

## MEMORANDUM REPORT

JANDU CLAIM  
(diatomite)

Linn County

### Owner:

Mr. C. W. Campbell, Clackamas, Oregon

### Location and area:

The Jandu Claim is located on the east side of the North Santiam River in sec. 21, T. 11 S., R. 7 E. Diatomite is exposed on the claim in a road cut on the east side of the North Santiam River Highway about eighteen miles southeast of Detroit. According to Mr. Campbell the western boundary of the claim extends in a northeasterly direction along the east bank of the North Santiam River.

### General:

The diatomite exposed on the Jandu Claim is white to light gray in color and is a firm, fine variety with conchoidal fracture. It is massively bedded with no bedding planes visible in the outcrop. The light-gray colored diatomite was observed in one part of the outcrop at the base of the deposit. Below the gray diatomite brown mudstone was noted. Also, two nearly vertical dikes of the brown mudstone were observed in the outcrop. Several irregular lenses of greenish gray tuff occur in the top of the diatomite in the northeast corner of the outcrop and a few thin irregular gravel lenses were also noted. A vertical thickness of nine feet of the white diatomite is the greatest thickness exposed.

Due to slide material covering parts of the outcrop and to the lack of bedding, accurate determination of the attitude of the deposit was impossible. One of the tuff lenses dips  $24^{\circ}$  south,  $20^{\circ}$  west and strikes south  $70^{\circ}$  east. Expensive test drilling of the property would be necessary to determine the attitude and extent of the deposit.

As the dominant tests of the diatoms are rodlike and disc-shaped types found in many of the fresh water deposits and as the geological history of the Cascade Range in this area is one of volcanism and continental sedimentation, the deposit is evidently of fresh water origin.

The terrain rises steeply southeast of the deposit. Only a small portion of diatomite could possibly be mined by open pit methods as the overburden would be too excessive. Underground mining may prove too expensive. The deposit is approximately twelve miles from the nearest railroad. When the Detroit dam

completed a part of the present railroad will be flooded, thus necessitating a longer truck haul to a railroad. Transportation costs would probably be a major item.

The age of the deposit was not definitely determined due to lack of time for a thorough study of the area. Thayer (1939) has mapped a series of tuffs, breccias, and conglomerates, interlayered with lava flows along the North Santiam River in the section immediately to the north of the diatomite locality. This series of rocks was named the Breitenbush tuffs, which tentatively range in age from Oligocene to Miocene. The diatomite could have been formed in a small lake or swamp caused by the blocking of a stream channel by lava flows during the time that the Breitenbush tuffs were being deposited.

Description of sample:

A six-foot channel of the diatomite was taken and the diatomite was examined under the petrographic microscope for content and impurities. The sample number is P-8655. It is a fine white diatomite and is quite pure.

Results of microscopic examination follow:

Dominant constituents:

1. Opaline silica: 80-85 per cent
2. Diatoms distinguishable: 10-15 per cent
  - (1) Melosira - predominant
  - (2) Synedra, stephanodiscus, and others - minor.
3. Mineral grains: 1-5 per cent

Property visited: June 6, 1949 by D.J.W.

Report by: D.J.W. 6/13/49

Reference: Thayer 39:9