STATUS OF OKLAHOMA GEOLOGICAL SURVEY
PUBLICATIONS


MAJOR INCREASE IN CONSUMPTION OF PORTLAND CEMENT IN OKLAHOMA

Consumption of portland cement in Oklahoma increased 29 percent in October, 1955, compared with October, 1954, according to information just released by the U. S. Bureau of Mines. During the same period the average consumption in Texas, Louisiana, Arkansas, Missouri, and Colorado increased only 23 percent, whereas consumption in New Mexico, Kansas, Nebraska, and Iowa decreased an average of 11 percent.

Shipments of portland cement to Oklahoma destinations approximately equaled production from the two Oklahoma plants—Ideal Portland Cement Co. at Ada and Dewey Portland Cement Co. at Dewey. In this gain in both consumption and production Oklahoma thus compares well with surrounding states, and the gain reflects a high rate of construction as well as an abundance of raw materials for the manufacture of portland cement.

On a comparative basis, Oklahoma stood high above the large cement-producing states of New York, Pennsylvania, Ohio, Illinois, and California, all of which in the same period either showed a loss in consumption or a gain not exceeding 4 percent. W.E.H.

The glass container business is certain to establish an all-time yearly record in 1955, and the demand is still growing. (Nat. Glass Budget) This should sound good to Sand Springs, Sapulpa, Muskogee, Okmulgee, and Ada.


Bradfield, H. H., Geology and oil development of Grayson County, Texas. Tulsa Geol. Society Digest, vol. 23, pp. 58-69, 6 figs. The Muenster Arch, Marietta Basin, Ouachita facies and extensive faulting comprise the complex geology of the Grayson County region.


Busch, Daniel A., Deltas significant in subsurface exploration. World Oil, vol. 140, no. 1, January, 1955, pp. 82, 84, 86, 4 figs. Many lenticular sand bodies are of deltaic origin and logically follow deltaic distributory patterns. Isopotential maps are shown to lend great assistance in tracing channel directions.


Culp, Eugene F., Branson, Carl C., and Brewster, Eugene B., Highway geology of Oklahoma. Okla. City Geol. Soc. 1955, 172 pp., index map. Road logs of the major highways of the state, with notations on Oklahoma's historic sites.


Davis, L. V., Geology and ground-water resources of Grady and northern Stephens Counties, Oklahoma. Okla. Geol. Survey, Bull. 73, 1955, 184 pp., 15 tables, 14 figs., map. Stratigraphy of surface rocks, measurement of ground water and data on availability and quality.


Dietrich, Ray Francis, Jr., The Simpson group along the north flank of the Anadarko Basin. Shale Shaker, vol. 5, no. 5, January, 1955, pp. 5-12, 14-16, 17, 18, 21, 7 figs., 4 pls. Stratigraphic and correlation studies of the Simpson group of Oklahoma show its manner of thinning to the north and west. Shale Shaker Digest, 1955, pp. 373-384, 7 figs, 4 pls.


Earlougher, R. C., "Early Nowata, and Olympic (Okla.)". The Oil and Gas Compact Bull., vol. 14, no. 1, June 1955, pp. 65-70. Two outstanding examples of successful waterflood projects in Oklahoma are discussed.


Gardner, Frank J., Oklahoma still springs pleasant surprises. Oil and Gas Journal, vol. 54, no. 28, November 14, 1955, pp. 261, Speakers at a meeting of the Mid-Continent Section of the A.A.P.G. conclude that Oklahoma still offers many a geological mystery to the oil hunter.

Gibbon, Anthony, McAlester Basin promises new pools. World Oil, vol. 140, no. 6, pp. 104-105, map, May, 1955. Developments in the Northwest Oktaha pool in southern Muskogee County, Oklahoma, loom as forerunners for a major oil discovery along the north rim of the McAlester Basin.


Gouin, Frank, Geologists are “working those hills.” World Oil, vol. 140, no. 5, April, 1955, pp. 112-114. Discussion on the present importance of surface field work by the geologists in the search for oil.


Gussaw, William Carruthers, Time of migration of oil and gas. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 5, pp. 547-573, 4 figs., May, 1955. The Oklahoma City field serves as an example to demonstrate that the capacity of traps to hold gas is a criterion for time of accumulation.

Hall, Alvin E., Boost oil recovery 100 percent. Oil and Gas Journal, vol. 54, no. 11, July 18, 1955, pp. 99-102, 4 figs. Describes how utilized operation and pressure maintenance have more than doubled the expected oil and gas recovery in the West Cement Medrano Unit. Includes a description of the lithology and structure of the Medrano sand.

