



CONTACT INFORMATION  
Mining Records Curator  
Arizona Geological Survey  
416 W. Congress St., Suite 100  
Tucson, Arizona 85701  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

The following file is part of the Grover Heinrichs Mining Collection

#### **ACCESS STATEMENT**

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

#### **CONSTRAINTS STATEMENT**

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

#### **QUALITY STATEMENT**

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

May 18, 1956

Mr. Ralph C. Flaherty  
P.O. Box 145  
Garberville, Calif.

To Wisser & Cox, Debtor.

To professional services, examination of Little Red Mt. chromite prospect, Mendocino Co., Calif., 1½ days in field @ \$150.00.....	\$225.00
Preparation of report, 1½ days @ \$100.00.....	150.00
Expense account (attached).....	<u>41.51</u>
	\$416.51
Less retainer advanced .....	<u>250.00</u>
Amount due.....	\$166.51

REPORT ON  
LITTLE RED MOUNTAIN CHROMITE PROSPECT  
MENDOCINO CO., CALIF.

Introduction.- The writer spent the morning of May 12, 1956, on the property, with Messrs. Ralph C. Fisherty and E.H. Lowe of Garberville. After my return I consulted geologists and mining engineers of the State Division of Mines, and officials of the Emergency Procurement Service, General Services Administration, U.S. Government. Publications on chromite in Mendocino County were also consulted.

Location.- The property comprises the whole of Section 6, Township 23 N, Range 16W, Mt. Diablo Base & Meridian. It is accessible by 4-5 miles of road ~~limited to~~ jeeps and timber trucks, taking off from Highway U.S. 101 at Cummings, a small settlement 35 miles south of Garberville. The property lies about 3 miles air-line northwest of Cummings, and covers the higher portions of Little Red Mountain (see accompanying map).

Geology.- The Little Red Mountain chromite prospect lies toward the southern end of a diamond-shaped mass of basic intrusive rock commonly called serpentine. Chromite deposits throughout the world are found in similar basic rocks, whose scientific names include peridotite, dunite, pyroxenite and saxonite. In the accompanying map outcrops of such rocks are lumped under the name peridotite.

This great mass of peridotite extends northward from Little Red Mountain and forms the higher portions of Big Red Mountain; it must be at least 6 miles long and several miles wide.

The peridotite or serpentine on both Big and Little Red Mountain

has been almost entirely converted to a reddish to yellowish soil called laterite; outcrops of solid rock are scarce.

Laterite forms by weathering of basic, iron-rich rock under tropical conditions. Such conditions prevailed in California in Eocene time, about 40,000,000 years ago. Tropical weathering removes silica, magnesia and other constituents of the rock, while iron, chromite and alumina remain. The lateritic soil is therefore richer in these substances than the original rock.

On Little Red Mountain, outcrops are limited to the steeper portions, especially the summit (see map). The flat benches occupying the northeast quarter of Section 6 are composed of laterite, which may be very thick.

Chromite Showings.- The cut near the summit, shown on the map, exhibits the remains of a small lens of chromite, now mined out. These small, irregularly distributed lenses are typical of chromite occurrences in the California Coast Ranges.

The eastern slope of the peak shows several outcrops of peridotite and abundant coarse peridotite float, but little or no chromite was noted. The numerous pits, however, in the laterite tell a different story. They were dug in areas showing abundant fine chromite grains in the laterite, plus probably coarser chunks of peridotite carrying chromite, examples of which are found on most of the dumps. The pits were probably dug during World War I, and each may have produced several tons of sorted chromite ore, which were presumably packed out on mules.

Chances for the Property.-The abundant productive pits, and the wide areas of promising-looking laterite around them suggest the possibility of a sizeable chromite deposit below the laterite. Isolated small chromite lenses like that near the summit would not be of interest, but a large deposit of milling grade ore would. Several of the pits have yielded boulders of peridotite showing disseminated chromite grains.

It should be emphasized, however, that chromite occurring in laterite is deceptive, because formation of laterite enriches the chromite content far above that of the fresh rock. Digging into the laterite will expose boulders of peridotite, many of which may carry chromite, but these boulders will be underlain by laterite and it is impossible to predict depth to bedrock. Some of the laterite itself however may contain enough fine particles of chromite to make milling ore.

