State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

OREGON CLAY PRODUCTS COMPANY (brick)

Unclassified District
Malheur County

Owner-Operator: Oregon Clay Products, Inc., P. O. Box 507, Vale, Oregon. This is an Oregon Corporation (1946) with Otis Williams, president, Ross Butler, manager and Bill Elfering, plant foreman.

Area & Location: The plant is located on a 16½ acre tract of deeded land situated in T 18 S, R 45 E, Section 21. It is adjacent to U. S. Highway 20 and approximately one mile east of Vale.

History: Hand-molded, sun-dried bricks were manufactured at this site for local consumption during the fore part of the century. Otherwise the clay was unused til 1946, atwhich time the present company tested the ground and erected its plant. Original officials were Attorney Robert Lytle, president, Mr. Ed Hendrix, manager and Dennis Hon, foreman.

Geology: The occurence was explored with forty 8" holes, thirty nine of which were sunk from 10 to 12 feet and one of which was sunk to a depth of 28½ feet. All holes reportedly showed solid, gravel free clay. The pit dug in the course of subsequent operation of the property has attained a depth of approximately 11 feet and has disclosed the top four feet of the occurence to be what the operators class as "heavy" clay. The next four foot section is composed of "balanced" clays while the lowest section tends to con-

tain an excess of sand. All three types are mixed for plant feed as the lowest sandy clay tends to balance the heavier surface clay.

The clay occurence as a whole occurs on the flank of the drainage channel of the Malheur River. The indications are however, that the occurence represents soils washed from the steep slopes of the Pliocene sediments (Idaho fm) exposed on Vale Butte rather than sediments brought in by the river from more distant sources. This conclusion is suggested by the absence of gravel interbeds, by the position of the occurence with reference to the butte, and by evidence on the butte of widespread, but now dormant, hot spring activity which could have resulted in the formation of appreciable amounts of hydrothermally formed clay when they were active.

Operation: Since its inception in 1946, the company has been in continuous production, burning between one million and a million and a half salable bricks each season as a general rule, excepting for 1952 during which year a record three million bricks were produced. Pit operation and molding is carried on for three to three and a half months on the average beginning around June but the building of kilns and burning generally continues on for a couple months after molding has been discontinued. For this reason the payroll fluctuates from between 12 and 25 workmen for six months of the year and then tapers down to a maintainence crew for the rest of the year.

Several types of brick are produced but standard com-

mon, standard tapestry, Norman (4" x 12" x 2") and Flash (Standard tapestry with yellow color) have proved most popular. Hollow 4" x 8" x 12" tile has been produced at times.

Equipment: The present facilities of the plant are as follows:

1. An Oliver farm tractor with a 1½ yard hydraulic carry-all is used for all digging in the pit and for transport to the plant.
2. Rolls, a set of 3 x 6' Universal Screens, ½" mesh, and a hammer mill (Williams Patent Crusher and Pulverizer, St. Louis) direct-coupled to a 20 h.p., 3-phase, 220 volt Allis Chalmers motor, constitute the preliminary processing unit.
3. Conditioning and molding is accompolished in a Fate-Root-Heath Hummer pug mill, powered by belt drive with a 125 h.p., 3-phase, 220 volt General Electric motor. The output experience with this machine is around 40,000 units of standard tapestry brick per day. A pre-pug conditioner would increase the capacity considerably. The company has a pre-pug unit but it is not presently installed in the circuit.
4. Cutting is done with a Champion Steel Wire Cutter, 11 standard brick per cut capacity, or 8 Norman, powered by a 3 h.p. 3-phase Century v-belt drive motor.
5. Molded bricks are removed for pallet stacking by a twenty foot off-bearing belt, independently powered with a small electric motor.
6. Pallets of two sizes are used, the small with a capacity of 350 Standard bricks and the large with a capacity

of 350 Norman units.

7. Two Hyster VT 40 lift trucks are used for transporting green bricks to the dry yards and kilns.

8. Drying facilities consist of one 24 x 150 foot tin-roofed drying shed and a three quarter acre open yard with a 500,000 unit storage capacity.