Ham, William E., Origin of dolomite in the Arbuckle group, Arbuckle Mountains, Oklahoma. Proc. Fourth Subsurface Geological Symposium, 1955, pp. 67-73, 8 figs. Carbonate rocks of Cambro-Ordovician age are shown to contain dolomites of three types, each of which originated at different times under different environments.

Ham, W. E., and McKinley, M. C., Geologic map and sections of Arbuckle Mountains (Oklahoma), Okla. Geol. Survey, Map A-2, 1955, colored, scale 0.88 inch equals 1 mile.


Huang, W. T., Occurrences of leucogranogabbro and associated igneous rocks in the Wichita Mountains, Oklahoma. Amer. Jour. Sci., vol. 253, no. 6, June, 1955, pp. 341-357, 2 figs., 2 plates, 3 tables. A detailed discussion of the mineralogy, petrography, and related characteristics of a narrow intermediate zone between gabbro and granophyre of Pre-cambrian age.


Ingalls, Phillip C., Petroleum provinces . . . in the United States and Canada. Oil and Gas Journal, vol. 53, no. 48, April 4, 1955, pp. 122-128, 9 figs. The Anadarko Basin is included as one of the areas in North America offering possible oil-and-gas-bearing rocks which have not been tested sufficiently to establish their producing capacities.


Jeffords, Russell M., Septal arrangement and ontogeny in the propitid corals. Kansas Univ., Paleontological Contributions, Coelenterata, Article 2, no. 15, June, 1955, pp. 1-16, 3 pls, 4 figs. A species of Gymnophyllum from the Wewoka formation in northeastern Oklahoma is illustrated and described.

Kimberlin, Za Grant, Jr., The subsurface geology of Canadian County, Oklahoma. Shale Shaker, vol. 5, no. 8, April, 1955, pp. 5-12, 14-21, 11 figs. Shale Shaker Digest, 1955, pp. 419-433.


Law, Louis L., Development in Texas and Oklahoma Panhandles in 1954. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 6, June 1955, pp. 903-912, 1 fig. The Oklahoma Panhandle had 40 exploratory wells drilled in 1954 as compared with 48 the previous year. Of these, 12 were discoveries or extensions.

Lee, Wallace, Thickness maps can reveal Mid-continent structures. World Oil, vol. 141, no. 2, August, 1955, pp. 77-80, 82, 10 figs. Isopachous maps showing great thicknesses of rocks have revealed structural movements in Rocky Mountain region. They also can reveal milder structural warpings of Mid-continent, where rock sequences are thinner and deformation is of lower order.

Levorsen, A. I., Where is tomorrow’s oil coming from? Oil and Gas Journal, vol. 53, no. 48, April 4, 1955, pp. 129-133, 4 figs. An “educated guess,” based on geological evidence, as to where we will be producing our oil in 1975-1980.


McCaslin, John C., Here’s where you’ll be drilling tomorrow. Oil and Gas Journal, vol. 54, no. 27, November 7, 1955, pp. 175-177. Southern Oklahoma and southeastern Beaver County are among a number of areas named in which important development and confirmation work is expected to increase in the next few months.
McCaslin, John C., Hugoton embayment play extends through three counties. Oil and Gas Journal, vol. 54, no. 31, December 5, 1955, pp. 183-184, 1 fig. Southeastern and southwestern Beaver County, Oklahoma, show exploration promise after busy year in the Hugoton Embayment of the Anadarko Basin.


McCaslin, John C., Two areas share October limelight. Oil and Gas Journal, vol. 54, no. 30, November 28, 1955, pp. 148-150. West Short Junction field in Cleveland County and recent strike in Greenville area, Love County, are current focal points of Oklahoma development interest.

McCracken, Earl, Correlation of insoluble residue zones of upper Arbuckle of Missouri and southern Kansas. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 1, January, 1955, pp. 47-59, 3 figs. The standard pre-St. Peter geologic column of Missouri, based on residue zones, may be used in Kansas as well as in other Mid-Continent states.


Malloy, John M., Forty-seventh annual report of mines and mining of Oklahoma. Dept. of Chief Mine Inspector, fiscal year ending June 30, 1955, 26 pp. Production reports, location, and
occurrence of coal, lead and zinc ore, gypsum, and rock asphalt in Oklahoma.


Melton, Frank A., Photo-geology in “flatland” regions of low dip. Shale Shaker, vol. 6, no. 3, November, 1955, pp. 5-8, 11-12, 15-20, 39, 15 pls. Basic assumptions of structural control of drainage patterns and superposition of drainage are shown to underlie successful geological interpretation of aerial photographs.

