

# State Department of Geology and Mineral Industries

702 Woodlark Building  
Portland 5, Oregon

## MAHAMA BAUXITE LOCALITY

Marion County

**Owner and Area:** An undetermined number of acres have been optioned or leased by Mr. James W. McMahan, 2249 N.W. Glisan Street, Portland, Oregon.

**Location:** SE $\frac{1}{4}$  sec. 1, T. 9 S., R. 2 E. At a distance of 5.8 miles east of Mahama along the road following the Little North Santiam River turn left on road leading to the F. G. Ferris sawmill in sec. 12, T. 9 S., R. 2 E. This mill is .7 mile north of the Little North Santiam River road and the bauxite locality is about one-fourth to one-half mile north of the mill.

**History and development:** In 1949 and 1950 a minor amount of exploration consisting mainly of shallow test pits and one open cut was completed by J. W. McMahan, R. L. Nichols, geologist with the U. S. Geological Survey, reported during World War II that high alumina clays occurred in and around Keel Creek in about sec. 1, T. 9 S., R. 2 E.

**Geology:** A narrow northeast-trending ridge divided into two parts by a narrow saddle occupies a portion of the SE $\frac{1}{4}$  of sec. 1, T. 9 S., R. 2 E. The elevation of the surface of this ridge is about 1,800 feet (altimeter). Since a topographic map of this immediate area does not exist, accurate location of the bauxite occurrence and the locations from which samples were taken cannot be depicted. For approximate sample locations see Figure 2.

The area is made up of a series of basic lavas and pyroclastics which may entirely or in part belong to the Mahama volcanic series as mapped by Thayer (1939) in the vicinity of Mahama. The lavas and pyroclastics have been altered in places to clay and possibly ferruginous bauxite, as indicated by the bauxite nodules occurring on this ridge in the SE $\frac{1}{4}$  sec. 1, T. 9 S., R. 2 E.

High alumina clay is exposed in shallow pits dug along a logging road which lies along the southeast side of a portion of the ridge and which turns northwestward across the saddle in the ridge. This clay is about 80 feet below the surface of the ridge. Above the road are some pits which expose hard, tan, fine-grained bauxite nodules. Southwest of the saddle tan bauxite nodules are exposed along the surface of the ridge. The open cut situated on top of the ridge southwest of the saddle extends S. 60° W. for about 75 feet and is approximately 8 feet wide and 5 feet deep. Below approximately 2 feet of top soil and silt, 3 feet of red and tan clay containing some tan limonitic bands and tan bauxite nodules are exposed in this cut. A hole 2 feet deep in the bottom of the open cut exposed tan and gray bauxitic clay consisting of alternating tan limonite and gray clay streaks which appear to be bedding laminae, but probably the tan streaks represent channels in the original clay along which surface waters deposited limonite. Gray, slightly altered basalt(?) float is so profusely scattered over a small portion of the top of the ridge northeast of the saddle as to indicate that basalt occurs in place.

Several clay and bauxite float samples were taken during the reconnaissance examination of this locality and were analyzed as recorded in the following table.

CLAY AND BAUXITE SAMPLES FROM SE $\frac{1}{4}$  SEC. 1, T. 9 S., R. 2 E.

<u>Sample No.</u>	<u>Location</u>	<u>Macroscopic description</u>	<u>SiO<sub>2</sub></u>	<u>Fe<sub>2</sub>O<sub>3</sub></u>	<u>Al<sub>2</sub>O<sub>3</sub></u>
Field #1 P-10031	From pits on logging road on S.E. side of ridge N.E. of saddle approximately 80 feet below top ridge.	Tan and gray clay.	34.96	14.84	33.64
Field #2 P-10032	Chips from float nodules in small pit on S.E. side of ridge N.E. of saddle approximately 25 feet below top of ridge.	Tan and gray hard granular bauxite nodules.	6.64	11.83	49.19
Field #3 P-10033	Float from vicinity of pit from which Sample #2 was taken.	Tan and gray hard granular bauxite nodules.	10.66	13.57	51.61
Field #4 P-10034	Float from top ridge S.W. of road crossing saddle.	Tan and gray hard granular bauxite nodules.	5.58	34.33	38.11
Field #7 P-10035	Float from S.E. side of ridge N.E. of saddle and N.W. of Sample #1 locality approximately near top of ridge.	One tan bauxite nodule.	6.42	37.36	31.44
Field #8 P-10258	From pit in road crossing saddle, at top of saddle.	Red clay with some tan limonite bands and nodules of bauxite.	23.22	13.79	33.27
Field #9 P-10259	Grab sample of dump material from hole 2 feet deep in open cut.	Tan bauxitic clay with tan and gray streaks.	17.04	10.05	43.53
Field #10 P-10260	From pit on S.E. side of ridge N.E. of saddle and above Sample #2 locality.	Red clay with white and tan spots.	32.22	9.71	35.28

The bauxite appears to occur only as float and not enough exploration has been done to determine the possible quantity of reserves or to determine the structure and genesis of the occurrence.

Visited: August 1950

Report by: D.J.W., May 8, 1951

Reference: Thayer (1939)