State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

SPARE TIME CLAIMS
(Asbestos, variety chrysotile)

Canyon District
Grant County

Claim detail, owners, location, published geologic-topographic background data.

As presently staked this property is comprised of six lode claims, filed on in May-June 1960, by Ronald Begg, William Wright and Robert Connor, all of John Day, Oregon. The claims are located on the northern slope of Canyon Mountain, Grant County, Oregon, adjacent, in part, to Little Pine Creek. Legal subdivision embraced by the group as a whole includes portions of sections 7 and 18, T 14 S., R 32 E. However, the strongest mineralized areas currently observable are located in section 7. This portion of the property is situated from three to three and one-half miles by partially graveled dirt road from Canyon City and State Highway 395.

Most of the foregoing data is shown graphically on Plate 1 which also includes the bedrock geology and topography in the immediate vicinity of the occurrence. Supplemental information concerning the geologic and topographic conditions in the surrounding area is available as follows:

Topographic map of the John Day quadrangle; U. S. Geological Survey, edition 1943.

Preliminary Geologic Map of the John Day Quadrangle; U. S. Geologic Survey, Mineral Investigations, Field Studies Map, MF51, by T. P. Thayer, 1956.

History:

Knowledge concerning the existence of chrysotile stringers in the serpentines and related ultrabasic rocks on Canyon Mountain cannot be described as new. Nevertheless,

the work done by the present claimants represents the first tangible attempt to develop and evaluate the occurrence as a prospect and this report represents the first formal description of the occurrence recorded by this department.

GEOLOGY:

Plate 1 illustrates the geologic mapping in the region as done by Thayer (1) and transferred to an enlargement of the topographic base by the writer. As is readily apparent, claims number 1, 2, and 3 encompass an area occupied almost exclusively by serpentine, with an overburden of alluvial sediments in the vicinity of the overlapping end boundaries between claims 1 and 3 constituting the largest occurrence of different material. Similarly, claims number 4 and 5 encompass an area underlain almost exclusively by olivene peridotite. Both the serpentine and the peridotite occur within the bounds of claim 6 and are exposed in a manner that suggests they are present in approximately equal proportions, with the contact in approximate conformity with the centerline of the claim throughout its full width.

Chrysotile occurs in both the serpentine and the peridotite but the most prominent exposures of the longest fiber occur in the serpentine. Veinlets observable in the peridotite are locally numerous, especially in portions of claims 5 and 6, but the prevailing fiber width ranges from one sixteenth of an inch down to minute seams,

(1) U. S. G. S.; Mineral Investigations, Field Studies Map, MF51, previously cited.

and fiber lengths in excess of one eighth of an inch are scarce to the point of being essentially absent.

Fiber length observable in the more enriched occurrences in the serpentine range up to one quarter of an inch but rarely exceed said length. This circumstance limits the potentialities of the occurrence to a maximum rating in the lower brackets of group #4 as established by Ross [1] unless longer fiber is encountered during the course of future exploration work. Nevertheless, fiber lengths of three sixteenths to one quarter of an inch are present and do account for roughly one-fourth of the total number of stringers counted in the five 10-foot sections itemized in Table 1. The comparitive number is even greater in the 5-foot spur to the road trench [2] listed in the same table.

Reference to the foregoing table merits additional explanation. First, this table contains the results of a sample count of stringers from two of the better exposures on the property. One of these exposures occurs in the bank of an early day ditch and the other is a shallow trench dug into firm bedrock from a stretch of roadway which traverses a rubble of residual bedrock fragments. The location and relationship of these sections is shown on Plate 2. along with other prospect trenches and the approximate location of some fiber-bearing natural outcrops.

The second point of explanation meriting emphasis pertains to the percentage of asbestos indicated as present in

(1) Ross, J. G., 1931, Chrysotile Asbestos in Canada; Canada Dept. Mines, Mines Branch, No.707, as quoted in Bulletin 176, Mineral Commodities of California, 1957.

