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August 10, 1986

Memo To : Gordon Grams

From : Lee Pigage

Subject : 3770 WALL (East side) in JB zone

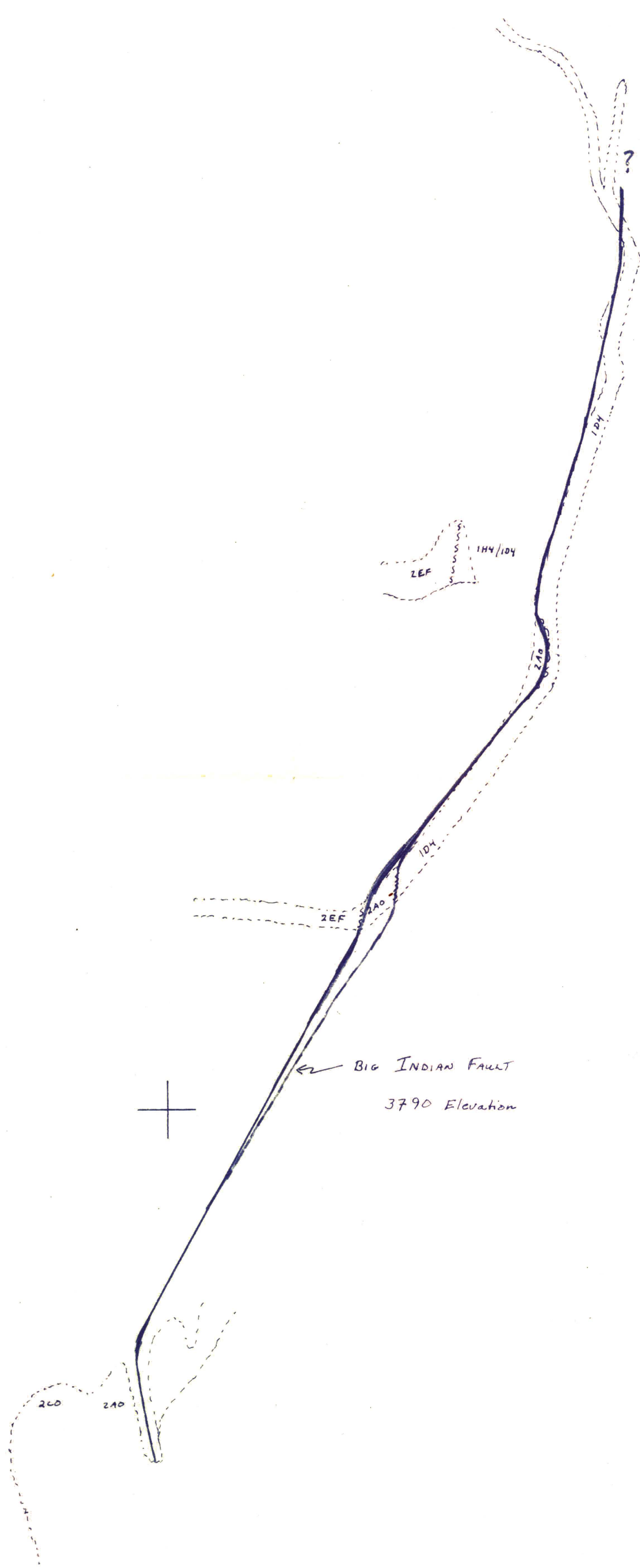
The recent failure of the 3870 bench wall on the east side of the JB zone has raised questions concerning the location of the Big Indian Fault. Recent geology pit mapping contains pertinent information regarding location and potential engineering pit design concerns.

The attached Figure 1 shows the trace of one of the strands of the Big Indian Fault across the current floor of the JB pit (elevation 3790 feet). This fault trends 020-030 and dips steeply to the west (70-80°). Displacement is estimated to be a minimum of 100 feet with the west side being downthrown. Massive and quartzose ore lithologies on the west are juxtaposed against muscovite-quartz schist of the footwall across this fault zone.

The fault zone is typically 10 to 20 feet wide. Sulphides on the west margin are extensively broken and brecciated. The altered schist within the fault zone displays highly disrupted foliations. The fault zone contains extensive white gouge; the gouge is derived from the schists; typically the gouge contains clasts of the quartzose and massive ore lithologies. Gouge in the fault zone is very soft and punky, readily absorbs water, has essentially no internal shear strength, and becomes very slippery when wet.

The proposed pit wall for the 3770 bench in the SB zone coincides exactly with this gouge zone for several hundreds of feet along its strike length. This wall may well be subject to extensive failure because of the strength and water-absorbing properties of gouge. This possibility must be considered in design of the lower benches in the SB zone.

Lee Pigeon



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750

1 inch = 50 feet

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