

# State Department of Geology and Mineral Industries

702 Woodlark Building  
Portland, Oregon

HAY CREEK PUMICE SAND

Jefferson County

*Recorded*

OWNER Fred W. Wickman, Hay Creek Ranch, Madras.

Introduction: Three deposits of a fine-grained pumice sand occur on Hay Creek Ranch 9 to 16 miles east of the railroad at Madras by gravelled road. The increased use of such light-weight material as an aggregate for concrete building blocks makes these deposits of potential value. Although pumice sand is abundant in central Oregon, these deposits are farther north than other known deposits of any size. The three deposits will be described separately.

Number 1.: A pit exposing a 15-foot section of sand has been dug next the main Hay Creek-Madras road at a point  $\frac{1}{4}$  mile west of the Willowdale road junction, and  $\frac{1}{2}$  mile west of the Hay Creek-Ashwood road junction, about 9 miles from Madras, in the  $W\frac{1}{2}$  of the  $NE\frac{1}{4}$  of sec. 21, T. 11 S., R. 15 E. The deposit occupies an area on the northeast side of a north-trending rimrock spur, and is crossed by the road. The sand is plastered against the hillside over a horizontal distance of at least 400 feet, and a slope distance of over 200 feet. The base is exposed in the quarry face, and the 15 foot section there may represent the maximum thickness, which undoubtedly feathers out towards the edge of the deposit. The sand is wind sorted to a degree, having a fine bedding. Sample No. 1 was taken from the lower 6 feet of the 15-foot section.

Number 2.: The bank along the Hay Creek Grizzly road is plastered with sand at a point 1 mile southeast of Hay Creek Ranch, in the  $W\frac{1}{2}$  of the  $NE\frac{1}{4}$  of sec. 21, T. 11 S., R. 15 E. The sand extends for

not over 50 feet up the west side of the valley wall, and occurs in two patches a hundred yards apart. One deposit is about 300 feet long, the other not much more than 50 feet long. Four hand auger holes drilled near to and 20 feet above the road indicate that the deposit is not over 4 feet thick. Sample No. 2 was taken with an auger.

Number 3. A fairly extensive but thin deposit of sand occurs on the north side of west trending ridge in the S $\frac{1}{2}$  of sec. 30, T. 10 S., R. 16 E. The deposit is reached by a road  $\frac{3}{4}$  mile long running northwest from the divide midway between Hay Creek and Ashwood. Well sorted sand at least 3 feet thick covers a gently north-sloping area of perhaps 3 to 5 acres. A sample of surface sand is represented by No. 3.

Origin of the sand: The pumice sand is derived from explosive action either of Crater Lake or Newberry Crater volcanoes.

It has been wind-drifted by the prevailing southwesterlies, and has collected on the northwesterly lee slopes of favorable ridges and spurs, where it has been preserved from erosion on hillside localities away from stream channels.

Laboratory tests: Sieve analyses with standard Tyler screens give results summarized in the accompanying histograms (fig. 2). It may be seen that all three samples have very little material larger than 14-mesh, and that less than 20 percent of the material is smaller than 65-mesh in size. Sample 3 is better sorted than the others, having over 70 percent in the 14 to 35-mesh range.

Report by: John Eliot Allen  
August 20, 1947

Deposit  
No.

