Limekiln Travertine Spring

John Day Quadrangle and
Bear Valley Ranger District Map
Grant County
On Indian Creek
T 14 S, R 33 E, N ½ Sec. 10

A flat lying sheet of travertine blankets the older alluvium of Indian Creek at the above location. It underlies perhaps as much as 6 to 8 acres of a much larger strip of deeded meadowland belonging to George M. Ray. This travertine was dug and burned for lime during the latter part of the last century, hence the name given to the springs as from an historical standpoint the lime-burning operation rates as one of the oldest ventures into non-metallic mining in the John Day area. The old kiln is a rock-lined hole dug into the northern valley side about opposite the hot spring to be described later. Its location is now marked by a clump of alders which grow from the kiln center and the dug cut leading to the draw-pit and firebox. The meadow is also an Indian camp ground of long standing, used seasonally by migrating bands as a hide tanning base as recently as the early 1930's, according to Mr. Ray.

The only well-defined, flowing spring in the meadow at the present time consists of a circular, travertine-lined pool about seven feet in diameter and three feet deep. This is fed by seepage from the bottom and from along a narrow channel extending eastward (upstream relative to Indian Creek) from the pool margin for a distance of about 12 feet. The remains of two or three similar, but now dry, vents are to be seen elsewhere in the travertine area and there are likewise two or three seepages which could be made into small yield flowing springs if cleaned out and developed.

The water in the existing pool is soapy looking, tastes mildly soda-like and has a temperature of 90 F. The pool surface is very rarely disturbed by escaping gas bubbles. Gas is given off at several points along the intake channel however. This discharge is reported to vary considerably at different times, ranging from near-dormant sometimes to vigorous at others. At the time of examination the bubbling was only moderate, occuring more or less continuously in the channel as a whole, but intermittently from any one escape site.

An analysis of the gas from this spring by the State Board of Health (Sample #9667) shows the gas is 94.5 percent nitrogen, 4 percent oxygen, and 1.5 percent carbon dioxide. Analysis of a water sample (#9675) showed a dissolved carbon dioxide content (at 25°C) of only 0.16 percent.

Analyses by the State Department of Geology and Mineral Industries of a sample of the travertine made up of fragments from many widely separate places on the occurrences is as follows: (Sample SB-212 and P-23604)

Chemical.....96.72% $CaCO_3$.....1.28% SiO_2

Spectographic: Calcium..... over 10%

Silicon..... 1% - 0.1%

Sodium..... 0.1% - .01%
Potassium

Aluminum..... .01% - .001%
Iron
Magnesium
Vanadium
Strontium

Titanium.....below .001%
Copper
Barium
Nickel

Indian Creek is bounded on the northeast side, in the spring area, by Tertiary basalts of middle to upper Miocene age overlain by Pliocene sediments. Triassic peridotite constitutes the prevailing bedrock on the south east side of the meadow excepting for a very thin fringe of Eocene volcanics and sediments along the creek bank at the very foot of the mountain. For added geologic data refer to the U.S.G.S. Mineral Investigations, Field Study Map, MF 51 of the John Day Quadrangle, by T. P. Thayer.

Report by: N. S. Wagner

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