3. Between June 24th and June 28th, Lloyd DeRoux (chief geologist) and Neville Foran (safety supervisor) provided geological and safety tours.

4. July and August were spent logging core and mapping underground. About 30,000 feet of drill core was logged and sampled and workings near the "6800" mineral deposit were mapped.

5. September and October were spent as follows:

   (a) Examining surface showings on the Giant Mascot Property; the Cabin Creek, Nickel Star, Molly, Dolly, Brunswick I, Pride of Emory, Camp Creek, Trail and new showings on Emory Creek were examined and sampled.

   (b) Nearby showings on Gordon Creek, Talc Creek, and Cogburn Creek were examined and sampled.

   (c) A summary of the 28 mineral deposits and several showings was compiled by N. Berg.

   (d) Level plans at a scale of 1" = 100' were updated by N. Berg.

   (e) Company reports and maps were reviewed.

   (f) Underground mapping was checked and representative specimens collected.

A summary of the geology of the mine is included as Appendix 1 (from Fieldwork, 1974) and a summary of the various mineral deposits is presented as Appendix 2 in Tables 1 and 2. Generalized geological plans of the surface (Fig. 7) and 3550, 3250, 3050, 2950, and 2600 levels (Fig. 7 A to E) have been compiled and are included.

3. Location and Access

The Giant Mascot mine lies in the rugged Coast Mountains 7 miles northwest of the town of Hope, B. C. and 75 air miles east of Vancouver, B. C., at latitute 49° 28' N and longitude 121° 30' W (Fig. 1). Access to the mine buildings and main haulage level (2600) is provided by a good gravel road (5 miles long) that leaves the Trans Canada Highway at a point 8 miles north of Hope and follows the North bank of Texas Creek. Giant Mascot plans to maintain the road over the winter and good access to the mine site should be available for the 1975 field season. Access to other parts of the property from the mine site is provided by a rough four wheel drive road and bike trails. Access to the west side of the property is also provided by a good gravel road along the south side of Emory Creek.

4. History

The initial discovery on the Giant Mascot Mine property (also called: Pride of Emory Mine; B. C. Nickel Mine; Pacific Nickel Mine; Western Nickel Mine and Giant Nickel Mine) was made in 1923 when Carl Zofka, a trapper, located outcrops of the Pride of Emory orebody on Emory Mountain. B. C. Nickel Company purchased the property in 1927 and conducted surface exploration until 1933. In 1933 B. C. Nickel Company was reorganized as B. C. Nickel Mines Limited by the Smith, Sloan, Spencer Syndicate. Refinancing permitted underground development on the 3550 (No. 1 tunnel) and 3275 (No. 2 or Chinaman tunnel) levels. By 1937 the Syndicate had spent $1,300,000 to develop 1.2 million tons of ore at 1.38% Ni and 0.50% Cu. Four ore shipments, totalling 2,134 short tons at 5% Ni were made to Japan for test purposes and gross returns of $63,600 were obtained.

In 1938 B. C. Nickel Mines was reorganized as Pacific Nickel Mines, but poor market conditions caused the property to remain idle until 1952 when Newmont Corporation and Pacific Nickel formed Western Nickel as an operating company. The property was further explored by establishing the 2600 (main haulage), 2950 and 3250 levels and connecting the levels with an internal inclined shaft. A favorable sales contract was arranged by Western Nickel and from January to July of 1958, under the management of Granby Mining and Smelting Company, 181,133 tons of ore were treated before market conditions forced closure.

In 1959 Newmont's interest in the property was sold to Giant Mascot Mines and Giant Nickel Mines formed as an operating company. In March of 1961, Giant Mascot Mines gained full control of the property by purchasing Pacific Nickel's 49% interest. Giant Mascot reopened the mine as a salvage operation in July of 1959 and continued production until August 31, 1974.

From 1958 to closure, total production from 26 orebodies was approximately 4,700,000 tons of ore, containing 59,000,000 pounds of nickel and 28,000,000 pounds of copper. Average grade of mill heads for the Giant Mascot Mine has been about 0.77% nickel and 0.33% copper.