Conclusions.- The United States Government will cease purchase of chromite on June 30, 1957, unless Congress passes a new law extending the period of purchase, and the law is not vetoed by the President, as a previous one was. As of now, there is not sufficient time to develop this prospect, and I cannot recommend its development. The following suggestions should be acted upon only if purchase of chromite is extended beyond June 30, 1957.

Suggestions for Exploration.- Chromite has a high specific gravity and for that reason a sizeable body of chromite ore may be detected by measuring the pull of gravity which it exerts, using an instrument called the gravimeter. Such a survey could probably be obtained for about \$4000.

10/5/56

Bill - I do not mention Ni in this report, but one of the Div. of Mines geologists told me that the Serp. of Big Red Mt. N of Little Red Mt. carries appreciable quantities of Ni. It's one big intrusion, 6 mi. long, & traces of the Eocene peneplain are preserved.

You can get the dope on the Ni samples thru Al at Jenkins's

Ed



THIS SIDE OF CARD IS FOR ADDRESS

Mr. E.H. Wisser

1986 Yosemite Road

Berkeley

Calif.

E.H.Lowe  
P.O.Box 444  
Garberville  
Calif. 4/I6 56

Mr. E.H.Wisser,  
1986 Yosemite Rd.  
Berkeley Calif.,  
Dear Sir;

As to our telephone conversation, would you please let me know how soon you can make us a report on our property.

There is 620 acres in one peice, and we may have to hike a couple of miles to get onto the property, depending on the weather.

Would prefer having it done during the week if possable.

Sincerely,

*E.H. Lowe.*

If the gravity survey disclosed one or more areas of abnormally high gravity, the next step would be to drill these areas, either by churn drill or diamond drill. Churn drilling would offer the advantage of sampling the laterite for chromite; churn drilling would be easier in the laterite but more difficult in the fresh rock, while diamond drilling would be less easy in the laterite but quite easy in the fresh rock. It is impossible to estimate the number of holes needed and the average depth of the holes; but the cost of drilling with a small churn drill might be about \$5 per foot, with a diamond drill \$7 to \$10 per foot. 20 fifty-foot holes would cost on that basis, \$5000 for churn drilling and \$7000 to \$10,000 for diamond drilling.

