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FILE

MEMORANDUM

827433

92B/13W

DATE: May 20, 1983

À TO: D. H. Watkins

COPIES À COPIES TO: M. J. Knuckey

DE FROM: A. J. Davidson

SUJET SUBJECT: POSTUK-FULTON OPTION - DRILL HOLE GEOCHEMISTRY AND INTERPRETATION

Results from 34 lithogeochemical samples of four S.E.R.E.M. drill holes on the PF option (cf AJD memo April 28/83) have been received.

Two distinctly different rock types can be recognized from the chemistry alone (Table 1). The first is a quartz eye rhyolite fragmental and the second is a massive - vesicular basalt. A third unit, quartz feldspar porphyry, while not as distinct chemically is easily recognized in the field.

As well as differentiating the two rock types the chemistry also indicates intense soda depletion and copper enrichment in the rocks. TiO_2 does not appear to have moved significantly and silicification does not seem to have been an important alteration process here.

A reinterpretation of S.E.R.E.M.'s geology based on new structural and stratigraphic ideas indicated by our chemistry is presented in Figures 1 , 2 and 3. The contact between the quartz eye rhyolite and the basalt is marked in holes 16 and 15 by a cherty pyritic unit and graphitic zone respectively. Assuming the gabbros in the area are younger (lying in synclinal axis) the basalt would seem to overlie the rhyolite in this folded stratigraphy. Through folding (small scale folds in outcrop on the property) (Fig.2) or through reverse faulting (possible major faults at Twin J horizon and at Nugget Creek) (Fig.3) one can interpret that the horizon intersected in DDH 16 and 15 is the Twin J ore horizon. The soda depletion could thus occur throughout the footwall to the "Twin J" horizon.

The strike and dip extent of this horizon on the PF Option is considerable and thus potential for discovering ore is excellent.

The relationship of the quartz feldspar porphyry to the other units is not yet understood. At present, based on extremely limited data, it does not appear conformable. However heavy sulphides (pyrite) mark the margin of the QFP and one inter-QFP pyritic tuff has been recognized.

