commercially active. The abandoned mines, which had for many years provided educational and gemstone specimens from its mine spoils, were being developed as a golf course by a private landowner. The Strickland site,

as well as other sites in the Middletown Pegmatite District, had been investigated as a source of beryllium by the USGS⁹ and the U.S. Bureau of Mines (USBM).¹⁰

Sand and Gravel.—Construction.—Construction sand and gravel production is surveyed by the USBM for even-numbered years only; data for odd-numbered years are based on annual company estimates. This chapter contains actual data for 1990 and 1992 and estimates for 1991.

Construction sand and gravel was Connecticut's second most valuable mineral commodity and accounted for almost one-third of the State's mineral production value. In 1992, 55 companies, 8 less than that of 1990 when the last USBM canvass was undertaken, mined construction sand and gravel from 61 pits. Leading counties, in order of output, were Hartford, New Haven, Windham, and Fairfield. The majority of the construction sand and gravel was used for concrete and asphaltic aggregates.

Near yearend, the Prospect Planning and Zoning Commission was considering passage of an ordinance that would ban all new sand and gravel mining operations in residential areas. Existing mining operations were expected to be grandfathered into the regulations. In October, the commission rejected a proposal by O&G Industries of Torrington to mine gravel from water company land primarily because of concerns of increased truck traffic. Local residents also had raised questions about the effect the mining would have on a nearby reservoir and wetlands.

Industrial.—U.S. Silica Co. of Connecticut was the only producer of industrial sand in the State in 1992. The Feldspar Corp., which produced byproduct industrial sand in 1991 at its Middletown feldspar operations, officially shut down its operations as of the first of the year. Uses for the industrial sand produced by U.S. Silica included blasting, scouring, and filtration.

Stone.—Crushed stone production is

surveyed by the USBM for odd-numbered years only; data for even-numbered years are based on annual company estimates. This chapter contains estimates for 1990 and 1992 and actual data for 1991.

Crushed.—Crushed stone was the State's leading mineral commodity and accounted for 56% of the State's total mineral value. Estimated crushed stone production (predominantly basalt, which is commonly called traprock) remained about the same as that of 1991. Other quarried rock types included marble and granite. The majority of the crushed stone was used for roadbuilding and for making concrete.

After 18 months of being under a cease and desist order stopping most operations at the Midwood Quarry in Tolland, the Burgundy Hills Associates, the owners of the quarry, were told in June by the Inland Wetlands Commission (IWC) that they may resume excavation. However, the owners must adhere to 17 conditions set by the IWC. Earlier in the year, a Superior Court judge upheld a 1991 zoning board decision that limited excavation at the quarry to 10.5 acres. The quarry owners had sued the zoning board in March 1991, arguing that 42 acres of the 142-acre property should be eligible for excavation because those acres had been mined before 1957, the year that local zoning regulations were enacted. In the judge's decision, he said that the quarry owners had been given a "full and fair hearing" by the board. The company is appealing the decision.

In December, E. Aiudi & Sons filed a third lawsuit against the Plainville Planning and Zoning Commission over its denial of a zone-change request to rezone 30 acres the company owns. The company, which owns a cement plant in the town, wanted to rezone the 30 acres at the existing quarry from residential to quarry/industrial use. The centerpiece of the lawsuit contends that the commission's ruling renders the land worthless to the company. The suit also argues that the quarry received site grading approval 13 years ago. Although the designation then did not permit quarrying, the suit asserts that the town allowed the company to

TABLE 2
CONNECTICUT: CONSTRUCTION SAND AND GRAVEL SOLD OR USED
IN 1992, BY MAJOR USE CATEGORY

Use	Quantity (thousand short tons)	Value (thousands)	Value per ton
Concrete aggregates (including concrete sand)	1,034	\$6,192	\$5.99
Plaster and gunite sands	10	100	10.00
Concrete products (blocks, bricks, pipe, decorative, etc.)	W	W	5.02
Asphaltic concrete aggregates and other bituminous mixtures	1,189	4,521	3.80
Road base and coverings	341	1,302	3.82
Fill	314	1,046	3.33
Snow and ice control	183	797	4.36
Other miscellaneous uses ¹	110	684	6.22
Unspecified: ²			
Actual	986	3,591	3.64
Estimated	1,857	11,872	6.39
Total ³	6,025	30,107	5.00
Total ⁴	5,466	30,107	5.51

W Withheld to avoid disclosing company proprietary data; included with "Other miscellaneous uses."

¹Includes filtration.

²Includes production reported without a breakdown by end use and estimates for nonrespondents.

³Data may not add to totals shown because of independent rounding.

⁴One metric ton is equal to 1,000 kilograms or 2,204.62 pounds. To convert short tons into metric tons, multiply short tons by 0.907185.

⁵Total quantity and total value in thousand metric tons and thousand dollars.

continue quarrying the site since then because it raised no objections during that time.