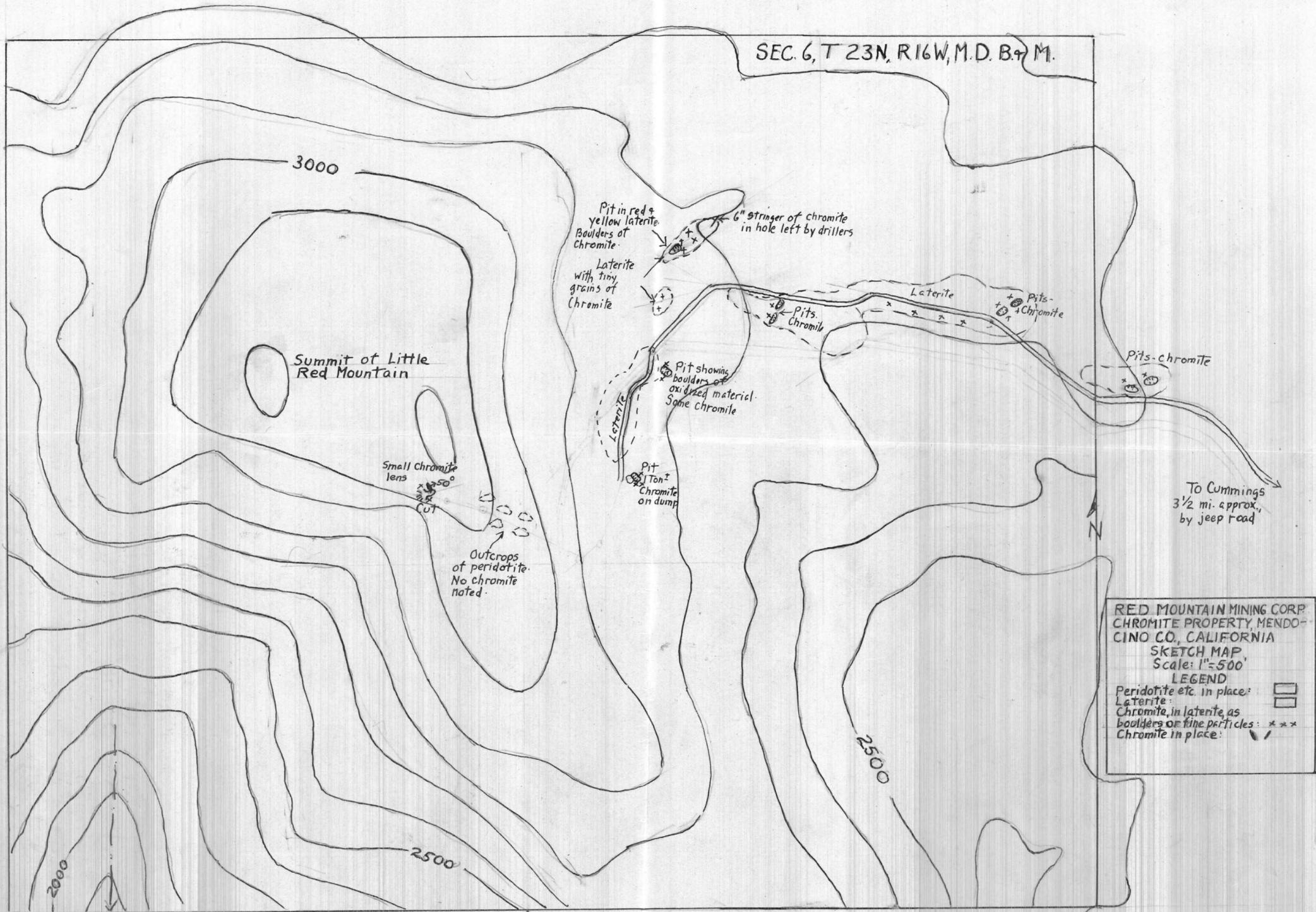
I believe that drilling the promising areas, with or without a gravity survey, should precede any excavation by bulldozer, because the laterite may be very thick, but its thickness is entirely unpredictable.

At present the Government will accept chromite with a grade as low as 42% Cr<sub>2</sub>O<sub>3</sub>, and a chrome-iron ratio as low as 2:1. Cleaned chromite from the California Coast Ranges averages 50-55% Cr<sub>2</sub>O<sub>3</sub>, and a chrome-iron ratio between 2.5 and 3.2. It is likely therefore that any chrome found on Little Red Mountain will be of acceptable quality.

