

MINERAL RESOURCES OF OREGON

(page 100) some geyser waters and springs associated with igneous intrusions have a surprisingly high percentage of lithium, but when expressed in parts per million of water they do not rank so high as the Ashland lithia waters. According to the owners the White Rock water contains very little lithium in its natural state; but is put on the market after the addition of lithium chloride; accordingly the Ashland lithia waters seem to be richer in lithium than any other potable mineral waters in their natural state.

The Ashland lithia waters are chemically much like the water of the Stanislaw spring near Karlsdorf, Galicia, but the latter contains much less lithium, not as much carbonic acid, no magnesium, and more chlorine and sodium, as well as a little strontium and barium. The lithia waters from Saratoga Springs, N. Y., contain much more chlorine and bromine, more calcium, more magnesium, more barium, much less carbonic acid, and less silica than the Ashland lithia waters. The Blue Lick Spring water of Kentucky contains very little carbonic acid and is essentially a sodium chloride (and magnesium sulphate) water.

The sulphur waters of Ashland are charged chiefly with carbonic acid, sodium, calcium, magnesium, and silica, in addition to the characteristic sulphur, which is present, not only in the sulphates, but as hydrogen sulphur or free sulphur or both. These waters also contain a notable quantity of boric acid, probably combined in sodium borate (aside from that present in ionic form). The Yellowstone Park geyser waters contain about twice as much chlorine and half as much carbonic acid with less sulphuric acid, calcium, and magnesium, and more sodium and lithium than the Ashland sulphur waters. But it should be noted that the latter are decidedly variable in composition not only in regard to sodium and potassium (possibly due to analytical errors), but also as to carbonic acid, and especially calcium, magnesium, and silica. The Shepard sulphur springs is very high in magnesium and low in silica; both the Shepard and the Peat Marsh Sulphur Springs contain abundant calcium. The mineral water from Ojo Caliente in New Mexico and that from Vichy in France are low in chlorine and high in sodium; both contain a little strontium. The water from Steamboat Springs, Nevada, is remarkably rich in boric acid; it contains very little carbonic acid and abundant chlorine, sodium, potassium, and silica.

The waters from Soda Springs, Oregon, resemble that from the Excelsior springs in Missouri, but they have greater salinity and

MINERAL WATERS

contain much less calcium and more magnesium and sodium. The Wilhelmquelle water contains much less chlorine and alkalis and much more iron, calcium and silica than the Soda Springs water of Oregon. The water from the McClelland well in Missouri is charged with sodium carbonate and some chloride and sulphate, and almost nothing else. One of the analyses of the Colestin water is much like that of the Sprudel water of Carlsbad, Bohemia, though the former contains more calcium and magnesium and less sodium. The other sample of Colestin water resembles the Hikutaia water from near Auckland, New Zealand, but the latter contains less chlorine, calcium, and potassium and much more sodium.

In summary, the mineral waters of the Ashland district belong to two chief classes; the Colestin and Soda Springs waters are dominantly carbonate, while the Lithia and Sulphur spring waters are chloro-carbonate. As compared with similar waters found elsewhere many of the Oregon springs show an unusual quantity of potassium; the salinity of the sulphur springs is low, but that of the Lithia springs is high. The Sulphur springs are quite rich in silica and the Soda springs in magnesium. Finally, the Ashland lithia waters are remarkably high in their tenor of lithium, and deserve recognition for that fact.

J. K. Haywood² has collected from such works as he considered reliable, such as Crook's Mineral Waters of the United States, Schweitzer's Mineral Waters of Missouri, and Cohen's System of Physiologic Therapeutics, data concerning the physiological action and therapeutic applications of the various classes of mineral waters. These data are given below, so far as they relate to waters available in the Ashland district.

Carbonated or bicarbonated alkaline waters. This is one of the most important groups of mineral waters. As a class these waters are used to stimulate the secretions of the digestive tract, dissolve uric acid, increase the flow of urine, correct acidity of the urine, and dissolve uric acid deposits. They are therefore of value in catarrhal conditions of the mucous membranes, rheumatism, gout, diabetes, etc.

Sodic carbonated and bicarbonated alkaline waters. Sodium carbonate or bicarbonate appears as a normal constituent of the blood, lymph, and nearly all secretions of the mucous membrane. Where conditions arise that cause any of these fluids to become acid, this class of waters is of great value in counteracting the effect. The sodic carbonated waters increase metabolism, dissolve uric acid,

MINERAL RESOURCES OF OREGON

and allay irritation of the mucous membrane of the urinary tract. They have therefore been used with excellent results in treating acid dyspepsia, rheumatism, gout, and diabetes. Such waters are also of value in breaking up and eliminating uric acid deposits and uric acid sand and gravel.

