J.S. Cummings Inc.

C. Mattson

LITHOLOGIC LOG

Project Ragged Mtn. Extension Hole no. RMX-8 Dip -45° Started 12/1/80 Elev. ____

See Sketch

Job no. 272.2 Township T9-R10 Coord. 272-8 Direction 336° Mag Completed 12/7/80

SW 1/4 - Roads S & W of Ragged Mtn.

Lithotype

0' — Overburden

40' — Gritty Felsic Tuff, Volcanic Sediment, and Rhyolite -
Tuffs - generally fine grained, light grey colored, fragments of quartz and other felsic fragments show parallel elongation in places, ± 60° to core axis. Minor sericite alteration in matrix (under binoc), occassional chlorite grains.
Volcanic Sediment - fine grained, thinly bedded, dark grey to light grey colore Layers ± 60° to core axis. Sections cherty or siliceous. Minor graphite, especially toward lower contact.
Minor Rhyolite - massive, light grey colored, interlayered with tuffs.

129' — Black Graphitic Silicified Mudstone -
Very black, well layered (60°-70° to core axis), thin bands of pyrite in layers
Graphite heavy on fractures.

156' — Basalt - fine grained, massive, minor calcite amygdules, minor chlorite.

167' — Black Silicified Mudstone - same as 129'-156'.

174' — Basalt - same as 156'-167'.

182' — Black Silicified Mudstone - same as above units.

186' — Gritty Felsic Tuff - *

196' — Black Silicified Mudstone - same as upper units,
210'-212' - high concentration of thin pyrite layers, ± 60° to core axis.

224' — Basalt - similar to RMX-7, fine grained, massive, minor chlorite.

242' — Basalt Agglomerate - **

267' — Basalt -
fine grained, massive, minor chlorite, no carbonate amygdules, similar to RMx-

297' — Bottom of Hole

Acid Test		
Depth	Apparent	Actual
200'	51°	45°

* Gritty Felsic Tuff - minor lapilli fragments, first 1' looks very simila to mineralized tuff in RM drilling, similar alteration, elongation of fragments, and types of fragments, few flecks sph. visible.

** Basalt Agglomerate - large basalt fragments > 3" mixed with smaller fragme <1" of chloritized basalt, felsic fragments of rhyolite and dacite, 1 pyrite clasts (possibly only blebs), some black mudstone as well, chlorite alteration and pyrite stringers in places.

C. Woodard
Feb., 1982

RE-EVALUATION

RMX-8

40 - 129 - gritty felsic tuff, volcanic sediment (layered lithic tuff?), and rhyolite

weakly gritty altered felsic tuff, sample at 58' of layered qtz and sericite (15-20% sericitic alteration?), matrix containing minor grit sized siliceous rounded fragments layered into matrix, IK Carlson describes sample at 56' similarly,

volcanic sediment referred to in log may be layered lithic tuff, layered all grey siliceous rock fragments in a sericite-qtz matrix, (sample at 76'), drill log indicates minor rhyolite interlayered with tuffs, binocs done at 58' and 76'

129 - 156 - black siltstone, (qtz-sericite, minor biotite, too coarse grained and hard for shale and non-fissile), drill log says "black graphitic silicified mudstone", no binoc, examined core at 146'

156 - 167 - amygdaloidal basalt (7-10% amygdules), core at 163' is amygdaloidal (calcite and chlorite), weakly calcareous and contains (15-20%?) sericite-chlorite alteration of groundmass (olive green and grey, very soft, altered plag grains), no binoc but examined core at 163'

Interlayered black siltstone and basalt from 129' - bottom (see log) except for:

1) 186 - 196 - gritty felsic tuff, layered, and contains 3-5% black grit, some sericitic alteration, drill log indicates minor lapilli fragments, binoc done at 191'

2) 242 - 267 - (proximal?) agglomerate, dominated by lapilli sized dacite or andesite frags with varying degrees of chlorite-sericite-sulphide alteration, contains also lesser other volcanic rock frags and some chert and black siltstone frags, all frags are contained in a highly chloritic matrix, total alteration $>$ 20%, binoc done at 265'

RE-EVALUATION

D. Coles
February, 1982

RMX-8 (242'-267')

matrix	chlorite	±6%	
	pyrite	2%	
	calcite	2%	
	rhyolite frags	5%	sub-angular
	dacite frags	2%	sub-angular
	and./basalt	5%	sub-angular
	basalt	78%	sub-angular

Most massive pyrite appears to be blebs. They generally are found in veinlike clumps as part of the matrix. They tend to be irregular shaped and commonly have defuse boundaries. Some dacite and basalt fragments have pyrite rinds on them. One dacite fragment at 253' is now 2/3 pyrite suggesting that pyrite may have been replacing? the material in some fragments. 60% of the sulphide is in blebs.

A small fraction (5%) of the massive pyrite may be clasts. These are generally isolated rounded shapes from the blebs of pyrite. They have distinct boundaries and appear to be finer grained.

Pyrrhotite blebs are seen locally. Fine grained Po is seen throughout this rock unit.

Sulphide-60% in blebs, 5% clasts?, 35% veins and fine grained Po and Py

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SULPHIDE LOG

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See Sketch

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SW 1/4 - Roads S & W of Ragged Mtn.

FROM	TO	INTERVAL	EST. % SULPHIDES	EST. METAL (Cu, Pb, Zn)	ALTERATION
40'	129'	89'	1%	Py & Po	Minor Chl & Ser.
129'	132'	3'	±3%	Py	Graphite
132'	167'	35'	1%	Py & Po	Chlorite
167'	174'	7'	2%-3%	Py & Po	Graphite
174'	186'	12'	1%	Py & Po	Chl. and Graphite
186'	196'	10'	2%-3%	Py & few specks sph.	Chlorite
196'	210'	14'	1%-2%	Py & Po	Graphite
210'	212'	2'	10%-15%	Py & Po	Graphite
212'	224'	12'	2%-3%	Py & Po	Graphite
224'	242'	18'	1%	Py & Po	Chlorite
242'	267'	25'	±3%	Py & Po, few flecks chpy	Chlorite
267'	297'	30'	1%	Py & Po	Chlorite
	Bottom of Hole				