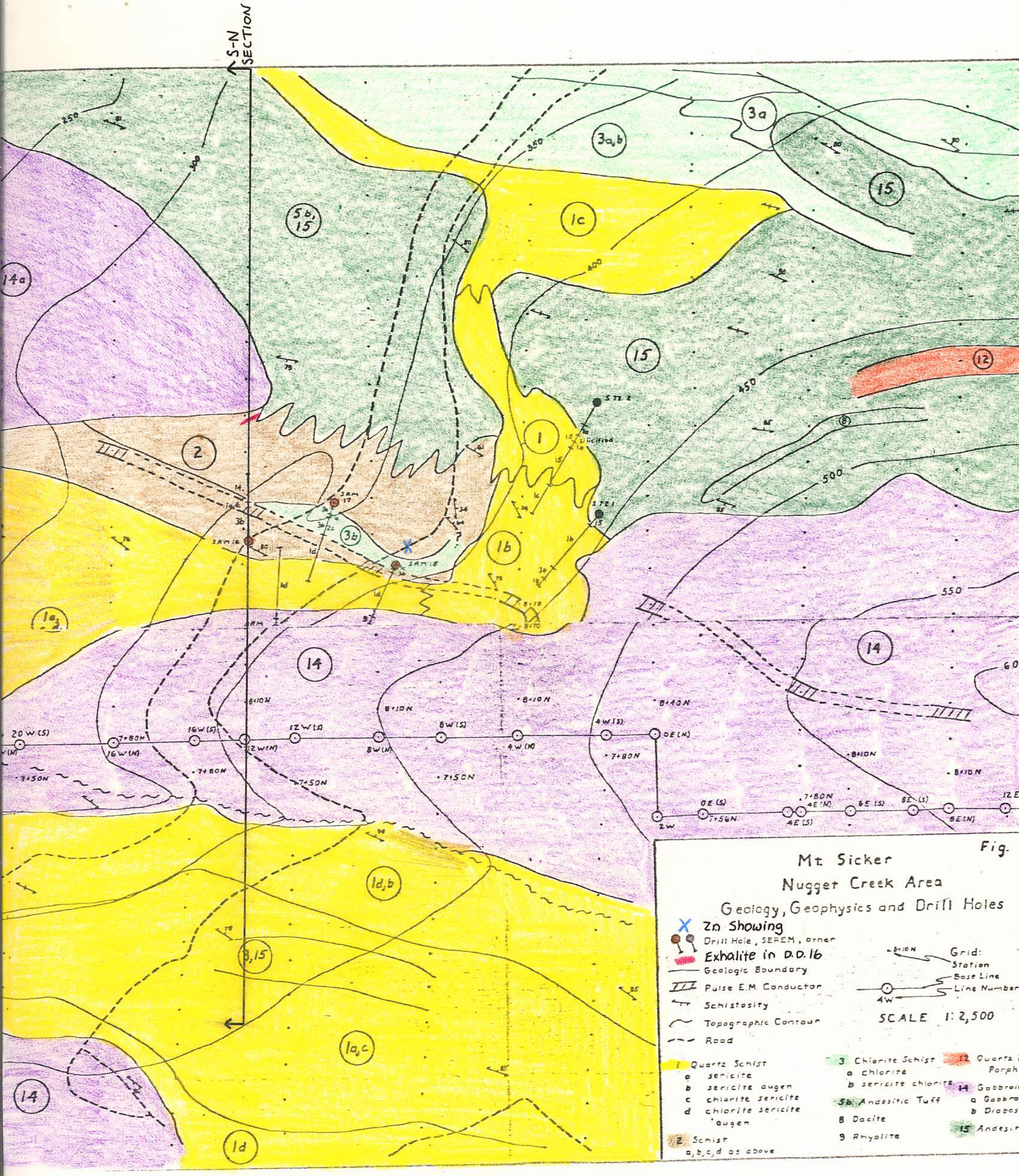
Undoubtedly detail mapping and lithogeochemistry will resolve the stratigraphic-structural picture. Approximately 600 metres of diamond drilling is planned following a Pulse EM survey in the fall to test both PEM and stratigraphic targets.

