

The State of Wyoming.  
Office of State Geologist,  
Cheyenne.

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A REPORT

ON

THE NORTH AMERICAN ASBESTOS PROPERTY

ON

CASPER MOUNTAIN,

HATRONA COUNTY, WYOMING.

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SITUATION.

The North American Asbestos group of claims is situated on Casper Mountain at a point about seven miles south of the town of Casper, in the eastern part of Natrona County, Wyoming.

Casper is the county seat of Natrona County and a division point on the Chicago & Northwestern Railroad system, which extends one hundred and fifty miles further westward to Lander, Wyoming, the present western terminus.

The claims are located in Sections 16, 17, 18, 19 and 20, of Township 32 North, Range 79 West, and Section 13, Township 32 North, Range 80 West, as shown by the general map of the claims accompanying this report. This map is compiled from location descriptions now available, and presents a practical picture of the general conditions of property at this point.

EXTENT AND TITLE.

The group consists of thirty-eight lode claims, as follows:-



- |                          |                            |
|--------------------------|----------------------------|
| 1. Dreadnaught No. 1.    | 19. Asbestos King No. 3.   |
| 2. Dreadnaught No. 2.    | 20. Asbestos King No. 4.   |
| 3. Dreadnaught No. 3.    | 21. Asbestos King No. 5.   |
| 4. Dreadnaught No. 4.    | 22. Asbestos King No. 6.   |
| 5. Dreadnaught No. 5.    | 23. Asbestos King No. 7.   |
| 6. Dreadnaught No. 6.    | 24. Horcross No. 1.        |
| 7. Dreadnaught No. 7.    | 25. Horcross No. 2.        |
| 8. Dreadnaught No. 8.    | 26. Horcross No. 3.        |
| 9. Dreadnaught No. 9.    | 27. Horcross No. 4.        |
| 10. Black Diamond No. 1. | 28. Bugle.                 |
| 11. Black Diamond No. 2. | 29. Bugle No. 2.           |
| 12. Black Diamond No. 3. | 30. Morning Star.          |
| 13. Black Diamond No. 4. | 31. Morning Star Fraction. |
| 14. Black Diamond No. 5. | 32. Savage.                |
| 15. Black Diamond No. 6. | 33. Independent No. 2.     |
| 16. Black Diamond No. 7. | 34. Allen.                 |
| 17. Asbestos King No. 1. | 35. Ridge.                 |
| 18. Asbestos King No. 2. | 36. Daisy.                 |
|                          | 37. Silver Leaf.           |
|                          | 38. Rainbow.               |

These claims are held by location and discovery, under the laws of the United States and State of Wyoming, as shown by the records of the County Clerk of Natrona County, at Casper, Wyoming.

Of these claims, twenty-eight are full claims, each six hundred by fifteen hundred feet, and the remaining ten are fractional claims, the whole comprising about 725 acres of mineral land, held as above.

In addition to this, there are held under lease one hundred acres situated in the NW 1/4 of Section 16, Township 32 North, Range 79 West, and 175 acres situated in the S 1/2 of



the same section. This is school land leased from the State of Wyoming, as provided for the leasing of state mineral lands under the laws of Wyoming by the State Board of Land Commissioners, as shown by the records of the Commissioner of Public Lands at Cheyenne, Wyoming.

The total comprises about one thousand acres of land held as above, and lying about as shown by the accompanying map.

#### CASPER MOUNTAIN.

The range of mountains locally known as the "Casper Range" is the western end of what is known as the Laramie Mountains, which extend from the Wyoming-Colorado line northerly over a distance of one hundred and fifty miles to Laramie Peak, and thence westerly to Casper Mountain, where it forms one of the principal land marks of central Wyoming, and forms an important part of the water shed of this locality. Accompanying this report are a number of photographs, taken on Casper Mountain, which serve to give a definite idea of the general appearance of this range and its environs.

#### GENERAL GEOLOGY.

The general geology of Casper Mountain may be said to



consist of a core of reddish granite, flanked on all sides by the succeeding sedimentary limestone and over-lying formation, which extend out to the valleys on all sides of the mountain. The granite core is some ten or twelve miles in length easterly and westerly, and two or three miles wide, forming a series of high, flat plateaus, skirted by precipitous cliffs of the limestone on either side, and with deep canons, forming the water courses leading out to the valleys.

