

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

HEPPNER COALS Morrow County

Introduction: Coal occurs in Morrow County in a zone trending east-northeast from Madison Butte, which lies 20 miles south of Heppner, to the headwaters of Butter Creek 20 miles east-southeast, a distance of at least 20 miles, in an almost straight line.

Initial discovery is locally accredited to Hezekiah Tippet, who located coal on Johnson Creek in 1878 or 1879. The Madison brothers drove several tunnels on the east side of Madison Butte as early as 1884, and Willard Herron, according to Mendenhall (1907)* located coal on the headwaters of Willow Creek before the turn of the century.

Although considerable development was done by the Blue Mt. Coal Company on the Johnson Creek coals (some wagon loads were taken to Pendleton and used) by far the greatest exploration was on Willow Creek, where the Heppner Coal Company spent in 1902 at least \$82,000 in driving five drifts and in drilling at least two diamond drill holes. Later in 1912-1914 the Heppner Light and Water Company reportedly drifted into the west side of the canyon for several hundred feet. Only one of these tunnels was open at the time of Mendenhall's visit in 1907, or Collier's visit in 1914, and the tunnels were all caved in 1947. The only published accounts of Morrow County coals consist of short reports by the two authors cited above.

General Geology: The Blue Mountains south of Heppner rise above the Columbia River basalt, and are composed in the vicinity of the coals of about 2000 feet of medium to coarse-grained feldspathic

* Bibliography at end of report.

sandstones , which are gently folded. Beneath the sandstones and to the northwest is a band of pre-Tertiary basic plutonics and granitic and diabasic intrusives from 2 to 3 miles wide, bounded on the northwest by Columbia River basalt, which makes up the plateau between the Blue Mountains and the Columbia River (see Figure 1). A few relatively small patches of porphyritic basalt cap the highest peaks, but appear to be less than 500 feet in thickness.

The pre-basalt rocks are folded and severely faulted, the axes of folding trending to the northeast, and the relatively incompetent coal beds, lying between massive layers of sandstone, are crumpled and slickensided. Attempts to mine coal have been repeatedly frustrated by the occurrence of faults in the workings.

The coal beds vary from a few inches up to 7 feet in thickness, but this thickness is made up largely of bone, the coal occurring in seams which are rarely over 6 inches thick, and which tend to pinch out rapidly within short distances. In a bed which is 5 feet thick, the total amount of coal may be only 2 feet, distributed among perhaps 10 or 15 or more thin seams only a fraction to a few inches thick.

The coal itself is a good grade, one analysis reported by Collier (1914:28) being as follows:

Moisture	1.85 percent
Volatile matter	41.86
Fixed carbon	47.29
Ash	8.30
Sulphur	.83

This is better than Coos Bay coal, in that it has a low moisture content, which places it in the bituminous rather than sub-bituminous rank.

Description of prospects: The individual prospects are described from east to west. They occur on an almost straight line which trends north 60° east.

Butter Creek

According to William Henry Cooke, coal outcrops in sec. 13, T. 4 S., R. 29 E., at the point where the road crosses the headwaters of Butter Creek. This locality is farther east than any previously reported.

(1)* Old Drill Camp

Coal outcrops and has been prospected on both sides of a small west-flowing tributary of Johnson Creek, a few hundred feet from the forks, in the NE $\frac{1}{4}$ sec. 20, T. 4 S., R. 29 E. It was discovered in 1878 or 1879 by Hezekiah Tippet, and was developed by the Blue Mountain Coal Company, the Arbuckle Company (a subsidiary of the Union Pacific) and others. There are three tunnels, a shaft, a diamond drill hole, and several shallow cuts (see figure 2). There appears to be three seams of coal, an upper, 3'6" thick, separated from the middle seam by about 30 feet of sandstone; the middle, of unknown thickness, underlain by a thin bed of black shale with numerous leaf impressions and 70 feet of sandstone; and the lower 2'7" thick. The lower seam was the only one exposed at the time of visit, and the section consisted of a sandstone roof, 6 inches of coal, 5 feet of carbonaceous shale, and 2 to 3 feet of dirty coal. The strike of the coal in this tunnel, which is about 40 feet long, is N. 70° E., with a dip of 22° SE. A giant palm leaf, over 6 feet across, is reported to have been exposed in the roof of the drift. The dip of the upper beds is less than that of the lower, being about 15° to the southeast.