In November, the Woodbury Zoning Commission renewed O&G Industries Inc.'s earth excavation permit for its Stiles Road Quarry, but added a number of stipulations for the protection of neighboring property owners. About 20 neighbors of the property had appeared before the commission to complain about blasting, dust, and other inconveniences caused by the quarrying activity.

Many of the 19 conditions imposed on the company addressed residents' concerns. Several of the conditions addressed the noise issue. O&G must keep copies of reports on complaints of blasts from neighboring property owners and submit them to the commission quarterly. In addition, the zoning commission ruled that O&G must attempt to schedule blasting on days when air shock is likely to be at a minimum and try to avoid days when it is likely to be too high. The company must also attempt to notify neighboring property

owners and others who ask for notification of blasting in advance of each blast. Other conditions set by the commission dealt with tree clearing, dust reduction, and imposing speed limits on the roads owned by the company.¹¹

Dimension.—Dimension granite was quarried in Hartford, Litchfield, New Haven, and Windham Counties, and dimension quartzite was quarried in Middlesex and Tolland Counties. The stone was sold as irregular-shaped stone, rough blocks, and cut stone.

¹Regional Minerals Specialist, U.S. Bureau of Mines, Pittsburgh, PA. He has 19 years of mineral-related experience and has covered the mineral activities in Connecticut for the past 8 years. Assistance in the preparation of the chapter was given by Sally J. Stephenson, editorial assistant.

²Geologist, State Geological and Natural History Survey of Connecticut, Department of Environmental Protection, Hartford, CT. Also at the Department of Geosciences, The Pennsylvania State University, University Park, PA.

³"Average number of workers" is a summary of the average number of persons working at individual mining establishments during periods (not necessarily continuous) of active operations.

⁴U.S. Department of Labor, Mine Safety and Health

Administration. Mine Injuries and Worktime Quarterly, Jan.-Dec. 1992, 32 pp.

⁵American Metal Market. Recycling Gets Push in Connecticut. V. 100, No. 14, Jan. 22, 1992.

⁶Stone, J., P. Shafer, E. London, and W. Thompson. Surficial Materials Map of Connecticut: U.S. Geological Survey Map, 1:125,000 scale, 1992, 2 sheets.

⁷Altamura, R. J., and D. P. Gold. The Lantern Hill Giant Quartz Lode, North Stonington, CT: A Nonmetallic Ore Deposit in the Northern Appalachians. Geological Society of America Abstracts With Programs, v. 25, 1993, No. 2., p. 2.

———. Wall-Rock Alteration and the Genesis of the Lantern Hill Giant Quartz Lode, Southeastern Connecticut. Geological Society of America Abstracts With Programs, v. 25, No. 2, 1993, p. 2.

⁸Altamura, R. J. Bedrock Mines and Quarries of Connecticut: Connecticut Geological and Natural History Survey Natural Resources Map, 1:125,000 scale with 41-page booklet, 1987.

⁹Cameron, E. N., et al. Pegmatite Investigations 1942-45, New England. U.S. Geol. Surv. Professional Paper 255, 1954, 352 pp. plus maps.

¹⁰Barton, W. R., and C. E. Goldsmith. New England Beryllium Investigations. BuMines RI 7070, 1968, 117 pp.

¹¹Republican-American (Waterbury, CT). Panel Puts Restrictions on Blasting Due to Noise. Nov. 25, 1992.

CONNECTICUT

LEGEND

— State boundary
 — County boundary

○ Capital
 • City

MINERAL SYMBOLS

CC-Sh Common Clay & Shale
 CS Crushed Stone
 D-G Dimension Granite
 D-Q Dimension Quartzite
 IS Industrial Sand
 SG Sand and Gravel