This granite is cut by various dykes, such as diorite and the allied dyke rocks, and with a number of bands of schist showing at intervals. The principal formation noted with the granite is a huge belt of serpentine, which is apparently about six miles long, easterly and westerly, and a mile or so wide, and in this serpentine occurs the asbestos which has made Casper Mountain famous.

#### THE NORTH AMERICAN GROUP.

Commencing at the easterly limits of the group, there is noted a band or dyke of serpentine, which extends continuously, (as nearly as can be traced under surface conditions) to a point west of the shaft, on the Dreadnaught group, and on this showing the principal work of the group is now being carried on.

The serpentine at this point shows a dyke over one



hundred feet wide, flanked on either side by dykes of granite and schist; both of these formations have been more or less altered and replaced by the minerals carried in solution and deposited at this point during the various changes to which the mountain has been subjected.

At the eastern end, there is a shaft shown about fifteen feet deep, where a vein has been opened about eight feet wide in serpentine and showing chrysotile asbestos, varying from a thin veinlet to larger veins carrying unbroken asbestos showing fibre up to three-quarters of an inch in length.

Passing westward from this shaft, which is known as the "East Slope Shaft", the main working point of the property is noted. This is known as the "McConnell Shaft", and was sunk a number of years ago, but little was done further than take out a small quantity of asbestos for test shipments. At the time of this work, shipping facilities were very poor, and prohibitive rates of freight delayed the development of the property until the present time.

#### MCCONNELL SHAFT.

The McConnell shaft, which is about forty feet deep, is sunk on a vein of asbestos in serpentine much greater than the width of the shaft, the full extent of which has not yet been determined. From the top to the bottom of this shaft may be



noted a network of numberless veins and veinlets of chrysotile asbestos, showing asbestos of all sizes and lengths of fibre up to two inches in length. Some of these veins show from four to six inches in width, the unbroken asbestos fibre showing from one-eighth of an inch up to one and one-half inches in length, the average length of the fibre being, in the writer's opinion, about three-quarters of an inch in length, and the percentage of asbestos in this showing varying from eight to ten per cent of the rock surface now open.

This showing may be traced on the surface of either side of the shaft along the course of the dyke, and is again cut by an open cut some twenty feet in depth at the face, at a point about four hundred and fifty feet westerly from the shaft, where a similar condition and quality of asbestos is noted.

At a point northwesterly from the McConnell shaft a tunnel was started some years ago by inexperienced miners, who drove the tunnel for a distance of some three hundred feet, but only succeeded in reaching a point about one hundred feet north of the present shaft. This tunnel has been resurveyed, and a cross cut started from the tunnel to the shaft, which will cut the shaft line at a depth of fifty feet and connection will be made at once with the present shaft for air.

When this is done the cross cut will be driven south beyond the shaft to develop the full extent of the asbestos



showing and enable drifts on the vein to be run easterly and westerly on the asbestos, and the full extent of the showing at this point developed. When this is completed it will give stoping ground sufficient to keep the property busy for at least the winter season, and enable a steady production of asbestos to commence at once. In the writer's opinion, this is the most important work to do at this time, and the work should be pushed with all possible speed toward completion.

#### BLACK DIAMOND SHAFT.

At a point on the Black Diamond No. 6 claim, a shaft has been sunk to a depth of about thirty-five feet on a showing similar to that just described for the McConnell shaft, showing a fibre of similar quality and a maximum length of about three-quarters of an inch. This shaft is an old shaft now being cleaned out and retimbered with a view of deeper work at this point, as conditions permit.

At various other points on the claims embraced in the group, work has been done on a series of prospect holes, but no depth has yet been reached by these workings, and it is recommended that the main work of this season be confined to the McConnell shaft vicinity, as above outlined, and that all effort be made to place this showing on a producing basis at the earliest possible



moment.

THE QUALITY OF THE ASBESTOS.

In the writer's opinion, the quality of the asbestos found in these workings is of a very high grade of chrysotile asbestos, capable of being manufactured into a variety of commercial products, and is a valuable deposit.

The writer has personally taken samples from the workings above noted, and at other points on the claims, which he has roughly fiberized and worked up to a point showing commercial qualities.

There is a great quantity of the short fibre suitable for the rougher purposes of manufacture, together with a smaller quantity of the longer fibre suitable for the finer purposes of commerce, together with a great amount of the asbestos "waste", very short fibre and serpentine rock, which may be utilized, and is now in demand for fireproof plasters, fillings and backings where a cheap fireproof material is required.

