adapted to the growing of grasses for live stock.

The lower country is being occupied by the Pilot Butte Development Co., and the Desert Irrigation Co., the latter being composed of several enterprising residents who have already constructed a small flume to convey water to their own lands, and those in their immediate vicinity. Several other ditches are being constructed by local enterprise along Tumelo and Squaw creeks. The largest work in contemplation along the Dsechutes is that of the Pilot Butte Development Co., in the vicinity of the old Farewell Bend, where a town to be called Pilot Butte is best laid out. The point selected is in the partially timbered country between forest and desert—a sightly location easily susceptible of irrigation and improvements, and believed to be the best point on the river to construct log reservoir and saw saw mills, to manufacture the two billion feet of pine timber lying up stream, and probably the only good point for a railway to approach the stream at grade. The location commands many advantages and is the natural intersecting point for the railway projected up the river and from across the mountains. A saw mill is being erected and the Pilot Butte flume and canal will be built to irrigate the townsite and surrounding country this season. Extensive work is planned for extending this canal and for the construction of another, the Powell Butte canal, which leaves the river a few miles farther up, and will probably be one of the largest and most important in the United States. Preliminary surveys have already been made to Bear Creek Buttes, Powell Buttes, and the pass on which water can some day be conducted to Prineville and the Crooked River bottoms. Surveys have also been made of the country between the Crooked River and the Deschutes, establishing the fact that water can be carried from Pilot Butte across the Crooked River canyon, near Trail crossing, by a high bridge, and on the rich plains at Haystack and the Warm Springs agency. It is not expected to undertake all this immense work until transportation facilities justify it, but work will be prosecuted vigorously about Pilot Butte, and a base established from which to operate, when the proper time arrives. The soil throughout this entire section is of basalt-volcanic ash and disintegrated lava, free from slate, quartz, hard pan or alkali. Easy of cultivation and becoming a dark chocolate color when wet under irrigation, and it will never wear out. In the upper country pine only is found, farther down pine and juniper (a species of cedar) mixed, then juniper and sage brush, then sage brush only, and all through interspersed with the famous bunch grass so nutritious for all live stock.

Near Pilot Rock a peculiar soft stone is found, easily dressed with saw and hatchet and which hardens upon exposure; from this fine fire plates and chimneys are cheaply constructed. The essentials for agriculture, water, soil and sunshine, are here in perfection; also water power, fuel and good water presage manufacturing of many kinds in the near future. The climate is milder and far more tolerable than that of Kansas, owing to the dryness of the atmosphere and abundant sunshine. Though at an elevation of some 3600 feet, the country is tempered by the famous Chinook winds. Except in the mountain and timber country, snow seldom lies more than a few days and the thermometer seldom drops to zero. Horses and cattle range out all winter without attention. Except corn (which does not do well owing to the cool nights) most of the standard crops and hardy fruits can be raised in astonishing quantity and perfection, though the country is especially adapted to the raising of alfalfa, live stock and dairying. All products now bring unusually good prices, as the home market exceeds the product. The advantages of this district are briefly summed up as follows: Healthful climate, pure water, fine soil, good and cheap building material, a river teeming with trout and water fowl, fine water powers easily developed, cheap fuel, big crops and good prices every year (under irrigation), no destructive storms, drought or deluge, no mosquitoes, venomous snakes or insects. All that is lacking is population and transportation, and these are already on the way.

OREGON KING MINES.

The proprietors of the Oregon King Mining Co., situated in the northern end of the county, near Ashwood on Upper Trout Creek, the town of Ashwood itself being an outgrowth of the mining activity in that section, serve in no small measure to demonstrate the varied natural resources of Crook County. Here, in a section which for thirty years has been a rich grazing and agricultural region, two years ago was discovered by Knight, Hubbard and Wilson, of Pendleton, Dayton and Walla Walla, the Silver King vein, upon which the present workings are based. In November, 1898, a shipment of ore was made to the Tacoma smelter, the returns from which were so gratifying that, as the news gradually leaked out, mining men were generally attracted, and in the following summer the property was taken over by the Oregon King Mining Company, a Wyoming corporation. Besides the holdings of this company, probably upwards of 100 claims are being developed, and generally with good results. A Pendleton corporation is operating a group of claims adjoining the O. K. M. Co.'s grounds, and have encountered good ores, this latter fact being true of all claims upon which work has been performed to any great extent. The veins generally occur in a tract of augite-audesite, a knob of about one and one-half miles in diameter, an intrusion which broke through and tilted back the crust, this being sheeted basalts overlain by a thick sheet of porphyry. The ores occur along fault lines traversing the tract, and are both space-fillings and replacements of the andesite. The surface ores are oxides, carbonates and chlorides, and at water line give way to the unaltered ores, sulphides of iron, copper, lead and zinc, rich, at times phenomenally, in gold and silver. Some manganese is also associated with the ores, the silver usually as a sulphide, and the gold mechanically mixed with it all, the latter having reached in the copper sulphides values of upwards of $2300 to the ton. We cannot state the average values of the ores, but the dumps tell, to a mining man, of general good ore. The Silver King, upon which the main development is being done, is equipped with a powerful hoist and pumps for the workings, and ample buildings for all conveniences of the operators, including an elaborate assay office. The shaft has reached a depth of 350 feet, is connected by means of a 90 foot drift along the vein, with a 450 foot crosscut tunnel, which intercepted the ores at a depth of 170 feet. Three other drifts at the 100 foot, 200 foot and 300 foot levels expose the ores in each instance over a distance of 60 feet on either side of the shaft, making in the aggregate a grand showing of wealth. The surface exposure of croppings indicates a general vein width of 60 feet, with the rich ores occupying 6 to 10 feet of this volume along the hanging side, the entire width, however, being of concentrating value. These features have steadily maintained in depth and permanency is already assured. But one shipment of ore has been made since the corporation began operating, and but few will be made, as the long wagon haul is expensive, it being the intention of the management to erect concentrating works, ship products and eliminate a large item of cost. This means that before the expiration of another year, this corporation alone will be handling a pay roll at mine and mill of $10,000 to $20,000 per month, and making