

824371

REA GOLD

I) Geologic Style - LITHOLOGY

i) Mafic Volcanism:

- widespread mafic to intermediate volcanics, complex and rapidly changing relationships between pyroclastic and flow dominated series. EXAMPLE MAP AREA: 277-76 E

1050 - 650 N, 273-72 950 - 750 N.

- SCALE OF change Few meters (5-10)

- NOTE: Most locations fragment orientation, particularly of more elongate variety does reflect trend of bedding: verified using flow contacts.

ii) Mafic Volcanics: ALTERATION: (EXCLUSIVE OF MAIN RAG SHOWING)

@ Extensive Calcium carbonate - widespread throughout map area, no specific sulfide association. Generally early, foliation parallel c.c. veinlets.

@ IRON CARBONATE - frequent but not as widespread as cc, may have moderate to weak linkage to pyrite. Strong association with qtz-carbonate veins.

TYPE AREA: 265-64 150-400 E

c) Sericite: Weak sericite common at many stations, strong sericite generally exhibits a strong positive relation to silicification. Frequent sulfide covelation.

Series development coincident with weak VLF strong geochem anomalies in a minimum of two locations.

AREAS: L83-80E 350-450N
L97-66E 650-800N

iii) MAfic INTRUSIONS (GABBRO / DIORITE)

- Generally rare, noted in three disparate locations. Usually very fresh without sulfides and lacking secondary alteration.
- Sulfide (Py) associated with only one of the three (L72E 3+50N). Background SiO₂ elevated may be secondary, probable primary ∴ this location possible QUARTZ diorite. Most are sub parallel to bedding parallel - sills.

iv) Felsic Volcanics / Felsic INTRUSIONS.

- Pseudo-Felsic main ^{Rae} showing Fully described previously by I.P.
- Felsic volcanics noted only on the extreme SOUTHERN PORTIONS OF THE GRIN: L62: 400S
- Strong Felsic setting over much of KAM-7. Felsic-sediment contact relations particularly well defined by traverse OK-3. Shown schematically by Figure I.
- TEXTURAL and stratigraphic relations for much of the Felsic unit, KAM-7, indicate an intrusive origin eg. quartz and Feldspar phenocrysts in excess of 1.0cm.

- Good felsic to intermediate fragmentals do coexist and have a strong spatial relation to QFP's
- Air photo's show felsics as 2 classical rhyolite domes!

v.) Alteration: felsic volcanics - intrusions.

- QFP unit generally very fresh, Feldspars intact, may have minor sericite AND late stage quartz veins. Diss. Py rare.
- felsic fragmentals (intermediate?): Stronger sericite regionally, sericite = silica usually correspond with diss. Py.

vi) SEDIMENTS.

- comprise less 5% exposure over RAE - Austin MAP SHEETS. Cherts surprisingly discontinuous over much of northern half of RAE. Major fold initially defined by chert - volcanic contact (axis at L90E - 1100N) should be abandoned. Weight of evidence suggests irregular pods and chert lenses as opposed to tightly folded cherts.
- INTERFINGERING OF LST - volcanics, eg: L73E 1800N suggests near contemporaneous deposition of mafic volc's AND LST's.
- Discontinuous nature of sed exposures, with possible exception of quartz wackes polygenic congl (RAE showing), generally restrict their usefulness AS MARKER HORIZONS.

vii) Alteration Seds:

Very, minor on a regional scale. Good sericite

development in wackes and conglomerates near
main RAE showing.

II GEOLOGIC STYLE - STRUCTURE

i.) MAJOR FOLDS - MINOR STRUCTURE EXPRESSION OF - FACING

- The bulk of the data, limited, suggest the majority of the Rae-Austin map area is a SOUTH WESTWARD FACING OVERTURNED HOMOCINAL SEQUENCE. Closure of a major structure could not be identified.
- Minor structures are conspicuous only by their absence. Road cuts in fine and coarse grained sediments near the RAE showing lack minor folds. Boulin structures in these d/c's indicate a dominantly extensional environment.
- Cleavage bedding relations near the RAE showing confirm the overturned nature of the stratigraphy.
- L Fabric near the RAE showing shows some variation, near the roadcut these are shallow $5-10^\circ \rightarrow 300-325^\circ$. L Fabric obtained from TRENCH 96:00 (Y trench) reveal significant rotation and steepening. ($34^\circ \rightarrow 346^\circ$) Foliation transsects bedding at slightly greater angle, in trench 96:00, as compared to other more NORTHERLY LOCATIONS. This may suggests some movement toward a hinge region. An alternative viewpoint, ie rotation by dormal emplacement is shown in FIGURE II.