The chrysotile asbestos of Casper Mountain is a fibrous, greenish-white mineral, possessing remarkable heat, sound and electricity non-conducting qualities, and is capable of a great variety of commercial uses.

In addition to the chrysotile variety before noted, there are also noted quantities of the harder and coarse vari-



eties, which are variously known as amphibole, chrysolite, fibrous talc, etc., but which are not at the present time receiving attention. These may be taken up later as the asbestos trade develops and demands for large quantities of the coarser varieties are made.

#### DEVELOPMENT AND MILL.

It is recommended that development work on the present showings now made be pushed as rapidly as possible, and that stopes be opened up from the shaft and connections, as before outlined, to permit a constant production of the fibre rock at the earliest possible moment. To treat this rock, it is recommended that a mill be erected at a point on the Dreadnaught claim No. 8 at a point below the mouth of the present tunnel, convenient for handling the rock through this tunnel from the shaft workings above noted.

The surface conditions here present an ideal millsite, as it provides all the fall necessary for economical treatment at all stages of the process, and water from the nearby streams may be run into the mill at any point desired.

By carefully noting the conditions shown on the panorama and smaller photographs of the McConnell group and vicinity, it will be noted that this millsite provides almost an ideal situation for either limited or extensive works, as may be re-



quired. For the present, it is recommended that this mill produce only a rough product, having the longer fibre and finer grades cobbled out by hand and shipped separately.

It is also recommended that tests and plans for this mill be taken up at once and that its erection be commenced at once in order that production may be continuous through the winter season of 1908 and 1909.

It is also recommended that a road be constructed from the millsite northerly along the west side of the long point leading down toward Casper between Spring Creek and Elkhorn Creek, so as to permit of continuous shipments during this time.

It is recommended that a survey be made of this route at once to determine its practicability and cost, and estimate submitted at the earliest possible moment, as it is considered the most feasible all-the-year-round route from the present millsite to Casper. The distance by this road is estimated at about nine miles, the first two or three miles of which would have to be graded along an entirely new line: the pull will be almost entirely down hill to Casper.

#### TIMBER AND WATER.

As shown by the photographs accompanying this report, the ground is well timbered with pine and spruce timber, suitable for all present purposes of building and fuel, and Falls Creek



and its adjacent springs and branches furnish an ample supply of water for all present requirements.

Mining and all other supplies may be purchased at Casper or Denver, and the prices are the same as those current in this whole inter-mountain region.

The Northwestern Railroad system at Casper offers splendid shipping facilities for all products to points east and west, and the situation of Casper is considered to be a good western shipping point.

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In the writer's opinion, the asbestos shown on this property comprises a great quantity of commercial asbestos, and merits the fullest development on a practical working commercial scale along the lines herein outlined, and, under proper conditions of management and production, should become an immensely profitable enterprise both to the state and producers.

Respectfully submitted,

*Henry C. Decker*

State Geologist of Wyoming.

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Date of Examination:

August 3rd to 6th, 1908.



Photograph Number 1.



A general view of the McConnell Shaft vicinity, from a point on the west side of Spring Creek, looking southerly across Spring Creek and the mill site below the present tunnel.

Photograph Number 2.



A view at the McConnell shaft, looking easterly from a point opposite the shaft and showing present camp and surface conditions.



Photograph Number 3.



Another view at the McConnell Shaft, looking north-easterly and showing north line of the mountain, Falls Creek and Elkhorn canons, camp, etc..

Photograph Number 4.



A view looking northerly from a point at the base of Casper Mountain near the Montgomery Ranch on Falls Creek, showing the foothills, North Platte River and mountains in the distance.



Photograph Number 5.



General view of workings at McConnell shaft from a point north of the shaft on Spring creek. Proposed mill site in timber below the tunnel mouth.

Photograph Number 6.



A second view from the same vicinity showing the tunnel dump and the mill site below it.



Photograph Number 7.



A near view of the dump at the McConnell Shaft. The material here shown is the rock taken from the 40 ft. shaft, some of which was sorted and the best of the asbestos cobbled out but a great deal still remains in the dump which can be worked up and shipped.

Photograph Number 8.

Snapshot of General Manager Winnium, State Geologist Beeler and Judge McCluer of Kansas City, Mo. taken during their recent inspection of the property, at the McConnell shaft.



Photograph Number 9.



A snapshot of workings.

the McConnell

Photograph Number 10.



A view looking north towards the canon of Falls creek on a misty Morning, from a point on the Black Diamond Group.

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