Lithic carbonated and bicarbonated alkaline waters. While lithium seldom or never occurs in waters in large enough quantities to be a predominating basic constituent, still it does often appear in sufficient quantities to have a decided therapeutic action. These compounds are active diuretics and form a very soluble urate which is easily eliminated from the system. Waters of the above class therefore find their greatest application in the treatment of rheumatism, rheumatic tendencies, and gout. In cases of gravel and calculi they are also valuable disintegrating agents.

Calcic carbonated and bicarbonated alkaline waters. This class of waters is quite different in its effect from the carbonated waters previously mentioned. While the foregoing waters are evacuant and promote secretions, this class of waters constipates and decreases the secretions. Very obstinate cases of chronic diarrhea have been cured by a sojourn at a spring rich in calcium bicarbonate. Uric acid gravel and calculi are also disintegrated and eliminated by the free use of the above waters.

Muriated alkaline-saline waters. These waters are especially valuable in the treatment of catarrhal conditions of the mucous membrane of the stomach, intestines, and biliary passages, and urinary tract. They increase the flow of urine and the excretion of uric acid. The stronger ones are often used as a gargle.

Sodic muriated saline waters. Where these waters are very heavily charged with sodium chloride they are often used for baths, to increase the action of the skin, and by absorption act as a tonic. Such waters when taken internally are usually diluted. They increase the flow of gastric juice, improve the appetite, increase the flow of urine, and the urea in the same. They also prevent putrefactive changes in the intestines.

Siliceous waters. The medicinal value of these waters has not been thoroughly investigated, although one or two investigations have been made which seem to show that they would be of value in the treatment of cancer. It has been stated that silica taken internally has caused albumin and sugar to disappear from the urine.

Carbonated waters. These waters contain free carbon dioxide as distinguished from the carbonated or bicarbonated waters which contain carbon dioxide in combination. Usually the heavily carbonated waters are also bicarbonated, but this is not necessarily true. Free carbon dioxide is present in practically all natural waters to some extent, but in some waters, notably the Saratoga, it is present in very large quantities. Such waters are extremely palatable and large quantities can be drunk without causing a "full feeling." These waters tend to increase the flow of saliva and intest-

inal fluids, also to increase the peristaltic movements of the stomach, and therefore increase digestion. They also tend to increase the flow of urine. Obstinate cases of nausea are often relieved by the use of this class of waters.

Sulphureted waters. These waters increase the action of the skin, intestines, and kidneys. They also possess a decided alterative effect. They have been used in the treatment of syphilis, chronic metallic poisoning, rheumatism, and gout. They have also given excellent results in many skin diseases, hyperaemia of the liver, and in catarrhal conditions of the pharynx, larynx, and bronchi.

Pelican Bay via Dead Indian Route

By F. D. Wagner

It is approximately fifty miles from Ashland to Pelican Bay over what is known as the Dead Indian route. With the road improved as is now promised and the Klamath end of it opened up for automobile traffic, Ashland will be within a few hours' ride, say four, of Pelican Bay. From the latter point there is now a fine automobile road to Crater Lake, forty miles distant. Thus it is easy to figure out a quick trip from Ashland to Crater Lake by this route, which is full of scenic interest, nearly every rod of it. It will bring the Lake of the Woods region with all its summer lurings within a three hours' auto ride of Ashland.

Leaving Ashland, we traverse the Pacific Highway southward for three miles to the Owens ranch, where we turn to the left and cross both Nell

feet. The descent is into what is really a part of the great Klamath basin and is much shorter, for the entire basin lies at an elevation above the sea of 4,000 to 4,500 feet.

In the Dead Indian region, distant less than twenty miles from Ashland, we are in a country entirely different in climate and environment from the Rogue River Valley. Few nights even in midsummer are entirely free from light frosts. It is a thriving dairy and stock section and agriculture is developed beyond what was dreamed of as possible a few years ago, when it was counted only a summer dairying and grazing section. It is a beautiful country, particularly in the summer time. The prairies and glades, luxuriant in native grasses, are like lakes in the forests of fir and pine timber. As we emerge from the deep woods into the main Dead Indian Valley at the Nell ranch seventeen and a half miles from Ashland, a glance to the left and we see Mt. Pitt, or McLoughlin, in all its capped glory, its base seeming to be only a stone's throw away and the timber line plainly marked. All the rest of the way to Pelican Bay our route circles around the base of Mt. Pitt, though it is not always in sight to the traveler through the thick timber, which is one of the attractions of this route. For miles and miles we traverse virgin forests of stately pines and firs through much of which the sun never penetrates.