A shaft reportedly 45 feet deep and a drill hole 950 feet deep (now piped with flowing water) are located on the south side of the gulch a few feet west of the caved drift (reportedly 260 feet long) on the middle bed of coal. A coal seam 2'7" thick is reported to have been penetrated at a

* Numbers refer to locations on Figure 1.

depth of 75 feet in the drill hole. Water in the shaft and from the drill hole is distinctly sulphurous. The caved drift on the upper bed is located 200 feet upstream to the east. Several wagon loads of coal were mined here and shipped to Pendleton many years ago.

(2) Number Two Prospect

This slope on coal lies on the north side of Johnson Creek about 3/4 mile west of and 500 feet higher in elevation than the Drill Camp, at an elevation of about 5000 feet in the NE $\frac{1}{4}$ sec. 19. It was dug in 1938 by W. H. and C. O. Clarke. The slope runs down at a 20° angle for about 30 feet to the N. 50° W. The coal is overlain by a 5-foot bed of massive, cross-bedded feldspathic sandstone, the measured section consisting of 10 inches of blocky coal, 5 inches of clay, and 2 to 3 feet of dirty coal, badly slickensided, which reportedly pinches out at the face of the slope. The roof is uneven, with gentle rolls and slight "jumps".

(3) Number One Prospect

This 40 foot tunnel, now caved to the face, lies about 250 feet south and 75 feet below Number Two, and is evidently on a lower seam of coal. About 4 feet of dirty shaley coal, lying almost flat, contains 6 inch, 4 inch, and 3 inch seams of good coal. It is overlain by broken, platy sandstone, containing abundant leaf imprints.

(4) Number Four Prospect

This tunnel is located a few feet above Johnson Creek, on the north bank of the north fork, and about 300 feet southwest of Number One prospect and 30 feet below. It is near the center of sec. 19. The tunnel runs due north for 70 feet, sloping less than 2°, on a bed varying from 4 to 7 feet

in thickness. Most of this thickness is bone, but there are several seams up to 6 inches thick hard coal, which has been crumpled and slickensided.

(5) Point Tunnel Prospect

A tunnel 173 feet long, dug in 1903 by W. H. Clarke, runs N. 75° W. into the spur between the forks of Johnson Creek near the center of the S½ sec. 19, at an elevation of nearly 5000 feet. It is about ½ mile east of the forks of the Hoppner-Ukiah and the Arbuskle Corral road, and 400 feet lower.

The coal bed is almost level, dipping from 1 to 2° west, so that the water is about 3 feet deep at the face. The section exposed near the portal consists of the following:

Platy feldspathic sandstone.....	6 feet
Alternating yellow sandstone and bony coal.....	2 "
Massive sandstone.....	1 "
Coal, dirty, bony, with a few lenses of clean coal.....	6 "

The coal seam is thickest near the portal, and pinches to 4 feet some distance into the drift. Lenses of good coal vary from a fraction of an inch to 18 inches in thickness, but average less than 6 inches. They are extremely lenticular and discontinuous, pinching out within short distances.

(6) Decision Prospect

A tunnel 20 feet long, now caved, was dug in 1939 by the Clarkes, at a point 500 feet south of the Point Tunnel, and at about the same elevation, near a small creek. The tunnel runs S. 60° W., and the coal is reported to be of the same general grade and thickness as in the Point Tunnel.

Fig. 5. Section along Johnson Creek

(7) Willow Creek Coals

The coal prospects on upper Willow Creek in the SW $\frac{1}{4}$ sec. 34, T. 4 S., R. 28 E., on the Heppner-Tupper Guard Station road, have been described by Mendenhall (1907:406-408) and Collier (1914:27-28). None of the tunnels were accessible at the time of the present visit. A sketch of the location of the various workings is given as figure 3.

Other Coals

Coal outcrops have been reported from several other localities south of Heppner. Five miles north of the Willow Creek locality, on the Horace Yocum place on Willow Creek, one drift has been dug 20 or 30 feet long. Several tunnels have been reported to have been dug on the east side of Madison Butte 8 miles southwest of the Willow Creek locality.

Bibliography:

Collier, Arthur J.,
(1914)

The geology and mineral resources of the John Day Region: Min. Res. of Oregon, Oreg. Bureau of Mines and Geology. vol. 1, no. 3, pp. 27-8, 1914.