Merritt, John W., How to avoid costly errors in gamma ray surveying. World Oil, vol. 141, no. 2, August, 1955, pp. 84, 87-88, 90, 2 figs. Radiation equipment can be used successfully in the search for oil, but the operator must use suitable instruments, proper surveying methods, and professional interpretation. (Geological cross-section of area in Kay County).


Miller, C. R., Jr., and Evans, C. B., Porosity determination from microlog and side wall cores. Proc. Fourth Subsurface Geological Symposium, 1955, pp. 41-48, 6 figs., 2 charts. Oklahoma formations are used to compare porosity from side wall cores and porosity computed from micrologs.


Morrissey, Norman S., 1947—424 days: 1955—144 days . . . that's how companies have reduced drilling time at Eola. Oil and Gas Journal, vol. 53, no. 44, March 7, 1955, pp. 115-117. A discussion of the complications involved in drilling at Eola, Garvin County, Oklahoma and how complex geology is the answer in explaining many of the difficulties.

Morrissey, Norman S., Acid fracturing puts this field in the black. Oil and Gas Journal, vol. 54, no. 32, December 12, 1955, pp. 82-84, 4 figs., 2 tables. Improvement of drilling and comple-
tion techniques enables the West Short Junction field to be a profitable limestone producer in Oklahoma.


Morrisey, Norman S., New pay zone for southern Oklahoma. Oil and Gas Journal, vol. 54. no. 5, June 6, 1955, p. 171. Thick porous dolomite zones in the Arbuckle group of southern Oklahoma are untested but potential producers.


Morrisey, Norman S., and McCaslin, John C., This year should be good for Oklahoma . . . unless new state laws curb deep drilling. Oil and Gas Journal, vol. 53, no. 42, February 21, 1955, pp. 80-81. An outline of the probable areas of deep drilling emphasis in the future if state legislation does not reverse the present trend to deeper drilling in Oklahoma.


Morrisey, Norman S., and Walper, Jack L., Tight folds should harbor more than one oil trap. Oil and Gas Journal, vol. 54, no. 2, May 16, 1955, pp. 192-195, 9 figs. A geological study shows that reverse faults due to horizontal compression can develop from opposite directions. (Eola pool in Garvin County, Oklahoma).

Morrisey, Norman S., and Walper, Jack L., Why subthrust production is promising. Oil and Gas Journal, vol 54, no. 10, July 11, 1955, pp. 116-118, 4 figs. Outlines the geological data compiled from the Gotebo area and the Eola field, which indicate that the complex trends, along which these others produce, offer many more fields than those already discovered.

Murray, A. N., Growing vegetation identifies formations. World Oil, vol. 141, no. 1, July, 1955, pp. 102-104. Field geologists can be aided by recognizing the relationship between plants and the formations on which they grow.

Oakes, Malcolm C., The upper limit of the Seminole formation in Oklahoma. Okla. Acad. Science, Proc. for 1953, vol. 34, January, 1955, pp. 148-149. The upper limit of the Seminole formation in the south is shown to be the base of the DeNay limestone, in the north, the base of the Checkerboard; however, the Checkerboard and DeNay are not continuous, but occupy virtually the same stratigraphic position.


Potter, Paul Edwin, and Siever, Raymond, Regional crossbedding and petrology as source area indicators. Science, vol. 122, no. 3178, November 25, 1955, pp. 1021-1022, 1 fig. Studies of basal Pennsylvanian sediments from the Mid-Continent (basins) and other regions reveal source areas.


Ross, Clarence S., Provenience of pyroclastic materials. Geol. Soc. Amer., Bull., vol. 66, April, 1955, pp. 427-434, 1 fig. Recent studies of rhyolitic and pyroclastic materials and in particular of welded tuffs and bentonites show that they occur over wide areas and in volumes which greatly exceed earlier evaluations.

Roth, Robert, Paleogeology of Panhandle of Texas. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 4, April, 1955, pp. 422-443, 17 figs. Lithologic character and orogenic environment of each time stratigraphic unit are described and
correlated with units in adjacent Oklahoma. The tectonics and sedimentation are also discussed.


Sloss, L. L., Facies studies ... an important tool in oil finding. Oil and Gas Journal, vol. 54, no. 19, Sept. 12, 1955, pp. 111-114, 5 figs. Pennsylvanian sands of Oklahoma are included in a facies study of several rock systems throughout the United States.

Smith, Earl W., Subsurface geology of eastern Kay County, Oklahoma; and southern Cowley County, Kansas. Shale Shaker, vol. 5, no. 9, May, 1955, pp. 5-12, 14-17, 19-21, 24, 11 figs. 1 table. Shale Shaker Digest 1955, pp. 434-448, 11 figs. 1 table.

