

State Department of Geology and Mineral Industries <sup>TSM</sup>  
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1069 State Office Building  
Portland 1, Oregon

Blue Moon Uranium Claims

STATE DEPT. OF GEOLOGY  
& MINERAL INDS.

Malheur County

Owners: Louis Hall, 513 N. Oregon Street, and Lormand Wise, 214 S.E. 3rd Street, Ontario, Oregon.

Location: T. 20 S., R. 42 E., section 29. This is on a dirt road leading up Cottonwood Creek and at a point about  $4\frac{1}{2}$  miles south of U. S. Highway 20.

Area: The above owners claim a total of 21 locations. Only 5 of these have been filed in the Court House. The first claims were taken on March 17th, 1954. A map of the tract drafted under Mr. Hall's supervision is appended. This is of purely sketch accuracy as no systematic survey of the locations has yet been made.

General: Development work consists of dozer cuts made on various of the claims for exploratory and location purposes. These reportedly show varying degrees of radioactivity, but the owners regard their original discovery location as being their strongest and best showing. This cut is between a 100 and 150 feet long and is situated on the flank of a low rounded hill on the east bank of the creek. The hill is made up of a succession of lake-bed sands and silts of the Payette (Tertiary) formation. Comparison with Moore's geologic map of the Harper Basin (U.S.G.S. Bulletin 875) plus an apparent uniformity of structural attitudes in the short interval between the southern boundary of Moore's map and the subject area further suggests that the local beds correlate with Moore's Lower Payette. Attitudes in the vicinity of the location hole are essentially horizontal as is revealed by natural

\* outcrops as well as by the location cut.

Observed Geiger counter reaction in the cut amounted to around 100 to 120 counts per minute as compared to a background of 32 at the camp site which is situated below the cut and some 300 yards distant therefrom. No recognizable uranium minerals are apparent, however, nor is it possible to select samples which show an independently strong counter reaction. A thin ( $\frac{1}{4}$  to  $\frac{1}{2}$  inch) limonitic streak constitutes the only exception but even here increased counter activity is spotty and the activating minerals still obscure. When taken away from the pit, typical samples continue to activate the counter but the rate of count is much lower than that found in the pit.

Two samples (OB-55 and 56) were taken for laboratory study. One was a large representative sample from the face of the cut. The other was a select sample of the limonitic streak. Both samples were taken from places which showed the strongest counter reactions. Radioassayer tests showed a  $U_3O_8$  equivalent of approximately 0.005-percent in the bulk sample and 0.015-percent in the selected limonitic material but no radioactive minerals could be identified by petrographic means in either sample, nor was either uranium or thorium found by spectographic analysis. Some yellow-green fluorescent material which appears to represent a coating associated with some secondary silicification is present in both samples however. This was also found in other radioactive samples submitted to the Department from nearby claims and it is tentatively regarded as the source of the radioactivity. More study will be needed to clarify the point though as the present examination was strictly preliminary in nature and quite superficial accordingly.

Further description of the bedrock material in this pit is that it is light tan to buff in color with locally dark brown to maroon streaks. The sand is medium to coarse grained, only moderately consolidated and interbedded at frequent intervals by finer grained sands and thin clay horizons. Petrographic study (OB-55 and 56) shows quartz and partially altered feldspar to be the principle mineral grains along with quite an abundance of limonite. A minor amount of zircon is present and there is some evidence of secondary silicification. A purplish tinge in the limonite has the appearance of vivianite ( $\text{Fe}_3\text{P}_2\text{O}_8 \cdot 8\text{H}_2\text{O}$ ) but excessive limonite and iron staining interfered with the making of a positive identification.

Conclusions: The sub-commercial nature of the  $\text{U}_3\text{O}_8$  equivalent tests are disappointing. The indication that the radioactivity which is present may originate from sparse disseminations of uranium salts or scattered opaline encrustations rather than from potentially minable uranium minerals is even more disappointing. The fact nevertheless remains that a far stronger count can be obtained in the pit than can be obtained from any take-away samples that could be selected. This is in accordance with the contentions voiced by the owners, and the fact that it is so tends to give credence to other reports which indicate that similar conditions are present elsewhere in the surrounding country. In view of this situation, and because of the very superficial nature of the examination upon which this report is founded, a more extended investigation of the area at large would appear to be desirable in order to secure additional information regarding the identity and genesis of the radioactive material present in the area.

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Report by: N. S. Wagner  
Date of exam: March 26, 54  
Date of report: April 6, 54

Informants: Hall, Wise and Rathman  
Samples: OB-55, 56 and 57  
(P-16237, 16238, 16241  
( and 16240)