9. Burning facilities include three basic coal-fired, hand-fed Scove-type kilns with a capacity of 250,000 standard bricks each. One of these is of mortared brick construction and the other two are of mudded brick only. Under normal operating conditions a kiln can be loaded, or "built" in a week.

Report by: N. S. Wagner-February 25, 1960

Date of examination: February 19, 1960

Informants: Messrs. Butler and Elfering

This report supersedes previous reports

by NSW, 4-17-1946 and 12-5-1947

Oregon Clay Products, Inc. — NAME

OLD NAMES

Clay-Brick — PRINCIPAL ORE

MINOR MINERALS

18 S — T; 45 E — R; 21 — S

PUBLISHED REFERENCES

Malheur ..... COUNTY

Unclassified ..... AREA

..... ELEVATION

On Highway #20 at Vale ..... ROAD OR HIGHWAY

..... DISTANCE TO SHIPPING POINT

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S) Otis Williams, president — Address .....

Ross Butler, manager — .....

Bill Elfering, foreman — .....

..... — .....

OPERATOR Oregon Clay Products, Inc. — Box 307, Vale, Oregon

Name of claims	Area	Pat.	Unpat.
16½ acres deeded			

Name of claims	Area	Pat.	Unpat.

EQUIPMENT ON PROPERTY See report

MI-21

F.W.L

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

Oregon Clay Products, Inc. (To accompany report by N. S. W. April 17, 1946)

Although the ground has been thoroughly and carefully tested as far as the volume of the deposit is concerned no significant testing has been done regarding the physical and firing properties of the clay. Much reliance is being placed in the "judgement" of several experienced brick men. Plasticity is supposedly satisfactory and shrinkage is presumed to be. Deppe, who incidentally is an experienced operator and former owner of this plant in Boise, where it was in operation until purchased by this company and present owner of a larger new plant in Smithfield, Utah, claims the clay will produce A.S.T.M. class B bricks.

Dennis Hon, who will be acting superintendant after the plant is set up, is a mason by trade and is not otherwise experienced in the field.

Slack coal is to be used in firing and in this connection an order for 5 cars was placed just prior to the strike. One car (sufficient for one kiln firing) has been delivered and two loaded, but frozen on the siding pending release.

Mr. Lytle, President of the company, is an attorney in Vale. He says that they plan to include pipe and tile products eventually and also, that depending on the success of their venture, they are considering installing a large, fully modern $250,000 plant.

A grab sample (GB 51) of this clay taken from a dozer cut accompanies this report.

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State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

OREGON CLAY PRODUCTS COMPANY (brick)

Unclassified District
Malheur County

Foreword: This report is Supplemental to the report of the same title by N.S.W., April 17, 1946, and this report should be regarded as the most comprehensive due to additional information available to the writer and to the correction of some mis-information included in the original report.

Owner-Operator: Oregon Clay Products, Inc., Vale, Oregon. This is an Oregon corporation (1946) with Atty. Robert Lytle, Vale, Oregon as president. Manager is Mr. Ed. Hendrix and superintendent is Dennis Hon.

Location: T 18 S; R 45 E; Section 21; The property is on US highway 28 and ½ mile from the Union Pacific Railroad at Vale.

Area: 16½ acres of deeded land and options on an additional 60 acres.

History: Clay was worked here by individuals about 30 years ago at which time hand molded, sun dried bricks were made for local consumption. The Oregon Clay Products, Inc., tested the deposit and set up the present plant in the spring of 1946. Production to date from this plant has been limited to bricks only.

Geology: Forty 8" test holes were sunk by this company on the 16 acre tract of deeded land. These holes were sunk to depths of 10 and 12 feet. One hole went to a depth of 28½ feet.

