

Multnomah County

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## STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

1069 STATE OFFICE BUILDING  
PORTLAND 1, OREGON

March 1, 1965

Mr. Robert S. Baldwin, Planning Director  
Multnomah County Planning Commission  
Room 403 County Court House  
Portland, Oregon 97204

Dear Mr. Baldwin:

We are in receipt of your letter of February 24, requesting an investigation of the jetty stone prospect at Thompson Villa along the Sandy River.

Mr. Hollis Dale, Director of this department, has given me this assignment. The report has been based on a visual on-site investigation and my personal opinions regarding the jetty stone possibilities.

Some time ago a consulting geologist, Robert J. Deacon, conferred with me concerning this locality for jetty stone, and I have heard that he has made a study on it. You may wish to confer with him.

Good jetty stone is indeed in short supply. The abundant need for this product all along the coast and the use of smaller stone as river bank protection has doubled the cost for this material which is borne solely by the taxpayer.

The subject area has exposed a high vertical cliff of basalt which, from all appearances, has the unique coarse jointing needed to produce jetty stone. The talus slope at the foot of the cliff contains many usable stones as well. The body of rock from which the talus boulders came and which would be the main source of jetty stone lies high on the slope, and its lower contact with the Troutdale gravels is at the break of the slope just below the vertical basalt cliffs. Overlying the lava is a covering of soil which does not appear to have excessive thickness which would be a deterrent to mining.

We have cruised much of the possible areas, here and elsewhere, where jetty stone might be found in usable locations and have found none which appears to compare with that in the Sandy River area. The only other possibility would be along Broughton Bluff adjacent to the Columbia River Highway.

Eleven acres would seem small for a major jetty stone quarry, but this would depend partly on the rate at which material can be removed and where it will be placed prior to use. As the quarrying progresses more and more space will be available for equipment and storage at the site. It would be my opinion that 11 acres of jetty stone producing area is too small to be interesting to a contractor unless the area could be extended. The deposit appears to extend a short distance up the Sandy River, but it probably underlies much of sections 29, 30, and 31, T. 1 N., R. 4 E., the Broughton Bluff area.

To the casual observer it would appear that jetty stone can be obtained from a number of quarries. The fact is that seldom can a quarry exist as a jetty stone quarry alone because of the large tonnage needed to produce a small amount of sizes large enough to qualify. The larger the average blocks the better the quarry, other things considered equal.

A quarry which is used primarily for crushed rock will not produce jetty stone even if the joint pattern is large because the large amount of blasting powder used for such operations will fracture the rock and make it unusable over a wide area. In making jetty stone, only small charges are used to lift individual blocks of rock loose. They are then pried or dug out and loaded onto a trailer.

You are to be commended for your foresight in considering zoning to allow natural resources to be mined before housing development has taken over an area. For the present, housing can be directed into nonmineral areas while the location of the mineral cannot be changed. In most cases the mining can be carried on in such a way as to leave the site in as good or even better condition for later use.

This report is brief, however we hope it will be useful to you. If we can be of further assistance to you please feel free to call on us.

Sincerely,

Herbert G. Schlicker  
Engineering Geologist

HGS:lk