

The following text is taken from Joseph B. Umpleby's *Geology and Ore Deposits of the Mackay Region, Idaho* (U.S. Geological Survey Professional Paper 97), which was published in 1917 and ran to 129 pages. The document is largely concerned with geology and mineralogy, but its introduction provided considerable information about the region and thus is of historical interest. The order of the sections below has been changed and a few paragraphs have been omitted, but all of the text shown is taken without modification from the original document.

### SITUATION AND ACCESS

The Mackay region as herein defined is in southeastern Idaho, north of Snake River, and includes parts of Custer, Blaine, Lemhi, Jefferson, Fremont, and Bingham counties. Mackay, the principal settlement in the region, is centrally situated and is reached from Blackfoot by a 96-mile branch of the Oregon Short Line Railroad. The railroad leads up the broad valley of Big Lost River past the settlements of Powell, Arco, Moore, Darlington, and Leslie. Stages run from Arco three times a week to the upper valley of Little Lost River and once a week to Martin in the Lava Creek district. A stage line, with weekly service, connects Darlington with Grouse post office. From Mackay stages run daily except Sunday west to Challis, the county seat of Custer County. Mail is carried into the Birch Creek valley by triweekly stage from Dubois, on the Butte branch of the Oregon Short Line, and until recently was taken into the Muldoon district from Hailey, the county seat of Blaine County.

### SETTLEMENTS

Mackay, which has a population of perhaps 1,500, is the largest settlement in the region and is the supply point for its central and northwestern parts. Smaller settlements, most of them consisting only of a general store, a post office, a blacksmith shop, and a few residences, are distributed along the large valleys. There are post offices in the Birch Creek valley at Kaufman; in the Little Lost River valley at Howe, Bernice, and Clyde; in the Big Lost River valley at Mackay, Arco, Moore, Darlington,

Leslie, and Dickey; in Antelope Valley at Grouse; and in the Lava Creek district at Martin. Arco, which has a population of perhaps 500, is, next to Mackay, the principal settlement in the region.

The valley of Big Lost River, a broad and fertile intermontane depression, is rather thickly settled, and perhaps most of the available land is under irrigation. In the valleys of Little Lost River and Birch Creek, however, a smaller proportion of the land is cultivated, because of the inadequate supply of water. An attempt recently made to irrigate a large tract of land about the mouth of Little Lost River has met with only moderate success because of leakage from the canals, which traverse many miles of gravel terraces; and a similar attempt to put water on large tracts in the vicinity of Powell and Arco has been a total failure and financially disastrous to many of the settlers, who were required to make heavy initial payments before the canals were completed. In Antelope Valley the supply of water is more abundant and much of the land is under cultivation.

#### LINES OF TRAVEL

The principal lines of travel within the region follow the margin of the Snake River plains and the valleys of Birch Creek, Little Lost River, Big Lost River, and Antelope Creek. There are also three excellent wagon roads across the Lost River Range – one through the canyons of Pass and Wet creeks, east of Mackay; another over Double Springs Pass, north of Dickey; and a third across the south end of the, range, north of Arco. There is also a passable road leading from the valley of Big Lost River up Lehman Creek over the summit into Copper Basin, and another from Antelope Valley across to Era and Martin. Trails and wood roads extend into the mountainous parts of the area at many places, but large portions of it can be traversed only on foot and with extreme difficulty.

#### CLIMATE AND LIFE

The Mackay region has a great range in climatic conditions coordinate with its great range in altitude. From high tracts deeply

covered with snow throughout a long winter season the climatic transition is gradual to the lowlands, where snow seldom persists for more than a few weeks at a time. The open season is from May to October, inclusive, although May is a rainy month and October has usually one or more snowstorms. On the north slopes of the higher peaks snow lies throughout the summer, forming a striking reminder of the larger perennial fields of snow and ice which, in late geologic time, carved and molded the upland topography.

The area as a whole is one of abundant precipitation, and most of the canyons are occupied by streams which live throughout the year, though they sink beneath the surface beyond the canyons. After uniting to form the major streams, they approach the Snake River plains. The major valleys are floored with loose gravels covered thickly with fertile soil, through which, however, the water sinks, making its conveyance through artificial canals very difficult and not feasible for long distances. For this reason the vast tracts of fertile basalt soil along the margin of the Snake River plains in large part lie unreclaimed and support a scrubby growth of sagebrush where otherwise any of the crops of this latitude would flourish. Recently dry farming with winter fallowing and crops in alternate years has been attempted in these areas and gives some promise of success.

