

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

Report by H. M. Dole
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Carlton (Tucker) Pumice Quarry

Unclassified Mining Dist.
Jackson County

Lessee:
Pacific Portland Cement Co.

Gold Hill, Oregon

Owner:
Nion Tucker ✓

Prospect, Oregon

Area:
5 acres leased. Full extent of deposit unknown. Patented land.

Location:
West $\frac{1}{2}$ of SE $\frac{1}{4}$ of NE $\frac{1}{4}$ Sec. 23, T33S, R1E. The deposits border the north and west side of State Highway 62 one tenth mile southwest of Lost Creek. The quarry is 12 miles southwest of Prospect and 10 miles northeast of Trail.

History:
The quarry was opened in 1930 when the property was owned by Mr. T. A. Carlton. It was leased to the Pacific Portland Cement Co. for 10 years and in 1940 was re-leased for 10 years. In 1945 the property was sold to Mr. Nion Tucker. Production was sporadic up to 1942 at which time it ceased altogether. Total production is unknown but must amount to several thousand tons. The Pacific Portland Cement Co. plant at Gold Hill has been the sole user.

Topography:
Elevation 1630.

The pumice occurs as a bench or terrace approximately 60 to 70 feet above the cultivated terraces of the Rogue River. It abuts against the lavas and agglomerates which form this part of the Cascades.

Development work:
See map.

One open cut in the shape of a mitten.

Maximum measurements would be approximately 150' long by 120' wide by 45' deep.

Geology:
In his "Reconnaissance Geologic Map of the Butte Falls Quadrangle" Wilkinen has mapped this area as Older Basalt Flows of the Tertiary Volcanics. He shows an agglomerate or tuff underlying the basalts and exposed in the small valley formed by Lost Creek, a stream a few hundred feet northeast of the quarry.

In U. S. Geological Survey Bulletin 875, "Nonmetallic Mineral Resources of Eastern Oregon", B. N. Moore classifies this deposit as belonging to

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the Older Pumice of Crater Lake and gives for the mechanical analyses of the finer portions of a sample from this quarry the following: 64-32 mm.-- 3.4%, 32-16mm.-- 1.4%, 16-8 mm.--0.9%, 8-4 mm.-- 1.4%, 4-2 mm.-- 2.0%, 2-1 mm.--5.4%, 1-0.5mm--6.5%, 0.5- 0.25 mm. 12.6%, 0.25- 0.125 mm. 13.0%. less than 0.125 mm.--55.4%. Moore also gives a chemical analysis of a sample of lump pumice of the Older Pumice.

Howell Williams in his map on the "Distribution and Thickness of Crater Lake pumice" considers the pumice of this area as part of a pumice flow (Nzee's Ardents).

A composite section of the quarry is as follows (all percentages are estimated):

	Feet	Inches
1. Pumiceous soil		3
2. Pumice and some soil. Pebbles up to 1 inch. Fines..99%	2	2
3. Pumice Pebbles with cobbles up to 20" in diameter -19%. Fines--80%. Charred wood-1%.....	20	0
4. Well rounded pumice pebbles from 1"-10" in diameter -85%. Charred wood (Pieces up to 12" x 20") -3-4%. All in a pumiceous soil matrix- 11-12%.....	10	0
5. Well rounded pumice pebbles up to 8" in diameter in a matrix of fine pumice. Base not exposed.....	12	4
Total.....	44	5

There is a pronounced break in the section between 3 and 4. This is due to a higher degree of rounding, the uniformity of size and greater percentage of pebbles, and the higher percentage of charred organic matter of the material of 4 in contrast to 3.

Although the base of the section was not seen it is not likely that it attains a depth much greater than that recorded. Moore gives 60 feet as the maximum depth of pumice fall in the Rogue Valley. Also north of the quarry and on the bench formed by the pumice there are occasional hillocks capped with sizeable pieces of basalt float. It is very possible that these mark contacts with the underlying basalt a very short distance below the surface. In any event an irregular surface below the pumice would be expected.

Laterally the pumice of this deposit should extend, with occasional gaps of course, northeast to Crater Lake proper/ Both Moore and Williams show it thus and outcrops along the highway indicate it. Southwest along the highway pumice is seen for approximately 1000 feet; this is the continuation of the flat in which the quarry is located. Beyond this, outcrops along the highway become scarce and are not seen after approximately one mile. Therefore it is thought that this quarry marks the first accessible deposit from Medford of the pumice flow from Crater Lake.

Mining is very simple. A bulldozer is used to push the pumice down to the mouth of the cut where it is put into the storage bin by a continuous bucket elevator. The buckets are 10" x 16". Capacity of bunker is unknown (see map for size). Large "cattle" trucks are loaded at the bunker for transportation of the rock to Gold Hill. Fifteen to twenty tons are

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hauled each load. One truck can make two trips a day.

Remarks:

According to Mr. C. W. Martin of the Gold Hill plant the pumice is used as an admixture in the preparation of a "Special" plaster cement which they formerly produced. Due to governmental restrictions and the great demand for ordinary cement the plant is not producing "Specials" at the present. Therefore they are not operating the quarry. The value of this deposit as an admixture for cement is not only for the pumice but for the charred organic matter which is mixed with it. The proportions of pumice to charred organic matter are such that it not only gives added strength to the cement but it also makes it easier to apply when made into a plaster.

References:

1. Reconnaissance Geologic Map of the Butte Falls Quadrangle, by E. W. Wilkinson and others.
2. U. S. Geologic Survey Bulletin 875.
3. Map of the Distribution and Thickness of Crater Lake Pumice, by Howell Williams.

Informants:

Mr. T. A. Carlton
Mr. C. W. Martin