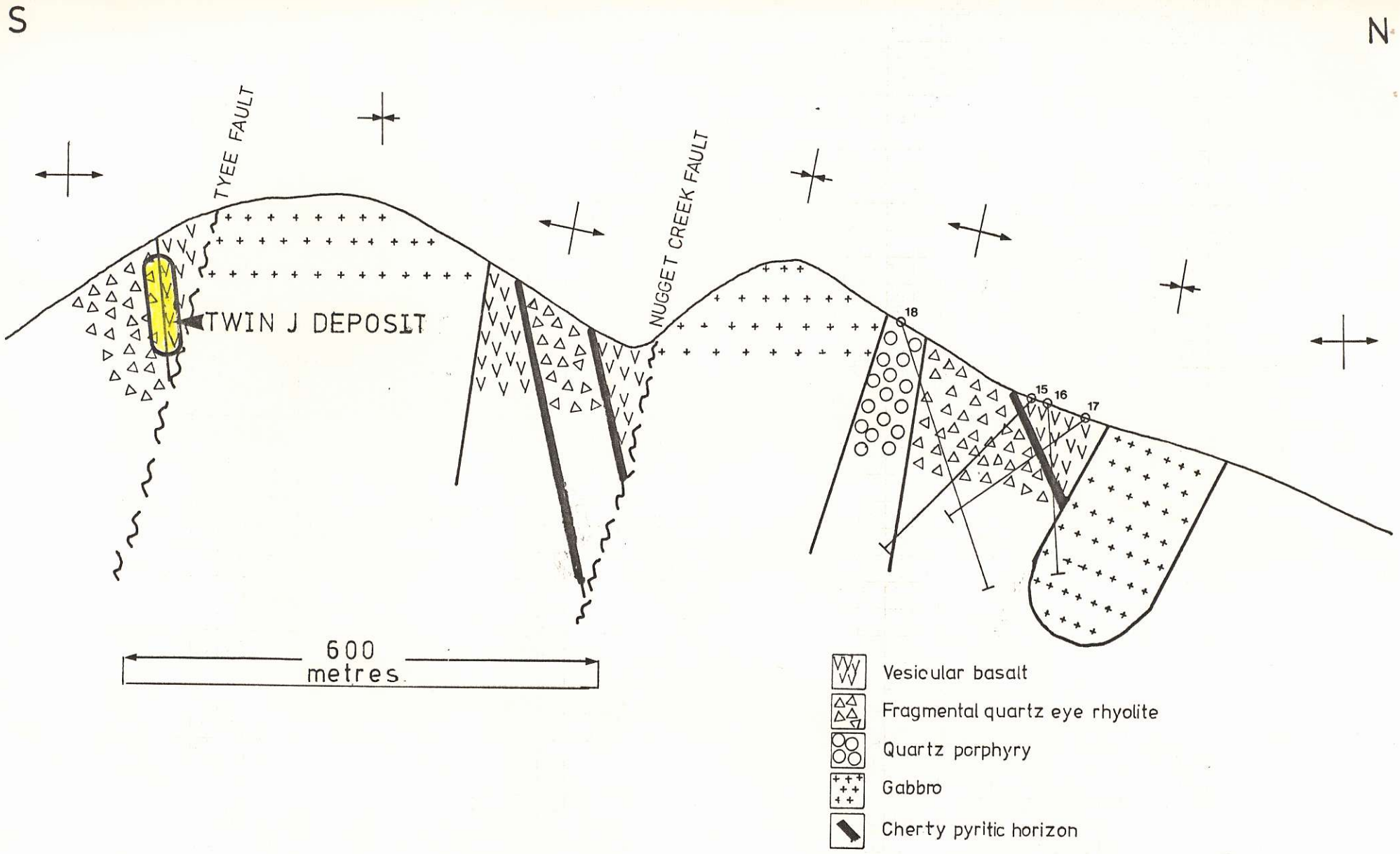
Alex J. Davidson

AJD/ik

TABLE 1

	Quartz Eye Rhyolite	Basalt	QFP
	n = 25	n = 7	n = 2
SiO_2 %	69.3	43.7	71.6
Al_2O_3 %	13.2	16.8	13.6
CaO %	0.31	0.88	0.13
MgO %	2.42	10.06	1.14
Na_2O %	0.65	0.10	0.19
K_2O %	2.99	1.73	3.95
Fe_2O_3 %	6.04	16.35	3.05
MnO %	0.07	0.36	0.02
TiO_2 %	0.20	1.23	0.19
Ba ppm	1674	904	1870
Cu ppm	599	294	85
Zn ppm	63	84	14


S-N SECTION
Fig.
Mt. Sicker
Nugget Creek Area
Geology, Geophysics and Drill Holes
Zn Showing
Drill Hole, SEREM, other
Exhalite in D.D.16
Geologic Boundary
Pulse E.M. Conductor
Schistosity
Topographic Contour
Road
Grid:
Station
Base Line
Line Number
SCALE 1:2,500
1 Quartz Schist
a sericite
b sericite augen
c chlorite sericite
d chlorite sericite augen
2 Schist
a, b, c, d as above
3 Chlorite Schist
a chlorite
b sericite chlorite
5b Andesitic Tuff
8 Dacite
9 Rhyolite
12 Quartz
Porph
14 Gabbro
a Gabbro
b Diabas
15 Andesi