Mendenhall, W. C.,
(1907)

A coal prospect on Willow Creek, Morrow County, Oregon: U. S. Geol. Survey Bull. 341, Pt. 2, pp. 406-408, 1907.

Report by:

John Eliot Allen
August 15, 1947

RECEIVED
OCT 19 1942
STATE DEPT OF GEOLOGY
& MINERAL INDS.
Harrow County

Name: Heppner Coal Mine (coal)

Owner: U.S.F.S.

Location: On the headwaters of Willow Creek and on the west slope of Bald Mountain in Sec. 33, T. 4 S., R. 28 E., and 22 miles by county road southeast of Heppner at an elevation of 3700 feet by aneroid.

History: The history of this property has been furnished by Mr. Frank S. Parker of Heppner, an old timer who has a good reputation and has no interest in the property. The Heppner Coal Mining Company acquired about 4000 acres which was considered to have some coal possibilities. In 1902 they drilled a hole near the S. $\frac{1}{4}$ cor. of Sec. 4, T. 5 S., R. 28 E. between three and four hundred feet deep. A 3 foot 2 inch coal bed was found at a little less than 300 feet deep. According to his memory this coal was of fairly good grade.

Another hole was put down at the head of Willow Creek near the S.W. cor. of Sec. 34, T. 4 S., R. 28 E. No coal was found here. The company then tried to develop the property by means of 4 tunnels all of which are now caved and are located on Willow Creek in the N.E. $\frac{1}{4}$ of the S.E. $\frac{1}{4}$ of Sec. 33, T. 4 S., R. 28 E.

No. 1 tunnel about 30 ft. long running in a southerly direction. No coal to speak of.

No. 2 about 100 yards N.W. of No. 1 and runs in a westerly direction which showed some coal.

No. 3 is about 100 yds. north of No. 1 tunnel and runs in a S.E. direction. Some good coal, but badly broken up.

No. 4 about 200 yds. north of No. 1 in a N.E. direction about 200 ft. Mr. Parker states that there was 3 ft. and 4 inches of coal showing in the face. Some coal was sold in Heppner from this tunnel. (Possibly 50 tons.) In 1903 the company went broke and the holdings were taken over by the bank in Heppner. Mr. J. L. Gault was appointed administrator and nothing was done on the property after that. In 1936 the U.S.F.S. purchased the property from Mr. Gault and it is now a part of the Umatilla National Forest. All the officers of the Heppner Coal Company are deceased and Mr. Parker is the only one left that has any first hand knowledge of the property. He helped put down the drill hole on Ditch Creek and worked in all 4 of the tunnels. He states that the coal slacked very easily and when burned it made lots of ashes. He feels that there is a good coal bed there, but it would be costly to open up because of the faults. However, Mr. Parker has had no coal experience other than what was acquired on this property and knows nothing about the grades of coal. Mr. M.D. Clark of Heppner is an old timer and remembers the coal to be soft and of a poor quality.

Also
Quote
Collins?

Heppner Coal Mine (Continued)

Miscellaneous
Information:

The informant visited the property with County Engineer, Harry Tamblin, and was shown the location of the drill hole on Ditch Creek and tunnels 2, 3 and 4. Tunnel No. 4 showed the only signs of coal, which, of course, was very badly weathered. About 2 miles N.E. of the tunnels, Mr. Horace M. Yoakum recently found a little coal blossom indicating an 8 to 10 inch bed at the surface. The strike at this point was N. 35° W. with a dip of 35° to the S.W. Mr. Tamblin stated that coal had been reported from Butter Creek on the east side of Bald Mountain. He did not know just exactly where the coal was found, but was quite sure that there never had been any work done on it.

Mountainous topography covered with timber. Fairly good county dirt road with natural water grade to Heppner.

The bed appears to be almost flat and Mr. Parker remembers the roof to be sandstone.

Informant:

J. E. Morrison. May 20, 1939.

Ref.:

Collies, A. J., Geol. + Min. Res. of John Day Region:

Ore. Bur. Mines, Min. Res. of Oreg., Vol. 1, No. 3,

pp. 27-28, 1914.

Mendenhall, W. C., Coal Prospects on Willow Creek,

U. S. G. S. Bull. 341, pp. 406-8, 1907.

Sent in by RCT
"had been buried in the
file"