The principal industry of the region is stock raising, and the crops consist mainly of hay and grain for the winter feeding of the thousands of sheep and cattle which range widely in the open seasons. Mining is of local importance in the area and supports a small part of the population. Lumbering has not been developed beyond the requirements of the moderate local market.

The mountainous parts of the Mackay region support many different kinds of wild game, although game is less abundant than in the more inaccessible country to the west. Many deer, coyotes, several mountain sheep, goats, bobcats, and an occasional bear, wolf, and lynx are killed each year within the region. Several bands of antelope roam the uninhabited parts of the lower country, but these animals and beavers are protected by State laws.

Grouse and sage hens are abundant, and great numbers of ducks frequent the lakes near Dickey.

#### BIG LOST AND LITTLE LOST RIVERS

Big Lost and Little Lost rivers and Birch Creek emerge from their mountain valleys as streams of considerable size, but their waters sink beneath the surface soon after reaching the Snake River plains, and not even during the spring freshets do they cross its surface and join Snake River. The lavas next to the mountains are somewhat lower than those farther out, and on reaching them the streams bend their courses in conformity to the topography, Big Lost River flowing northward in times of high water to a point near the mouth of the Little Lost River valley and Birch Creek turning southward to the same place. Here there are a number of shallow silted basins which in the spring are covered by an ephemeral sheet of water that is gradually reduced to a number of smaller bodies as the season progresses and that finally disappears.

Along the upper courses of these streams there are also noteworthy "sinks," or places where the water sinks into the stream bed. These are most clearly discernible late in the summer. A large sink occurs near "the narrows" a few miles above Mackay. In the vicinity of Darlington a considerable strip of the river's bed is dry at times, but a short distance downstream the river again attains nearly its full size and flows to a point above Arco; here much of the water again sinks, but it reappears in the vicinity of the town only to disappear entirely a few miles below. Similar sinks said to occur along the course of Little Lost River and Birch Creek were not examined by the writer.

#### MINING HISTORY AND PRODUCTION

Mining activity in the Mackay region began soon after the discovery, in 1880, of the rich lead-silver deposits in the Nicholia district, which is a few miles north of this region. Inspired by the profitable exploitation of those deposits prospectors spread into the surrounding country, searching for lead-silver ore with

a thoroughness that has never since been equaled in the region. Few of the deposits now known were early unknown to them. Small shipments of ore were made to the Nicholia smelter from the Skull Canyon, Birch Creek, Dome, Era, and Lava Creek districts, but with the abandonment of the Nicholia enterprise, about 1890, mining activity in the northern part of the region ceased. The history of the Muldoon district, to the south, is similarly bound up with that of the Wood River camps, which attained the acme of their prosperity late in the eighties of the last century.

The copper deposits near Mackay and Kaufman were discovered during this early period of mining activity but were not exploited until more than a decade later, when the mining industry of the region to some extent revived. Since 1900 the history of the mine now owned by the Empire Copper Co. has been essentially the history of mining in the region. Operations on this group of claims began on a large scale in 1901 with the building of a smelter with two 125-ton blast furnaces at Mackay. The succession of White Knob companies which owned this property during the next five years is notorious in the annals of mining, each being a drain on the investing public and a failure more disastrous than the one preceding it. After an expenditure of about \$3,000,000 without a cent of profit the enterprise passed into the hands of the Empire Copper Co., an entirely new organization, which has operated the mine on a leasing system at a noteworthy profit. The deceit and mismanagement that characterized its early history have been a serious detriment to the development of the mineral resources of the region, but its present management is conservative, and the company is encouraging the local industry in every legitimate way.

The production of the Mackay region can be only roughly estimated, as a considerable part of its output was made during the early period of activity, of which there is no satisfactory record. Even in recent statistical reports the county is the unit, and as this region includes parts of several counties but not all of any one county it is impossible to assemble accurate figures for the region from these reports. The total production of the region up to January 1,

1914, was probably not far from \$3,750,000, of which \$2,300,000 came from copper, \$100,000 from gold, \$700,000 from silver, and the remainder from lead. The Alder Creek and Dome districts, for which the record of production is more accurate than for the others, produced approximately \$2,500,000 and \$500,000, respectively to January 1, 1914. Next follows the Era district, with an estimated production of \$300,000; the Muldoon district, with \$200,000; Copper Basin, \$90,000; Birch Creek and Skull Canyon, each about \$65,000; and Lead Belt district, with \$25,000.