5. Recent Exploration

The Climax ore body, encountered in the 3050 development drift in 1971, represents the last major discovery at the Giant Mascot Mine. About 200,000 feet of subsequent exploration diamond drilling has failed to encounter

APPENDIX 1: SUMMARY OF GEOLOGY

REGIONAL SETTING

Pyrrhotitic nickel-copper deposits are situated in an ultrabasic complex with chronologically and probably genetically related basic, dioritic, and noritic phases. The complex forms part of a 15-mile-wide, north-trending block of Late Paleozoic metamorphic rocks and Mesozoic intrusive rocks. The block is bounded on the east by the Fraser River fault zone and on the west by the Shuksan fault zone.

LOCAL GEOLOGY

Pipe-like mineral deposits occur within a segmented, crudely elliptical ultramafic complex about 1.5 miles in diameter. The stock-like mass contains pendants of metamorphosed Paleozoic rocks of the Chilliwack Group (?) and is in turn enclosed in younger granitic rocks considered to be part of the Spuzzum pluton. K-Ar ages from the ultramafic complex range from about 120 m.y. to 95 m.y. (J. McLeod, personal communication); the older ages were obtained from the hornblende pyroxenite phase with late hornblendite dykes having the youngest ages. All ages from the ultramafic complex are older than ages obtained from the Spuzzum pluton.

The complex contains a complete spectrum of ultramafic rocks with pyroxenite and peridotite (generally hornblendic) the most common rock types and dunitic phases rare. Hornblendite is often found adjacent to a granitic contact, prompting several workers to suggest a metamorphic or metasomatic origin for these bodies.

Clarke (1969) concluded that structure has played an important role in the control of orebodies and that the intersection of north 45 degrees west to north 50 degrees west stiking faults and north 10 degrees west to north 30 degrees east striking faults exerts control over ore deposition. The four main fault trends recognized at the mine have the following strikes and dips:

(1) north 45 degrees west to north 50 degrees west; 50 to 75 degrees northeast

(2) north 15 degrees east to north 30 degrees east; 70 degrees southeast to 70 degrees northwest

(3) north 10 degrees west to north 10 degrees east; 55 degrees east to 55 degrees west

(4) north 30 degrees west to north 30 degrees east; 20 to 30 degrees east or west

The first three sets appear to provide ground preparation and access for ore while the fourth group appears to be post ore and often displaces ore zones. Tectonic and intrusive breccia zones and agmatite are found to be spatially related to several orebodies and breccia fragments are found in some massive ores. The genetic relationship between breccia zones and ore deposits is not clear, but remobilization is apparent in some of the breccia ore.

Alteration seems to be closely related to structure and intrusive contacts and, therefore, is often associated with orebodies. Four main types have been recognized: (1) crumbly alteration (also called pervasive shearing), (2) talc- amphibole $\pm$ magnetite, (3) uralitization, and (4) hornblendization. Crumbly alteration is a descriptive term applied to breakdown of olivine grains to micaceous minerals (phlogopite and chlorite) and where intense, serpentine is formed. Crumbly alteration is generally restricted to peridotite or dunite and is often present as a partial envelope around orebodies. Talc-amphibole alteration is generally associated with intensely faulted or fractured bodies of pyroxenite and is often found adjacent to the ore zones. Although alteration is generally present as a partial envelope around orebodies, there is no established pattern that can be relied upon as an ore indicator.

Twenty-eight mineral deposits have been outlined within the main ultramafic mass (Figs. 5 and 6). Of these deposits, production has been obtained from twenty-two, and five (4600, Pride of Emory, 1500, Brunswick 2, and Brunswick 5) accounted for over two-thirds of the production. Pipe-like orebodies range from a vertical continuity of 1,200 feet to 100 feet and have horizontal sections ranging from 250 by 120 feet to 20 by 40 feet. The orebodies can be divided into three types: (1) zoned, in which sulphides are disseminated through one or more rock types and show gradational change in tenor (for example, Brunswick Nos. 1, 5, 6 and 4600, 1900, and 512), (2) massive, generally confined to fault or contact zones and having sharp contacts (for example, Pride of Emory and Brunswick Nos. 2, 8, and 9), (3) vein, narrow tabular bodies that may enrich an ore zone but have limited tonnage potential.