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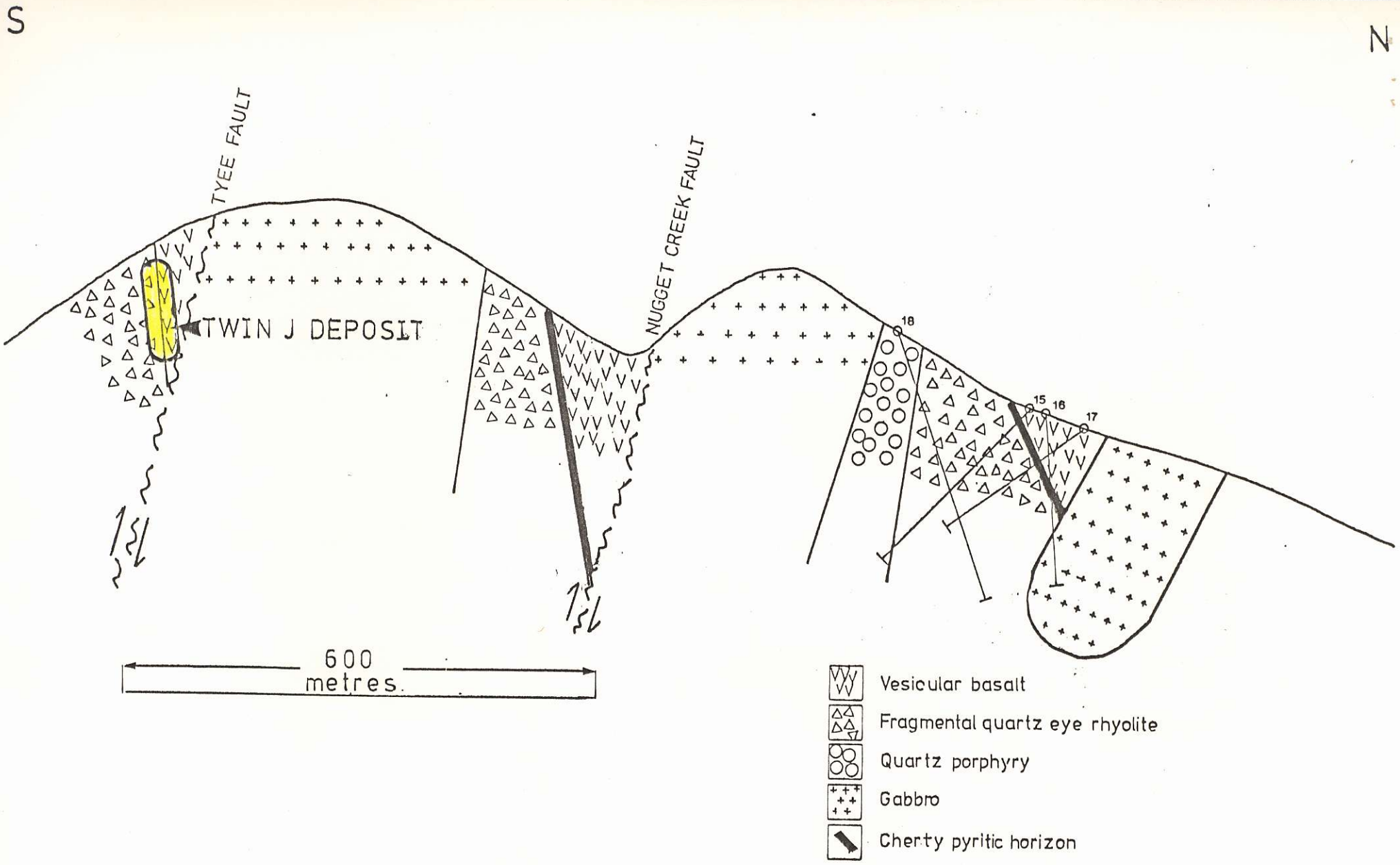
Folding Model

Figure 2



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Faulting Model

Figure 3