(2) This trench was dug only to the width of a shovel, and because of its location in the roadway it was filled again after examination.

each of the measured sections. On this score it is to be pointed out that the nature of the fiber occurrence is such that the sections tend to cross one set of chrysotile veinlets and parallel the strike of another. Under the circumstances the stringer count as indicated for each section includes only those veinlets which trend across the strike of the section. The short spur dug at right angles to section A-B was dug especially for the purpose of illustrating the existence of the supplementary set of stringers.

On the basis of the foregoing situation it is evident that the percentage figures cited in the table for the amount of asbestos measured in each of the sections fall short of representing the total that could be expected if the conditions of exposure were such as to permit a count to be made over an area rather than along a section. An estimate is, therefore, all that can be offered concerning the total percentage of fiber actually present at the sampling sites under discussion. However, if it is assumed that veinlets parallel section X-Y in about the same frequency that they are exposed in the section, and do so over a comparable distance, the indicated fiber content of the tract would be 5.8 percent. The combined count in section A-B and its spur also indicate an overall tenor of in excess of 5 percent fiber.

Bedrock exposures showing a fiber content estimated as similar to those just described are to be seen elsewhere on the property. These exposures occur at random places along the slope between the crest of the ridge and Little Pine Creek over

the full length of claim 1 and into claim 2 for a short distance. They are, however, generally small in area, irregular in shape and poor from the standpoint of revealing bedrock conditions for examination purposes.

On the foregoing score it must be added that dozer trenches shown in Plate 2 have not been dug to sufficient depths to reveal bedrock conditions effectively, except at a few places. The trenches therefore merely serve to indicate the existence of asbestos stringers by the exposure of fiber in the dug rubble and by enabling the examinee to dig fresh material from the trench bottoms with a hand pick. They do not permit the careful scrutiny of bedrock conditions needed to establish tangible data concerning the persistence of fiber occurrence or the nature of geologic details. Some additional work will therefore have to be done in order to expose the bedrock in these trenches in a clean-cut manner for examination purposes. Until this work is done all that can be said is that fiber is present to a variable extent in the areas traversed by several of the trenches.

Not all natural bedrock exposures in claim 1 are fiber-bearing. This is particularly apparent along the ridge where exposures of comparitively barren material tend to outcrop at intervals in a series of craggy knolls. Whether these barren areas are limited in their occurrence to the vicinity of their present exposure, or whether they occur also in the bedrock areas currently obscured from view, rates therefore as another question which will necessarily

have to be clarified before the true nature and extensiveness of the fiberized area can be evaluated properly.

The impression afforded by the present exposures is that chrysotile is best developed in material that is softer, more shattered and less resistent to erosion than is the bedrock in the comparitively barren, craggy exposures just mentioned. If this is true, the situation could have a bearing on the distribution of fiber on the property, and hence on the question of what constitutes the areas in which prospecting might best be done in order to demonstrate whether fiber does, or does not, occur over an area of mineable proportions.

The very existence of Little Pine Creek canyon could thus be relevant in that its existence suggests that the bedrocks through which it has been cut were less resistant than those along the ridge. This in turn suggests that the more resistant rock may be limited in its occurrence to the vicinity of the ridge, and that the relatively barren outcrops situated there may accordingly represent islands of less mineralized country rock localized along the margin of a zone in which a greater degree of shattering and erosional instability exists. Since the postulated area of more readily erodable bedrock tends to coincide with, and parallel, the serpentine-peridotite contact, indicated on Plate 1 as present beneath the alluvium in the canyon bottom throughout the entire length of claim 6, it is in order to infer that a certain amount of shearing and related disturbance may be present and may account for both the erosional characteristics and the localization of fiber development. Therefore, on the

strength of these possibilities, it would appear that the belt of bedrock currently hidden from view by alluvium in the canyon bottom, and the talus along its margin, might constitute a truly pertinent area to expose for examination purposes. The fact that the most highly fiberized exposures on the property (Table 1) occur in relatively soft, shattered rock situated at the very toe of the ridge, and at the absolute margin of the alluvium-covered meadow, lends support to this contention regardless of what the structural implications may be.

CONCLUSIONS:

The asbestos currently exposed in this property does not include fiber of exceptional length. However, fiber lengths conforming to those required by the shingle, paper and filler industries are present and are exposed locally in amounts that suggest the possibility of a commercial potential provided comparable tenor exists over an area of sufficient size to provide a mineable volume of reserves.

