

The magnetite deposits of A and B.

*Loma Malambre of the attached map*

At ~~A~~, situated <sup>*Q. Arenosa*</sup> on ~~D~~, <sup>*Q. Arenosa*</sup> between D and Db, in the southern part of F and in the upper E region, a magnetite deposit was found, the quantities of which seem to be large. A minor one occurs at the locality of B, some 30 km SE of T. *North of the Loma Malambre*

The situation of the localities ~~A~~ and B can be found on the Official Maps 1: 2 000 000 and 1: 500 000, and on the maps of the Hague Reports 4501 and 5112, scale 1:100 000. *Loma Malambre*

~~A~~ has an elevation of 200 to 300 m above the ~~D~~ level, the latter being about 120 m above sea level. <sup>*The Loma*</sup> ~~A~~ is about 20 km distant from ~~D~~, on the mouth of ~~D~~ in E. <sup>*The Arenosa into a larger river.*</sup> In dry time, ~~E~~ is navigable for small launches; in the rainy season (April to November), it can be ~~mounted~~ <sup>*this later river*</sup> by 100 to 200

t boats. ~~D~~ is navigable for motor canoes, and is 50 to 80 m wide. <sup>*The Arenosa*</sup> ~~D~~ is navigable for motor canoes, and is 50 to 80 m wide. *Malambre*, passing A and B.

At present, a main road between G and H is under construction. From G, it has been constructed as far as K (mouth of L in M) and from K here the M river downstream as far as N. From O, connected by road with P and Q, the road advanced to R (see 1:1 000 000 sheet of Am. Geogr. Soc.). Being a main road, it is continued under the present conditions. <sup>*Seven*</sup>

~~A~~ itself is uninhabited; some small <sup>*squatters*</sup> ~~owners~~ are established at the foot. *Loma Malambre*

Survey. -- ~~A~~ could not be surveyed by normal measurements, partly due to strong influence of the ore on the compass. On the E side of ~~A~~, <sup>*it*</sup> the trail from D to Db has been <sup>*surveyed*</sup> fixed by tape and compass and this survey has been extended <sup>*the Loma*</sup> along a small creek toward the foot of the magnetite mass of ~~A~~. From this creek toward NW, a reconnaissance trip (half an hour) was made to <sup>*the quebrada Arenosa*</sup> ~~B~~, across the magnetite zone. Another reconnaissance was made along the old trail and the deposit was crossed <sup>*here*</sup> in 25 minutes. Finally, the

western boundary was met with on a canoe trip along <sup>the Orinosa</sup> Da.

The sketch, attached to Dr. Trumpys report has been drawn according to these general informations. The limonite zones around the foot of <sup>the Loma</sup> ~~A~~ were not included in the ore zone.

### General features.

<sup>Loma Malambre</sup> ~~A~~ and B are situated along a zone of peridotites and <sup>similar rocks</sup> ~~correspondent extrusives~~ which follows more or less the E flank of <sup>(a mountain range)</sup> ~~the C.~~

Both deposits occur in peridotites and give the impression of magmatic <sup>segregations</sup> ~~precipitations~~. The deposits occur only locally, as shown by the fact that they were not found in the intermediate zones of peridotite outcrops.

<sup>Loma Malambre</sup> ~~A~~ looks to be a large compact mass, while B may be a chain of small occurrences, found along a N-S line, ~~xxxxxxxxxxxx~~

Ore.  
<sup>Loma Malambre</sup>  
A mass

Ore.

The observations made within the polygon of the sketch, indicates the ore to compose completely the steep ~~A~~ hill. In fact, along the NE and NW trails of the polygon, exclusively magnetite ore was seen where outcrops occur. Exposures are frequent on the trails themselves and in the creeks where they form walls of cascades, up to 10 m high. I was really surprised to see such huge magnetite masses at one spot.

In the NW part of the polygon and on the steps of the trail, the <sup>seems to</sup> ore sheets show a clear, gentle SE dip coinciding with the general dip of the sediments in the surrounding area.

The surrounding sediments <sup>belong</sup> correspond to the "Volcanic formation" <sup>age</sup> intruded by the peridotite mass. The age of the formation is either Eocene or Upper Cretaceous.

The quality of the ore is shown in Dr. Trumphy's report. It will be added that yellowish green skins of garnierite are found on partings of the peridotite. Platinum is reported to occur in the upper ~~E~~ <sup>of the main run</sup> region.

As to the quantity of ore, the estimated ore surface is about 1 million of square <sup>kilo</sup>metres. This possibly is <sup>a too small a figure</sup> reduced cifre, since the walking timing along the trails of the polygon indicate ~~a~~ larger distances than assumed. On the other hand, the S and N boundaries are uncertain.

*Loma Malambre*

is 200 to 300 m high; a vertical ore thickness of 50 m will be adopted. - The density of the ore will be considered as 5.

Thus, the quantity of ore may be about 250 millions of tons.

#### B mass.

At B, the ore looks rather like a limonite layer and for this reason its magnetic influence was ~~stated later~~ <sup>discovered later</sup>. no attention was paid to it. In the northern section, a zone of nearly ~~1~~ 1 km is covered by blocks of this ore, situated also in peridotite. Farther S, patches of ore boulders indicate ~~its~~ local occurrences.

No estimation of the ore quantity can be given in this case. The accumulated blocks in one of the creeks may be derived from a relatively large mass.

#### Other occurrences to the W.

A black, heavy ore is said to occur in large quantities in the upper course of ~~rio U~~ <sup>U next river to U W</sup>, between the debouchures of V and W.

Coal.

Very large quantities of coal can be obtained <sup>in the same area</sup> from ~~rio E, upstream X, as far as Y (R. 4501)~~. There are seams ranging from 0,7 m to 2m thickness, with gentle dips, or flat. The coal is Oligocene in age and probably of the same kind as that of Antioquia (analysis in Grosse: Terciario Carbonífero de Antioquia), of which several seams give coke.

The coal formation also appears E and SW of ~~D.~~ <sup>D. the Orinoco</sup>.

Limestone.

Within the coal formation, more or less sandy limestone beds occur, up to 3 m thick.

Bogotá, April 21<sup>st</sup>, 42

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Key for names on the sketch 1:10 000.

Instead of quebrada Arenoso	read	quebrada Uré
Arenoso	"	(Puerto(-Boca)Uré
Loma Malambre	"	cerro Matoso
Malambre	"	finca Matoso
Maria	"	Margarita
quebrada Maria	"	quebrada Margarita
El Recreo	"	El Retiro
Mulato	"	house of Argueda

Abbreviations in the Text

Abbreviations in the text.

- A = cerro Matoso
- B = Noteopongas
- C = ~~Sxxxr~~Serrania de San Jerónimo
- D = Uré village
- Da = quebrada Uré
- Db = Puerto Ure(Boca Uré)
- E = rio San Jorge
- F = departamento de Bolivar
- G = Medellin
- H = Cartagena
- I = Barranquilla
- K = Puerto Valdivia
- L = rio Valdivia
- M = rio Cauca
- N = rio Pescado
- O = Sahagun
- P = Sincelejo
- Q = Magangué
- R = Colomboy
- T = Manta
- U = rio Sbnú
- V = rio Verde
- W = rbo Esmeralda
- X = Santo Domingo
- Y = quebrada Tolová