Principal Mineral-Producing Localities

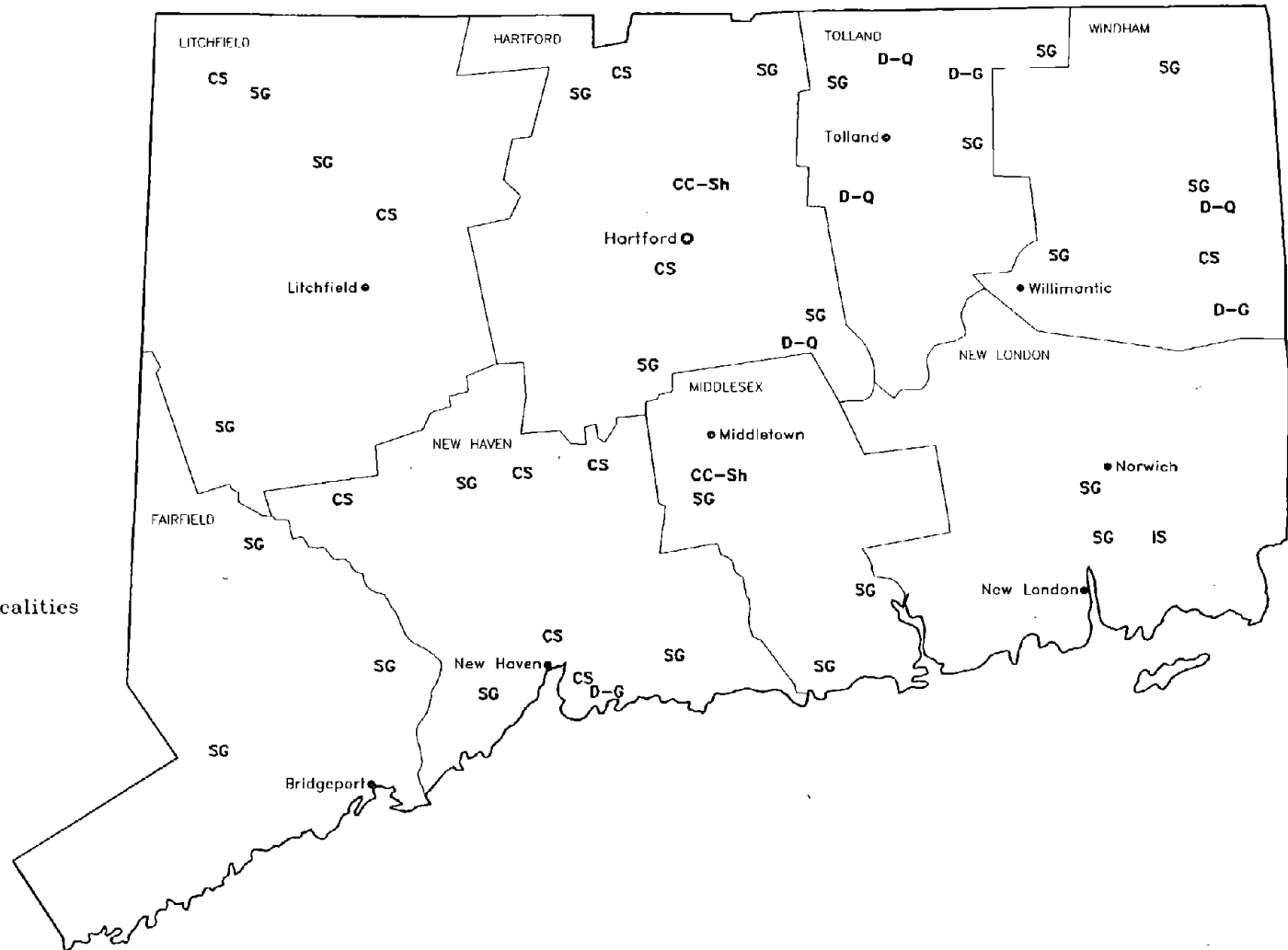


TABLE 3
PRINCIPAL PRODUCERS

Commodity and company	Address	Type of activity	County
Clays:			
The Michael Kane Brick Co.	654 Newfield St. Middletown, CT 06457	Pit and plant	Middlesex.
K-F Brick Co.	Box 375 East Windsor Hill, CT 06028	do.	Hartford.
Sand and gravel:			
Construction:			
The Balf Co. ¹	301 Hartford Ave. Newington, CT 06111	Pit	Do.
O&G Industries Inc. ¹	23 Casson Ave. Box 907 Torrington, CT 06790	Pit	New Haven.
R. A. Rawson Sand & Gravel Inc.	R.F.D. 1 Putnam, CT 06260	Pits and plant	Windham.
Roncari Industries Inc. ¹	1776 South Main St. East Granby, CT 06026	Pit	Hartford.
Valley Sand & Gravel Corp.	Box 217 North Haven, CT 06473	Pit	New Haven.
Industrial:			
U.S. Silica Co. of Connecticut	Box 187 Berkeley Springs, WV 25411	Quarry and plant	New London.
Stone:			
Crushed:			
Allyndale Corp.	Box 265 East Canaan, CT 06024	Quarry	Litchfield.
The Balf Co.	301 Hartford Ave. Newington, CT 06111	do.	Hartford.
O&G Industries Inc.	23 Casson Ave. Box 907 Torrington, CT 06790	Quarries	Litchfield and New Haven.
Tilcon Connecticut Inc.	Box 67 909 Foxen Rd. North Branford, CT 06471	do.	Hartford, New Haven, Windham.
York Hill Trap Rock Quarry Co.	Westfield Rd. Meriden, CT 06450	Quarry	New Haven.
Dimension:			
Castellucci Stone Inc.	99 Quarry Rd. Stony Creek, CT 06405	do.	Do.
R. B. Marriott & Sons Co.	Box 67 Oneco, CT 06373	do.	Windham.
Wayne C. Williams General Construction Inc.	110 Conklin Rd. Stafford Springs, CT 06076	do.	Tolland.

¹Also crushed stone.

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