Stirton, R. A., Two new species of the equid genus Neohipparion from the middle Paleozoic Chihuahua, Mexico. Jour. Paleontology, vol. 29, no. 5, Sept. 1955, pp. 886-902, 7 text-figs. Two new closely related species of the equid, genus Neohipparion, N. floresi, N. sp., and N. arellanoi, N. sp., from the middle Pliocene are described. These species show relationship to Neohipparion eurystyle (Cope) from the panhandle of Texas and Oklahoma.

Swain, Paul, Natural-gas storage booming. Oil and Gas Journal, vol. 54, no. 2, May 16, 1955, pp. 118-121. Several depleted pools in Oklahoma are among 170 throughout the nation being used for surplus natural gas storage.

Tanner, William F., Pediments in areas of falling base-level. Shale Shaker, vol. 6, no. 2, Oct. 1955, pp. 7-10, 13, 16-18. "Open basin" pediments found in Kiowa County, Oklahoma are illustrated and discussed.


Tihen, Joe A., A new Pliocene species of Ambystoma, with remarks on other fossil Ambystomids. Contributions from the museum of paleontology, Univ. of Mich., vol. 12, no. 11, Oct. 7, 1955, pp. 229-244, 1 pl., 1 fig. An unknown species of the Buis Ranch fauna is found in Beaver County, Oklahoma.


account of the circumstances surrounding the current oil production from shallow Permian sands in the old Chickasha gas field.


Weirich, T. E., Regional diagnosis of oil accumulation. World Oil, vol. 140, no. 7, June, 1955, pp. 180-182, 4 figs. Study of geologic units in eastern Kansas and eastern Oklahoma indicates oil accumulation is restricted to a sedimentary shelf. Concept offers basis for judging regions where no tests have been drilled.


A survey by the Structural Clay Products Institute reveals that thirty-three percent of the one-family houses being built today have brick walls, representing an increase of 14% over last year's figures (Ceramic Age, Dec. 1955). It is hard to beat a good brick home. Twelve brick and tile plants are located in Oklahoma, operating in Creek, Custer, Garfield, Greer, Oklahoma, Pittsburg, Pontotoc, Seminole, and Tulsa Counties.

A.L.B.
NEW LIGHTWEIGHT AGGREGATE PLANT AT TULSA

A new lightweight aggregate plant, using as raw material a shale that expands and bloats on heating, was put in operation in October, 1954, by the Chandler Materials Co. of Tulsa. This plant is at Garnett, about 12 miles east of Tulsa, on the site where Chandler Materials Co. for many years has been producing crushed limestone from the Oologah formation. The company also is a producer of sand from the Arkansas River, and thus it now is able to supply its concrete block and pipe plant in Tulsa with all the required aggregates.

A description of the expanded shale operation is given in the October, 1955, issue of Rock Products (vol. 58, no. 10, pp. 198-200, 201). According to this description the shale is expanded in a 6-foot by 70-foot gas-fired rotary kiln, rotating at 2 rpm, at a temperature of about 2,300° F. Expanded clinker is cooled 24 hours and then screened into three products, the finer two of which are used in the manufacture of lightweight concrete blocks. Daily production is 120 cu. yds., nearly all of which is used by the company. Already the company is considering erection of a second kiln because of expanding markets.

James M. Chandler, vice-president and secretary, in charge of expanded clay aggregates for the company, reports that the shale is obtained from the McNabb Coal Co. pits near Catoosa in southwestern Rogers County, where McNabb has extensive coal-stripping operations. The shale used for lightweight aggregate is in the Senora formation of middle Pennsylvanian age, and lies above the Broken Arrow (Crowebug) coal. Mr. Chandler reports that although this shale makes excellent lightweight aggregate, new sources are being investigated closer to the Garnett plant, including the Labette shale, which underlies the Oologah limestone at the company quarry.

The Oklahoma Geological Survey congratulates the Chandler Materials Co. on their new and important development in the field of nonmetallic products. The Survey is proud to have played a part in this development by conferring with company officials early in their investigation of raw materials, and by recommending prospective sites. Results of investigations on bloating properties of shales in eastern and central Oklahoma have been published and are available as Oklahoma Geological Survey, Mineral Report 24, "Lightweight Aggregate from Certain Oklahoma Shales," by A. L. Burwell, September, 1954. This report is on sale for $0.35 by mail or over the counter at the Survey office on the campus of the University of Oklahoma at Norman.

Chandler Materials Co. is the second producer of lightweight aggregate from expanded clay or shale in Oklahoma. Oklahoma Lightweight Aggregate Co. was the first producer in the state, opening a clay pit and an expanding plant at Choctaw, Oklahoma County, in 1953.

W.E.H.

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