Lindsay's ranch is nineteen miles from Ashland, and a few miles farther on we come to Lost Prairie and the Jones ranch. Nine miles from Lindsay's and twenty-eight miles from Ashland we cross the Jackson county line into Klamath county.

Thirty-eight miles east of Ashland after a course through forest after forest, with an occasional variation in the way of a "big burn," marking the devastations of some forest fire a decade or two ago. Suddenly through the forest ahead we catch a glimpse of water, quite an expanse of it. It is Lake of the Woods. And truly it is a lake of the woods and a most beautiful scene. Approximately three miles long and from one to two miles wide, with a varying depth and with shallow shores, portions of them covered with sand and pebbles, it furnishes the base for an ideal summer resort. It is in the national forest reserve, but with the government giving leases for summer



HON. F. D. WAGNER

Elected to the legislature last November. Formerly owned the Ashland Tidings. Is prominent in the Shriners and the Elks.

and Emigrant creeks just above the junction where they form Bear creek. Soon we are winding up the mountain grade, and a long, steady pull brings us to the summit of the Cascade, fourteen miles distant from Ashland. From the summit there is a splendid bird's-eye view of valley and mountains. Immediately on the left of us are the great white cliffs, the kaolin deposits which have long attracted interest and which it is predicted will some day become a source of wealth to this section. The altitude at the pass where our route crosses the summit is about 5,200

Climate and Health

Reasons Why Ashland is Climatic and Health Capital of Coast.—By Edward A. Beals, District Forecaster, U. S. Weather Bureau.

The climate of Ashland is much like that of northern Italy, where there is an abundance of sunshine and as a rule no very cold or very hot weather. The city has an elevation of 1,940 feet above sea level, and a mean temperature of 53 degrees, which is one degree higher than that of New York city. The mean temperature for the three summer months is 67 degrees, and for the three winter months 39 degrees. The highest temperature ever recorded is 108 degrees, and the lowest is 4 degrees below zero. These extremes have occurred within a period of twenty-five years, but ordinarily the thermometer does not sink much below the freezing point in winter and seldom goes above the 100 mark in summer. During the hot spells in summer the air is dry, evaporation, which is a cooling process, takes place freely from the body, and consequently the heat is not felt as it is in countries where the air is damp during hot spells. Also, the nights are always cool with refreshing

breezes, generally from the northwest, and hot periods in Ashland are not associated with the debilitating effects and discomforts usually experienced at a lower altitude in damp climates when the thermometer is in the nineties.

The rainfall is 20.2 inches and there are, on the average, 103 rainy days during the year. The rainfall is heaviest during the winter and spring months and least in the summer and fall months. Nearly every year some snow falls during the winter but it does not last long.

The length of the growing season is 177 days, and the climate on the whole is such as to produce just enough of the effects of heat and cold and of sunshine and rain to be enjoyable and healthful. The prevailing winds are from the northwest all the year round, and these winds, originating, as they do, over the broad Pacific ocean, bring inland pure air, with no injurious microorganisms, which largely accounts for the wholesomeness of the climate.

For Kodak Enthusiasts

By Chester Stephenson, the Photo Man.

We extend a hearty invitation to all to join us in our beautiful city and enjoy our health-giving mineral waters and climate, and our superb mountain scenery.

We know you will come and come often as soon as you know of our beautiful city, and when you do come be sure and include a camera in your



CHESTER STEPHENSON
Expert kodak artist.

outfit. If you haven't room for a large one, then let it be a small one, but by all means beg, borrow or steal something that will take pictures and that will make a record of your trip here. Bear in mind that this, our city, our streams, our forests, our mountains and valleys, is the "Para-

cottages a few years will doubtless see the shores of Lake of the Woods dotted with summer cottages and perhaps summer hotels. Probably most of the cottages will be owned by Ashland people, and summer travelers detouring from Ashland will fill the hotels. Before coming to Lake of the Woods a road off to the right leads to Buck Lake, where there is one of the finest little bodies of water found in the Cascades.

From Lake of the Woods it is approximately twelve miles over an undulating country through pine and fir woods to Pelican Bay, the last few miles being through a level plateau region covered with giant yellow pine. To the left lies Four Mile Lake. It is off the traveled route but is visited by many hunters particularly, for it is a fine big game region. Indeed, the entire Lake of the Woods region abounds in deer, and bear are quite numerous.