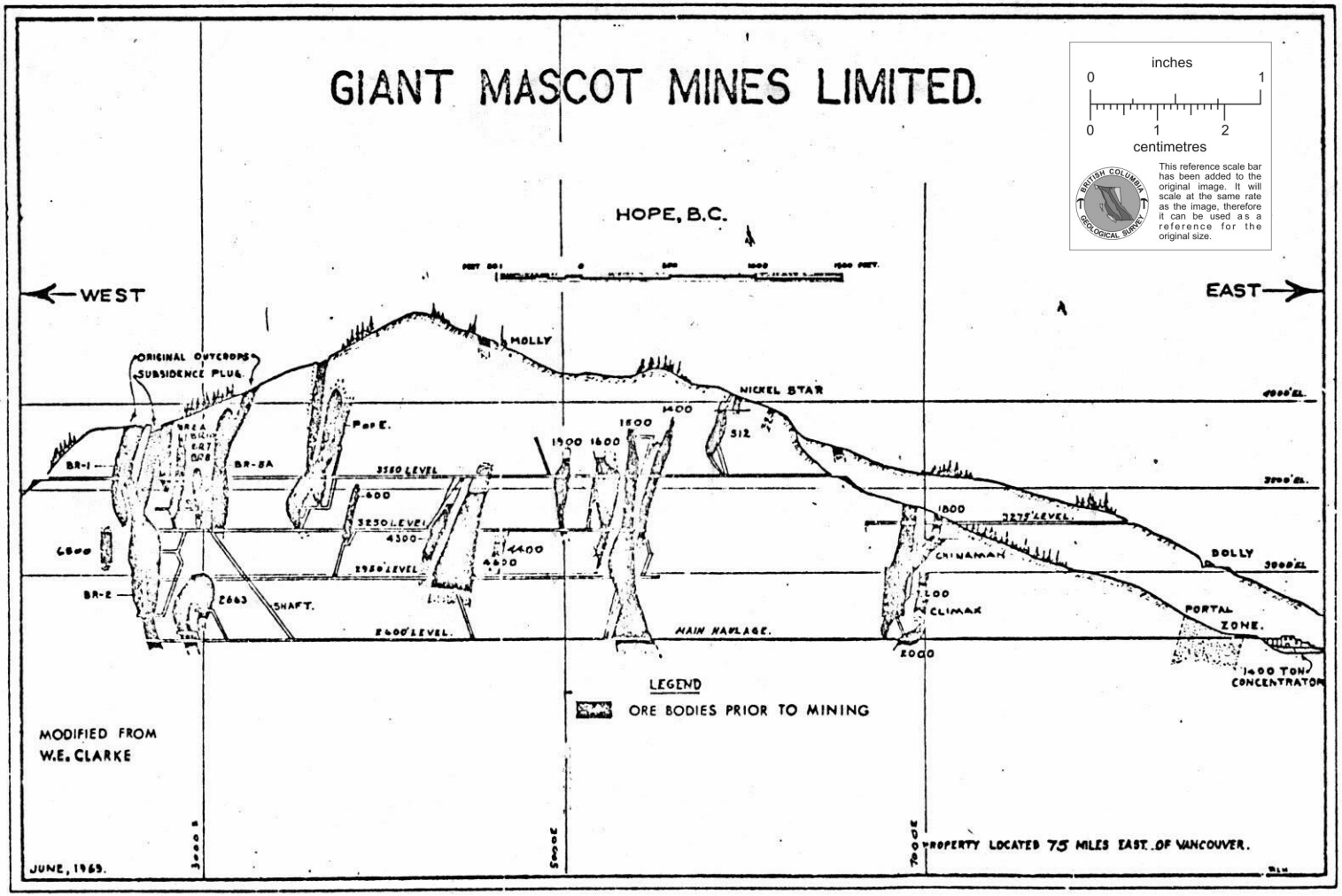

Figure 5. Longitudinal projection, Giant Mascot Mines Limited.