Present conditions of bedrock exposure on the property are generally poor and do not provide a sufficient amount of pertinent data to justify the formulating, at this time, of any authoritative conclusions concerning the ultimate size of the fiber-bearing area or concerning the tenor and persistency of fiber occurrence therein. Nevertheless, fiber-bearing outcrops of the grade just mentioned, and float fragments carrying similar fiber, are widespread in their occurrence and do demonstrate a tendency towards fiberizing conditions over an area of interesting proportions. In this connection, the most pertinent portion of

the property is that covered by the east half of claim 1, the west half of claim 6 (the portion containing the inferred peridotite-serpentine contact) and the area covered by the southern and northern extremities of claims 3 and 2, respectively.

Within this area, the portion most deserving of prospect attention would appear to be that occupied by the alluvium in the Little Pine Creek canyon and in the meadow formed by the tributary gulch which extends across the southern part of claim 3. One of the reasons behind this conclusion is that the best and most sustained development of fiber currently exposed on the property is located at the very margin of the meadow, adjacent to the toe of the ridge, and in a bedrock that is apparently more susceptable to erosion than some of its counterpart phases exposed along the crest of the ridge. Another is that the very existence of Little Pine Creek canyon indicates the probable occurrence of a wide belt of the same relatively erodable material between the crest of the ridge and the serpentine-peridotite contact to the east thereof.

The size of this currently obscured belt of bedrock is such that if it should prove to carry fiber in amounts comparable to that exposed in the ditch and roadway on claim 3, a mineable tonnage of reserves could conceivably be developed. In any event, the situation is entirely speculative and much prospect work will be necessary to establish the facts.

Report by: N. S. Wagner,

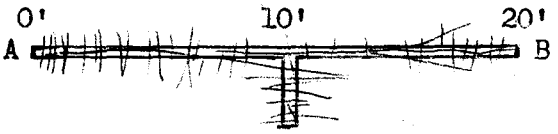
June 2nd., 1961

TABLE I

Tabulation of stringers striking normal to trench in road shown as section A-B, claim number three, figure 2. Total trench length; 20 feet.

	1st 10' interval	2nd 10' interval	full 20' section
stringer width	number	number	total number
1/16"	10	8	18
1/8	7	5	12
3/16	3	4	7
1/4	1	0	1
5/16	0	0	0
composite width	2-5/16"	1-7/8"	4-3/16" (1.7%)

Tabulation of stringers striking parallel to the above trench as shown in a spur dug at right angles to the main trench for a distance of four feet on the north side and at about the mid-point.



Trench-spur diagram:
Indicated stringer trends
and density are schematic

stringer width	number
1/16"	5
1/8	5
3/16	5
1/4	2
5/16	0
composite width	2-3/8" (4.9%)

Tabulation of stringers exposed in ditch bank shown as section X-Y in claim number three, figure 2. Total section length; 30 feet. Only one set of stringers exposed for count, namely those striking generally normal to the trend of the ditch.

	0-10'*	10-20'	20-30'	full 30' section
stringer width	number	number	number	total number
1/16"	13	8	4	25
1/8	25	4	10	39
3/16	14	1	1	16
1/4	1	2	1	4
5/16	0	0	0	0
composite width	6-13/16"	1-11/16"	1-15/16"	10-7/16" (2.9%)

*eastern-most interval

SPARE TIME PROPERTY

NAME

OLD NAMES

Asbestos (Chrysotile)

PRINCIPAL ORE

MINOR MINERALS

14 S (T) 32 E (R) 7 & 18 (S)

PUBLISHED REFERENCES

Grant ..... COUNTY

Canyon ..... AREA

4500 to 5700 ..... ELEVATION

MISCELLANEOUS RECORDS

Iron King road ..... ROAD OR HIGHWAY

..... DISTANCE TO SHIPPING POINT

PRESENT LEGAL OWNER (S) ....Ronald Begg..... Address .....

.....

.....

.....

OPERATOR .....

Name of claims	Area	Pat.	Unpat.
Spare Time 1 to 6			x

Name of claims	Area	Pat.	Unpat.

EQUIPMENT ON PROPERTY

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