Tyler  
screen  
mesh

- +10
- 10+14
- 14+20
- 20+28
- 28+35
- 35+48
- 48+65
- 65+80
- 80

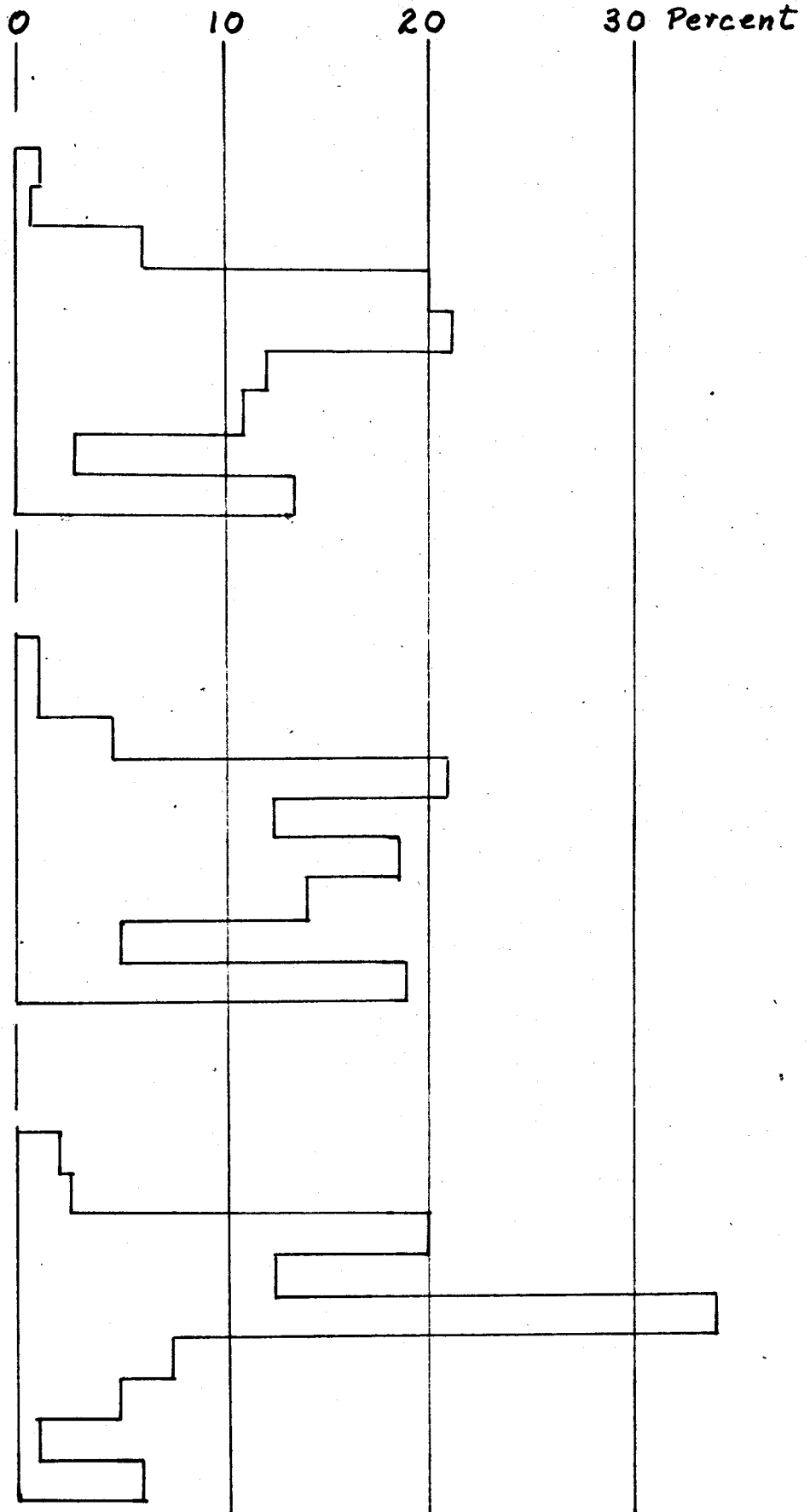
#1

#2

#3

As  
above

As  
above



HISTOGRAMS OF HAY CREEK PUMICE SAND

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HAY CREEK FUMICE

Jefferson County

*Revised*

Mr. Wickman had an engineer make a tonnage estimate of the yardage of sand present in Deposits 1 and 2, with results in the order of hundreds of thousands of yards. A number of holes had been drilled on Deposit 1, and the extent of the deposit surveyed.

Taking the same basic data from the holes and measurements of area as those used by the engineer (and I believe these figures may be generous in places) I could only arrive at figures in the order of low tens of thousands of yards.

Deposit 1:            200' x 400' x 14' : 1,120,000 cu. ft.

$\frac{1,120,000}{27}$  : 41,481 cubic yards.

Deposit 2:            200' x 200' x 3' : 45,000 cu. ft.

$\frac{45,000}{27}$  : 1,670 cubic yards

Deposit 3:            800' x 200' x 3' : 480,000 cu. ft.

$\frac{480,000}{27}$  : 18,000 cubic yards

CONFIDENTIAL

John Elliot Allen  
20 August 1947

*Ray Creek Pumice Sand*

*Pumice Sand*

NAME	OLD NAMES	
10'S	16 E	30
11 S	15 E	21
T	R	S

PRINCIPAL ORE

MINOR MINERALS

PUBLISHED REFERENCES

..... *Jefferson* ..... COUNTY

..... *Unclassified* ..... AREA

..... ELEVATION

..... ROAD OR HIGHWAY

..... DISTANCE TO SHIPPING POINT

MISCELLANEOUS RECORDS

PRESENT LEGAL OWNER (S) .....

.....

.....

.....

Address .....

.....

.....

.....

.....

OPERATOR .....

Name of claims	Area	Pat.	Unpat.

Name of claims	Area	Pat.	Unpat.

EQUIPMENT ON PROPERTY

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Deposit 1:  $200' \times 400' \times 15' = 1,200,000$  cu. ft.  
 $\frac{1,200,000}{27} = \underline{45,000}$  cubic yards.

Deposit 2:  $300' \times 50' \times 3' = 45,000$  cu. ft.  
 $\frac{45,000}{27} = \underline{1670}$  cubic yards

Deposit 3:  $800' \times 200' \times 3' = 480,000$  cu. ft.  
 $\frac{480,000}{27} = \underline{18,000}$  cubic yards

John Eliot Allen  
20 August 1947