



Mining & Support Experience

STRATIGRAPHY.	DOLPHIN MINE	BOLD HEAD MINE
A. UPPER VOLCANICS	Difficult. Contact Zone (between Mine Series) sheared and weathered. In small opening rock bolts (Grouted type) will suffice.	Difficult mining. 60% main Decline Steel Setted. Rock break flat. Joints smooth, Open and weathered, unfilled chlorite. Water inflow encountered.
1. BIOTITE HORNFELS	do.	do.
2. B LENS H/W HORNFELS	Blocky and jointed. Joints smooth and Flat. Appears Flaky, water results poor condition. Depending on size bolting required. Fully Grouted. Contact to B lens no problem.	Banded bpk unstable when 1 to 2m TH. Break thro'. Very Pronounced bedding, problem with small rolls in bedding and joints across bedding. Closely spaced Bolts (GR) required.
3. B LENS	Competent depends on Skarn or Marble. Marble poor, Secondary carbonate on joints and bedding surface gorged upto 2cms wide. Grouted bolt with mesh and shotcrete. Lower Contact often poor ground.	Competent except southern end (weathered). Joints infilled with chlorite. Poor in wet condition. Aplite can occur as a Contact resulting poor condition. Bolts with mesh Required.
4. Pgh.	Reasonably Competent. Jointing often intense but not continuous - rock breaks in small pieces rather than big blocks. Requires continuous scaling, ordinary rock bolts	Competent with wide spaced joints.
5. UPPER C LENS	Competent. Occasionally leached to fragile garnet, Carbonate matrix No strength within 2 metre of Fault Zone. Systematic bolting or pinning Grouted.	
6. MARBLE	Competent apart from BH band. Minor Monitromillonite in BH band Cavities encountered, Generally water bearing. Ordinary rock bolts and frequent scaling.	Competent
7. LOWER C LENS	Alternating weak and competent Bands. Blasting Break to competent band. Care in blasting to preserve bedding contact. Full column grouted bar.	
8. BANDED F/W BEDS.	Poor. Bedding tends to be thinner. Numerous joints cutting across bedding tends to produce small block size. Water cause rock to crumble. Shotcreting only with mesh.	Fairly competent. Jointing is problem then bedding
9. BIOTITE PYROXENE HORNFELS	Blocky and jointed. Occasional chlorite infilling on joint result in unstable blocks. Difficult to bolt, breaks near collar. Immediate shotcrete and bolt or systematic bolting with continuous bearing plate.	
10. LOWER METAVOLCANICS	Sequence reasonably competent but occasional poor contact between bpk / pfb. Alterations of adjacent rock occurs and shotcrete with meshing required.	
11. QUARTZITE	Adjacent to mine series or Faults. Unit tends to be blocky and marginal competence. Away from contact reasonably competent.	Competent. Fine grained with widely spaced joints Breaks into large blocks. Ordinary rock bolting is sufficient.

REF PLAN	GEOLOGY		SCALE 1:	
	SURVEY			
PLANNING			DRAWING NUMBER	
ROCK MEC.	J/W... Oct'1983			
GRADE CON.			07 DM03 -	
DRAFTING				
T.S.S.				