Pelican Bay, as we know, is an arm of Klamath Lake and sends a flow of ice cold spring water into the north and west sides of the lake. The splendid cold springs of great volume that flow into Pelican Bay are what make the magnificent fish which have made the bay famous among sportsmen. This place attracted the late great railroad magnate, E. H. Harriman, so much that he purchased it for his summer home and improved the property. The west shore of Klamath Lake in this region offers much territory attractive to the summer tourist. Besides the fishing and boating there is the finest duck hunting, perhaps, in the west. The great Klamath marshes vast in extent are the natural homes of myriads of water fowl which breed there.

When we consider how near to this wonderful playground Ashland is in actual miles we may estimate

dise of the Kodak Fiend." And well it deserves that name, for nowhere will be found such beauty and grandeur so easily accessible. The editor will not allow me space to enumerate or dwell on the different points of interest, but you will see them all mentioned and described elsewhere in this issue. Read all about them and then bring your kodak with you.

You will want pictures of our city, of our wonderful mineral springs bubbling from the ground, of our magnificent parks, of our snow-capped mountains, our streams and waterfalls; you will want pictures on your climb to the top of "Old Grizzly," your trip to Mt. Ashland on the funny little burro, over the hills to the gold mines, and hundreds of other interesting places, including the far-famed Crater Lake and the Marble Caves.

You will want pictures of your hunting camp up the canyon, of the big buck which you have shot, of the nice basket of mountain trout and the big silverside salmon which you are sure to hook in Rogue river. You will want all these and many others.

Let your camera be your constant companion. You will find it a most pleasant one and one that will tell the story of your trip over to you at any time after you get home, even in years to come.

God surely had the picture fiend in mind when he made the Rogue River Valley.

THE ROGUE RIVER VALLEY.

(By Emma J. Crawford, Talent.)

I sat on a raise of the mountains
As the sun was sinking to rest,
And wondered if we of the valley
Know how we are blest.
As I watch each shifting shadow
On our magnificent hills,
I wonder if chance brought me,
Or if indeed God wills,
I who lived in the city,
Intent on the city's strife,
Permitted to enjoy this beauty
Now in the eve of life.
As I think of the days behind me,
Striving for what I thought best,
Of the bitter disappointments,
And now this valley and rest.
I wonder if God intended
Through all those trying years,
I should find rest in the valley,
Away from the strife and tears.

Come with me to "Inspiration Point," it's only four blocks from the postoffice; turn your face toward the north just before the sun sinks behind the highest peak and look across at Old Grizzly. See the fleecy clouds come and go; watch the sunshine chase the shadow as the sun is first obscured and again shines out; note the richness of the coloring; catch the exquisite blending of deep purple and gold. Drink it in, for likely at no other spot in all the world will you catch such another view. There is inspiration and life in it. It is one of "Inspiration Point."

Looking joyously on one of Ashland's gorgeous sunsets, on the side of Grizzly Mountain, where deep purple blends with the blue of the sky and the gold of the fields, a visitor exclaimed, "This certainly is the Switzerland of Italy." And it is. Balmier than either and more beautiful than both.

the possibilities of the future when Ashland gets to be the resort she is now planning to be. The Dead Indian route will be traversed by thousands and it will be one of the attractive trips out from the city.

Interview With Dr. F. G. Swedenburg,
Chairman City Board of Health

Ashland is an ideal spot for those who, like Ponce de Leon of old, would like always to remain young and never age.

Both the climate and the water, to say nothing of the acid fruits, all of which are so essential to the human economy, are conducive to good health.

It is well said we are just as old as our arteries, which in other words means the hardening process due to the ever-present tension or blood pressure, and the lime deposited by the blood in the arterial walls, which in time causes them to become brittle and thus liable to break, resulting in apoplexy, paralysis, etc. Ashland is peculiarly blessed by having a very even climate, not too cold nor too hot, thus keeping the blood pressure at a low and even tension, the ideal condition for the human system and its wear and tear.

But above all is our unexcelled water, which contains absolutely no mineral matter. It is as pure as the driven snow which forms its source

on the ever snow-capped Mount Ashland. This, to those especially suffering with kidney trouble, is nature's own remedy, for with domestic water free from lime and mineral matter, there can be no loading up of the blood with these substances and thus embarrass the already overworked kidneys and arterial system. In fact, it aids the elimination process by throwing out the substances causing the hardening of the arteries, and the process called old age is prevented, and a tendency to remain young results.

Our great abundance of acid fruits so essential to the human pabulum and metabolism—food and repairing process—tends to make this the one spot of all spots on God's green footstool of which one may truly say, "This is a good place and here will I make my home."

The annual death rate in Ashland is an unusually small percentage as compared to its population.

Plant greenery and make scenery.