All holes reportedly showed solid, gravel-free clay. The pit dug in the course of subsequent operation of the property has attained a depth of about 11 feet and has disclosed the top 4 feet to be "heavy" clay; the next 4 foot section is classed by the operators as a balanced, fine-grade clay; the lowest section tends to contain an excess of sand. All three types are mixed for plant feed as the lowest sandy clay tends to balance the heavier suface clay.

Reference to the text and map of U.S.G.S. Bulletin 431, entitled Gas and Oil near Vale, Oregon and Payette, Idaho, by C.W. Washburne indicates that the clay occuring here is an integral component of the deposit Payette formation. This formation is a fresh water lacustrine/of Tertiary age.

Equipment: An hydraulic lift carry-all tractor is used in the pit for excavation and delivery of clay to a belt conveyor. Processing unit consisting of rolls and a vibrator screen are on this conveyor line. The clay thus processed is discharged into a hopper which feeds directly into a pug mill. The pug mill charge feeds directly to a Brewer No. 9 Brick Machine with a capacity of 25,000 bricks per 8 hour shift. This produces a stiff mud type brick which is wire cut to standard size by semi-automatic cutters. All plant machinery is electrically powered. Pallets of raw brick are stacked in the yards for open air drying with hand carts used for transportation from the cutters and to the kilns. Kilns are all updraft and fired by slack coal. The battery includes one permanent kiln of 340,000 brick capacity; one semi permanent kiln

of 315,000 brick capacity; and two temporary kilns of 217,000 and 77,000 brick capacitites.

General Information: The plant is well situated with respect to transportation. Precipitation is not great in this area, but is sufficient during the winter and spring months to render operations impracticable due to mudiness in the pit.

Economics: No figures for proven and probable clay reserves have been prepared and are available to offer here other than the 40 holes sunk on the 16½ acre tract, nor is the distribution of these test holes over the tract mentioned, known by the writer. That a potentially large yardage of clay can in all probabilities be developed here, however, seems assured judging from surface indications. Experience gained during the past two seasons of operation have demonstrated that face and common brick of very good quality can be produced and the company plans to modernize the plant. Along this line, a new and modern Faith-Ruth-Heath Brick Machine has already been ordered and is scheduled for installation as a replacement for the old Brewer Machine. Delivery of this machine in time for installation for the 1948 season is reportedly assured. Contemplated also is the immediate aquisition of Hyster unit for yard transportation of raw bricks to the curing stacks and kilns. Under consideration for eventual installation is an auger feed to replace the pit to plant conveyor, an improved pug mill and curing sheds utilizing waste heat from the kilns.

Production of salable common and face brick has amounted to

1,321,900 units for 1947 according to the records, and an estimated 1,027,000 units for 1946. The 1946 production figure is appreciably lower than that (1,600,000 units) given to this department during the course of the Non-Metallic Mineral Production Survey, but the new figure given here is regarded by the management as being a reasonably accurate estimate.

Whole brick alone has been produced so far, the company plans to roofing tile to their line of products.

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Report by; N.S. Wagner
Date of exam; Dec. 3, 1947
Date of report Dec. 5, 1947
Informant; Ed. Hendrix, Mgr.

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

Oregon Clay Products Inc.,

Unclassified district
Malheur County

To accompany Supplemental Report #1 under the above name and by N.S.W. Dec. 5, 1947

As of April 1st, 1946, Mr. Ed. Hendrix, former county assessor for Malheur County, was taken into the company and given the capacity of manager. This leaves Dennis Hon as plant superintendent Before this, Hon was more or less manager as well as superintendent.

Hendrix has drawn up and inaugurated the use of a system of daily record keeping for many important phases of plant and pit operations. Such was wholly non-existant heretofore.

While Hendrix has no background of knowledge or experience in the brick business, he was formerly John Deere machinery representative and is acquainted with the machinery game in general, and he is going ahead about taking hold of the brick business in an admirable and business-like manner. I mention this for Portland office information as the company is applying for an R.F.C. loan and the department may be contacted by the R.F.C. accordingly.

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Report by; N.S.W. Dec 5, 1947