San Francisco, Calif.  
May 18, 1956

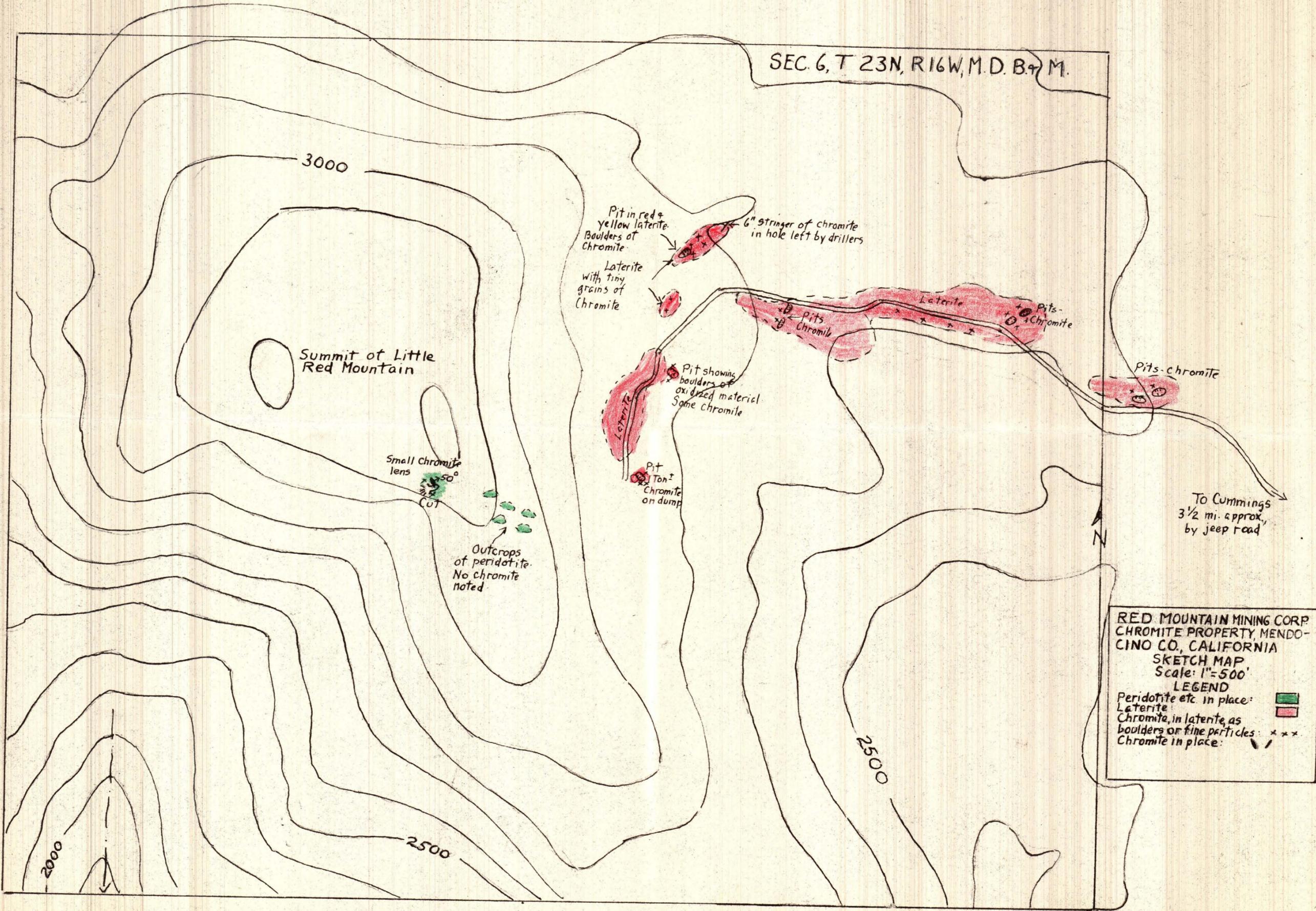
*E.W.*  
Edward Wisser  
Wisser & Cox  
Consulting Geologists

SEC. 6, T 23N, R 16W, M.D. B. & M.