- Minor Fold noted by JP (Trench 27:50) appears to be a reverse kink structure. These structures may be a hallmark of thrust regimes.
- All rocks have experienced a strong to moderate penetrative deformation 125/30-60 NE. No strong evidence as to whether the regional foliation is axial planar to any fold structures, probably not.
- Graded beds + pillow structures ^{IN OUTCROP}, generally believed to be unreliable w.r.t. Facing direction.

ii) MAJOR FAULTS

- Probable that most of complications to RAE STRATIGRAPHY ARE FAULT - (NOT FOLD) - related.
 - MAJOR NW/SE Air photo lineaments (5 to 6) have been shown to correspond in two locals to lithologic contacts, probably Fault bounded.
Type examples. OK-5 350N
OK-3 190E
 - RAE Gold showing contained within the extreme NORTHERLY PORTION OF THIS FAULT SYSTEM. FAULTS MAY BE PERCEIVED AS:
 - 1) 1-1.5 km wide zone of dextral failure, 1ST and 2ND ORDER STRIKE SLIP
 - 2) 1-1.5 km wide zone of imbrication, repeated thrusting.
- Regional stratigraphic and structure analysis

should define the actual nature of this system

- Small scale (minor structure) examination, suggests that all movement is dextral. Dextral indicators are:

- These faults are {
- 1) Right lateral displacement of buff colored beds, sediments Rae Gold, road cut. MAX displacement $0 < 1.0 < 2.0$ m.
 - 2) Dextral shear on deformed synclastic quartz veins, "S" type vein arrays, road o/c 50 m south of RG-1.
 - 3) Foliation rotation, dextral, into Fault system located on trench 96:00 E
 - 4) Highly distorted, "lozenge" shaped quartz veins, trench 96:00, are suggestive of a rotational component within the main fault system.
- very late, but presumably mirror (at a smaller scale) movement on the major system.

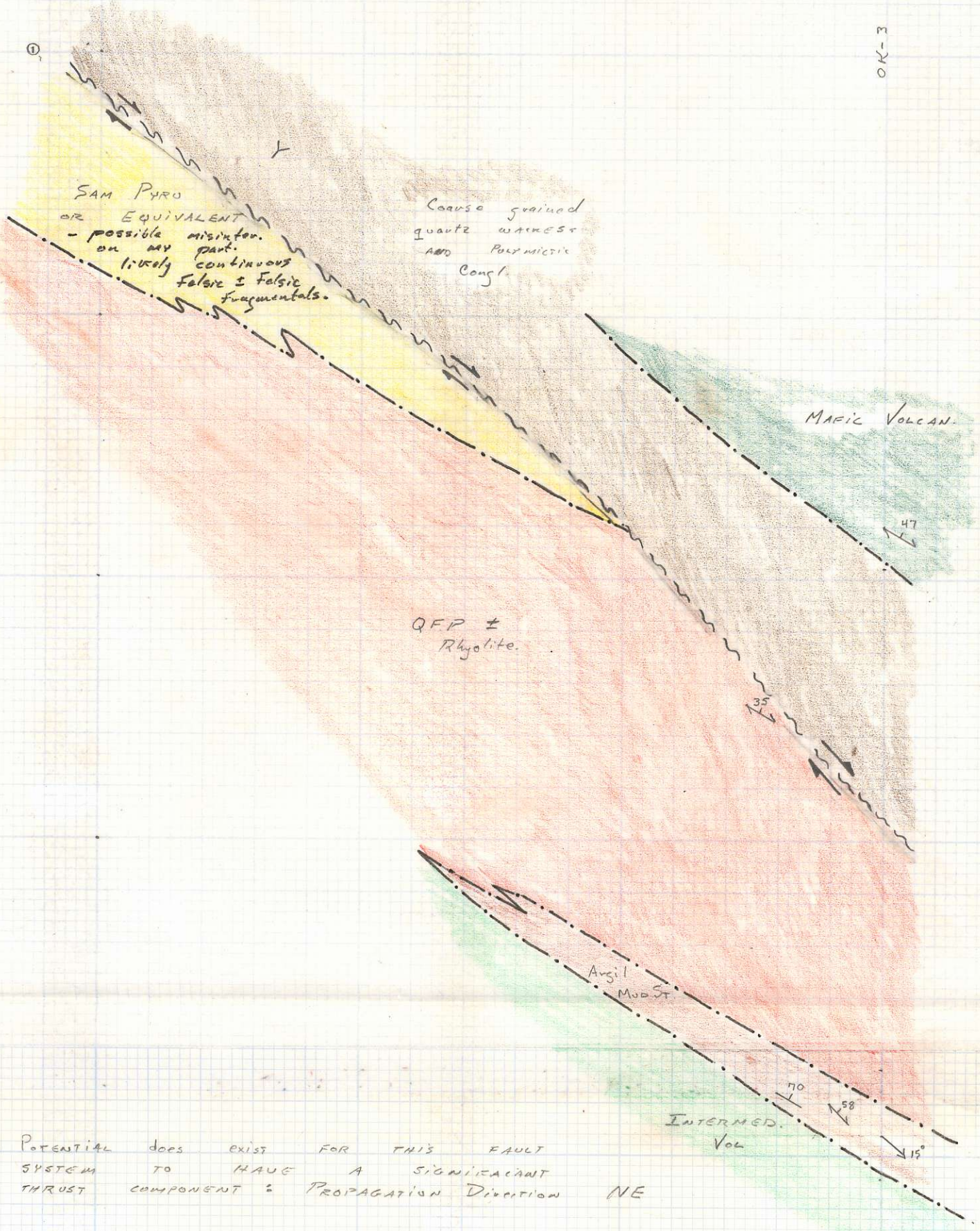
FIGURE I.