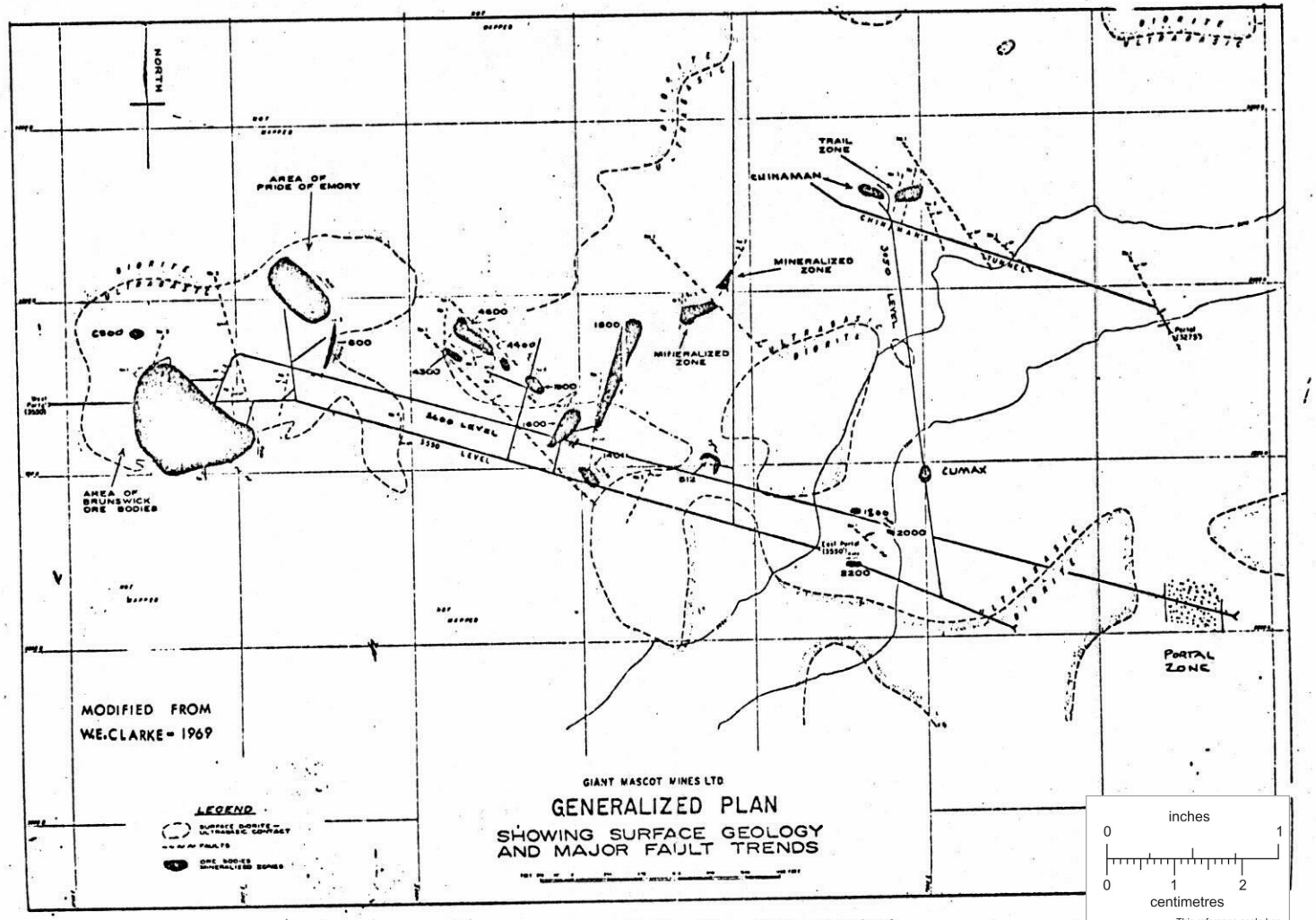

Figure 6. Generalized plan, Giant Mascot Mines Limited.

