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## Magnesium Brine Sea Declared Located Here

An almost limitless underground brine lake containing a large magnesium content has been proven from Wright's Point to Jack Mountain and plans for recovery of the brine are under way, according to Dr. O. T. Atwood, Eugene veterinarian, who has been interested in the mining and oil possibilities of Harney county for the past several years.

Dr. Atwood, here Saturday, said surveying, drilling and testing of the 39,000-acre area has been quietly under way for the past 18 months by the Harney County Development Company, of which he is the manager. Describing the new Harney county mineral prospect, Dr. Atwood said:

"The rich brine, only 72 feet below the earth's surface, is easily accessible to rail lines. Moreover, proving tests made by the Laucks Laboratories in Seattle and the Charlton Laboratories in Portland, show that it contains by weight nearly twice as much magnesium as sea water, a common commercial source. For example, it takes 33 million tons of ocean brine to produce 150 tons of magnesium; while it will take only 18 million tons of Oregon brine to produce the same tonnage of the metal. But besides the great underground lake of brine in Harney County, there are also large quantities of dolomite, a porous lime rock.

Tests made by the State Assay Laboratories in Baker show that the eastern Oregon dolomite contains 62 per cent calcium carbonate and 34 per cent magnesium carbonate, the remainder being silica. A pure dolomite contains 54 and 45 per cent calcium carbonate and magnesium carbonate, respectively. Thus it is evident that even though the Oregon mineral is not a pure form, it is nevertheless commercially valuable for magnesium content.

"The Dow Chemical Company of Midland, Michigan and Free-

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port, Texas, was for a number of years the sole producer of metallic magnesium. Now H. J. Kaiser, President of the Permanente Corporation (cement) and the Todd-California Shipbuilding Corporation, has built a magnesium producing plant alongside his Permanente cement plant in California, using a process of recovery different from that employed by Dow. Dow for a long time drew from its deep well brines in Michigan; later it set up its big plant in Freeport, Texas to process the metal out of sea water drawn from the Gulf of Mexico. Kaiser is producing the metal from ores brought in from Nevada and other available sources.

"Potential lake brines in the west are to be found in Great Salt Lake, Utah, and in Omak and Moses Lakes in Washington. However, none of these lakes shows the high magnesium content that the Oregon brine possesses."

Magnesium is 30 per cent lighter and 30 per cent stronger than aluminum. But the two metals, together make an even tougher compound for fabrications of all kinds.

Magnesium alloys are gaining favor as basic metals for the construction of high speed machine tools, engineering instruments, bicycles, microscopes, vacuum cleaners and golf club shafts, automobile generators, radiator shells, and electrical equipment.

Can the Oregon brine lake be pumped easily and can the dolomite be mined? The answer here, says Dr. Atwood, is definitely, "yes". By one process the brine can be pumped to the surface, he asserts, evaporated in a simple reducing plant, the powder loaded onto railroad cars, and shipped to another plant for manufacture of the metal itself.

"If John W. Kelly, reporting from Washington, D. C., is sure of his facts," says Dr. Atwood, "the real bottleneck for the whole production is Arthur Bunker, who heads the division of aluminum and magnesium for War Production Board, and who has refused, for reasons not at all clear to the general public, to grant anyone permission to manufacture metallic magnesium unless he has done so before.

"Without question, the news of these rich local fields will open once again the discussion over the location of metallurgical plant sites. In recent months there has been some indication that either Washington or Idaho might get the new plant. But since the Oregon deposits show a greater content of magnesium than any of the known Washington sources, the weight of this decision definitely favors the Columbia River Basin."