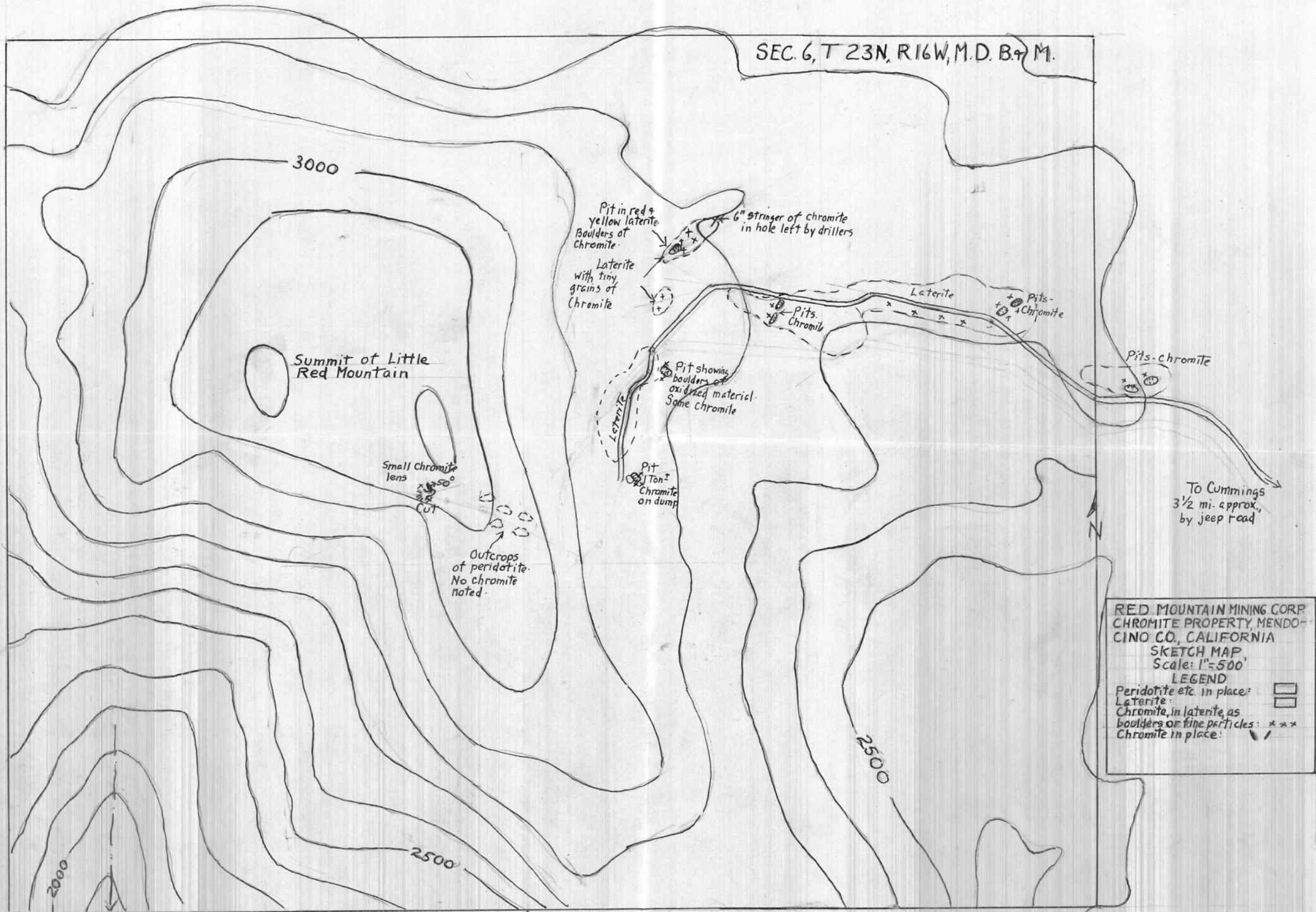
RED MOUNTAIN MINING CORP.  
CHROMITE PROPERTY, MENDOCINO CO., CALIFORNIA  
SKETCH MAP  
Scale: 1" = 500'  
LEGEND  
Peridotite etc. in place: [ ]  
Laterite: [ ]  
Chromite, in laterite, as boulders or fine particles: \*\*\*  
Chromite in place: [ ]

SEC. 6, T 23N, R 16W, M. D. B. & M.