TENTATIVE AND SCHEMATIC
SKETCH MAP
VOLCANIC - SEDIMENT - FAULT
CONTACT RELATIONS
OK-3 - OK-5
KAMAD SEVEN

OK-5

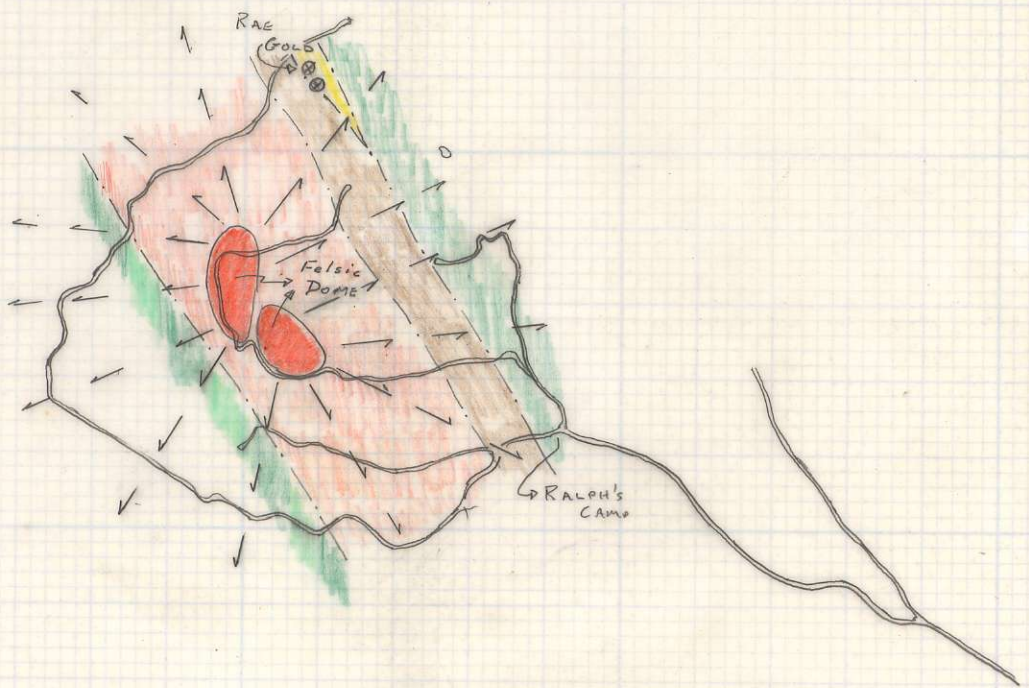


OK-3



① POTENTIAL does exist FOR THIS FAULT SYSTEM TO HAVE A SIGNIFICANT THRUST COMPONENT & PROPAGATION DIRECTION NE

FIGURE II : ROTATION OF
LINEAR ELEMENTS BY MASOR
DOME EMPLACEMENT



✓ Represents effect of emplacing
 dome on linear vector
 Field. Line length correlates with the
 extent of rotation, i.e.
 steepness of plunge.

- MASOR Volcanics
- MAIN Mineralized SEQUENCE
RAE Gold
- SEDIMENTS
- FELSIC INTRUSIONS + VOLF'S
- MASOR AND INTERMEDIATE
VOLF'S.

Scale: 1/40,000

To 26/08/84

Road sketch based on air
photo BC 21013 #175.