

MEMORANDUM

002154

TO: W. Krats FROM: P. Pettigrew

SUBJECT: TRENCH SAMPLING OF LOW GRADE/RED DATE: July 25, 1973

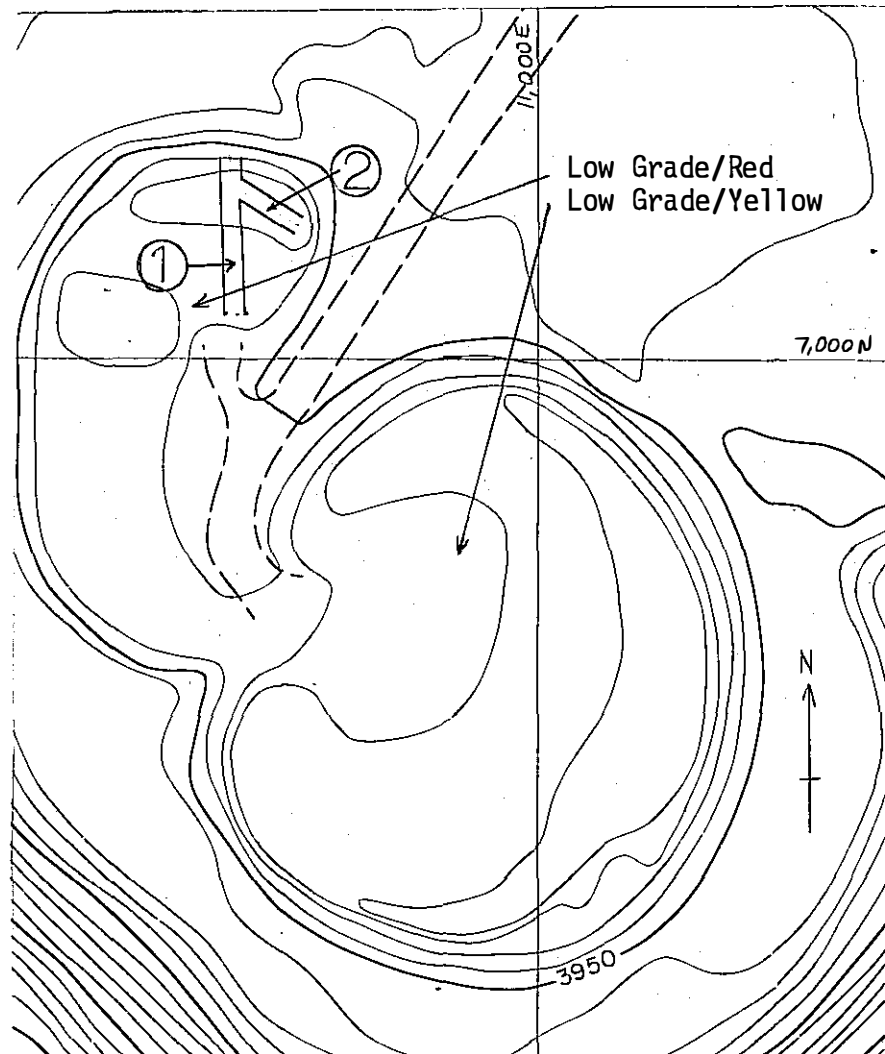
STOCKPILE

Introduction:

Below is a sketch showing the approximate location of two trenches cut in the low grade/red stockpile recently. The trenches were cut to obtain samples for metallurgical testing.

Figure I: Low Grade
Stockpile
Trenching
June-July,
1973

Scale:
1" = 200'



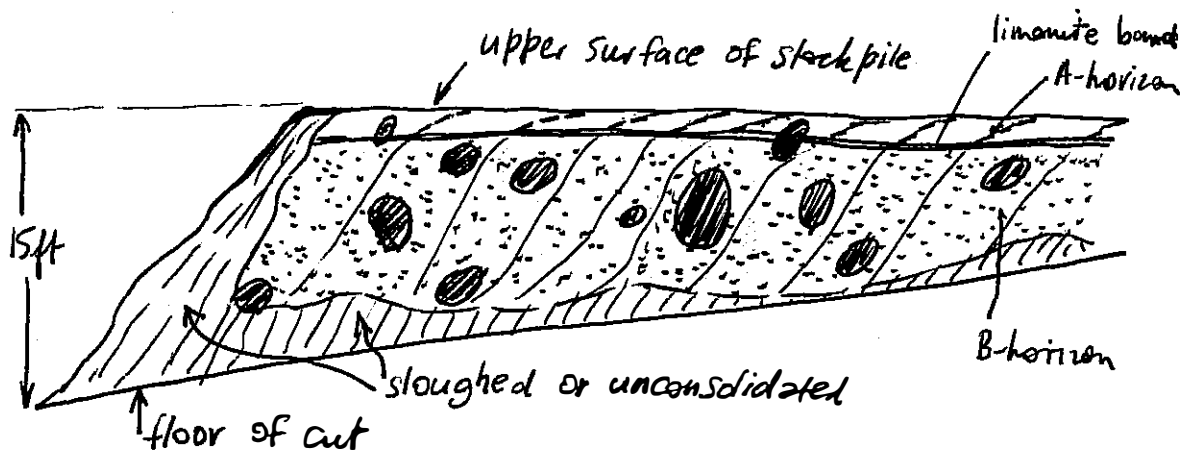
Trench #1 is 15' deep x 20' wide x 170' long and was cut twice to reach this depth. The first cut gave the first (200 lb.) sample collected in this manner. The second cut gave the next sample collected (100 lb.).

Two cuts resulted in trench #2 with dimensions 10' deep x 20' wide x 80' long. Two successive samples (both 100 lb.) have been collected from it also.

Cross-Section:

An examination of the walls of the trenches indicates a fairly simple cross-section. This is illustrated in Figure 2.

Figure 2: Generalized cross-section of a trench looking E.



Thus the first 1' - 2' is very considerably leached (A-horizon) with a less oxidized zone below (B-horizon) and an interface 1" - 2" thick of limonite and haematite. After exposure for a few days the walls dry out somewhat and fine white crusts of cerussite ($PbCO_3$) develop.

Ore fragments in the wall range in size from dust to 3' wide boulders. The coarse material is not very schistose and is moderately equidimensional. Most importantly, it is well compacted except for the material in the outer extremities of the pile.

Sampling:

Samples were collected from fresh, well-consolidated faces at approximately 5' intervals and at about waist-height. They were dug from the face with shovels in a manner similar to channel-sampling. The sampler walked along one wall of the trench collecting material in this manner and then proceeded along the opposite wall in the reverse direction.

Two samplers collected the required material and together sampled each wall around four times, ensuring a relatively random sampling which should overcome the problems presented by the poor sorting. The sampling avoids loosely consolidated material on the outside of the pile as well as sloughed material which may have fallen from the A-horizon. This reduces "abnormally" oxidized ore and is more representative of the total volume.

As far as possible, the A-horizon contributed no more than 2% of the samples collected. This gives it appropriate weighting of 1 vertical foot in 40 feet (the total thickness of the pile).



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Geologist

PMP/mm