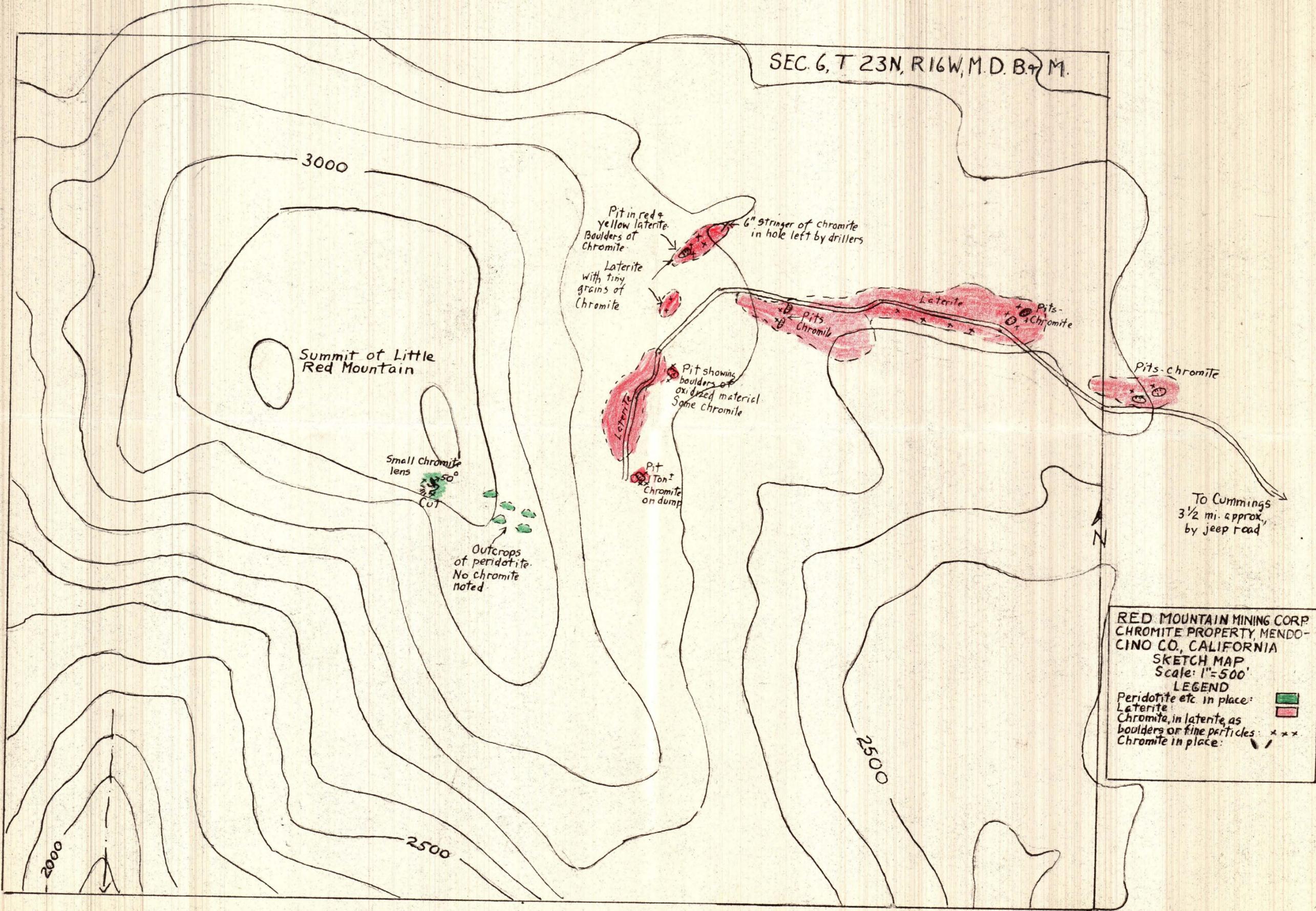
RED MOUNTAIN MINING CORP  
 CHROMITE PROPERTY, MENDO-  
 CINO CO, CALIFORNIA  
 SKETCH MAP  
 Scale: 1"=500'  
 LEGEND  
 Peridotite etc. in place: ■  
 Laterite: ■  
 Chromite, in laterite, as  
 boulders or fine particles: \*\*\*  
 Chromite in place: /

SEC. 6, T 23N, R 16W, M.D. B. & M.



RED MOUNTAIN MINING CORP.  
CHROMITE PROPERTY, MENDOCINO CO., CALIFORNIA  
SKETCH MAP  
Scale: 1" = 500'  
LEGEND  
Peridotite etc. in place: [rectangle]  
Laterite: [rectangle]  
Chromite, in laterite, as boulders or fine particles: \*\*\*  
Chromite in place: [asterisk]

SEC. 6, T 23N, R 16W, M. D. B. & M.



RED MOUNTAIN MINING CORP  
CHROMITE PROPERTY, MENDO-  
CINO CO, CALIFORNIA  
SKETCH MAP  
Scale: 1"=500'  
LEGEND  
Peridotite etc. in place: [Green box]  
Laterite: [Red box]  
Chromite, in laterite, as  
boulders or fine particles: \*\*\*  
Chromite in place: [Symbol]