TABLE 1: SUMMARY OF MINERAL DEPOSITS

Name	Dimensions (ft) Horizontal	Vertical	Tons X 1,000	Grade Ni;Cu	Ni;Cu	Co ore / Co waste	Cr ore / Cr waste	Plunge of ore	Discovery
Pride of Emory	max. @ 3550' 150x60'	875' 3250-4125	704	1.46;0.38	3.84	-	-	N40W 53° 3200-4000	Prospecting
Br 1	max. @ 3850' 110x60'	525' 3350-3875	123	1.10;0.35	3.14	-	-	N20W 75° 3350-3800	Prospecting
Br 2	max. @ 3150' 180x70'	825' 2700-3525	570	1.40;0.60	2.33	-	-	N30W 56° 2800-3525	S.P.?
Br 2A	max. @ 3675' 110x70'	350' 3575-3925	290	0.98;0.35	2.80	-	-	N40W 72° 3600-3750	S.P.?
Br 2G	max. @ 2800' 70x65'	300' 2675-2975	131	0.56;0.27	2.07	0.07/0.01=7	-	N45W 77° 2700-2875	Below Br 2
Br 5	max. @ 3550' 120x70'	600' 3300-3900	409	1.49;0.50	2.98	-	-	N30E 77° 3600-3825 Vertical 33-3600	S.P.?
Br 7	max. @ 3350' 90x50'	200' 3275-3475	23	2.37;0.75	3.16	-	-	N30W 68° 3275-3450	Underground
Br 8	max. @ 3600' 20x40'	175' 3475-3650	12	1.75;0.61	2.86	-	-	N20E 79°	Underground
Br 10	max. @ 3500' 70x55'	200' + 3350-3575	38	0.74;0.35	2.11	-	-	N30W 70-80°	Underground
2663	max. @ 2750' 50x60'	325' 2675-3025	102	0.86;0.32	2.69	-	-	N40W 68°	Underground
6800	max. @ 3100' 50x50'	300' 2950-3250	47	0.66;0.24	2.75	0.052/0.002=26	-	N70W 56°	Underground

Table 1: Summary of Mineral Deposits - con't

Name	Dimensions (ft) Horizontal	Vertical	Tons X 1,000	Grade Ni;Cu	Ni;Cu	Co ore / Co waste	Cr ore / Cr waste	Plunge of ore	Discovery
600	max. @ 100x45'	300' 3225-3550	83	1.42;0.42	3.04	-	-	S30W 66°	Underground
Portal Zone		620'	2,375	0.25;0.11	2.27	-	-	probable steep southeast plunge surface 2700'	Underground
4600	max. @ 3100' 250x100'	643' + 2800-3550	805	1.35;0.73	1.80	0.027/0.002 = 13.5	0.185/0.152 = 1.22	N45W 82° 2800-3250	Underground
4400	max. 40x50'	150' + 3075-3275	27½	0.51;0.22	2.31	0.012/0.006 = 2.0	-	N50W 76° 3075-3275	Underground
4300	max. 90x40'	225' 3200-3425	62	0.91;0.51	1.78	0.063/0.002 = 31.5	0.083/0.040 = 2.07	N50W 61°	Underground
2200	max. 50x50'	750' 2650-3350 +	135	0.68;0.38	1.79	0.036/0.002 = 18.0	0.148/0.087 = 1.70	N60W 75° 2650-3350	Underground
2000	max. 30x30'	50'	3.4	1.33;0.33	4.03	-	-	N45W 80°	Offset of 2200?
1900	max. 50x80'	300' 3295-3575 +	45	0.86;0.45	1.91	-	-	N60W 63° 3400-3550	Underground
1800	max. 50x80'	150' 3250-3400	40	0.53;0.23	2.30	0.023/0.005 = 5.0	-	S60E 60°	Above 2200
1700	max. 12x12'	50'	1	2.00 approx	-	-	-	-	Offset of2000?
1600	max. 170x90'	425' 3225-3650	216	0.97;0.34	2.85	0.04/0.01 = 4.0	-	S50W 69° 3200-3600	Underground 200' interval D.D. on 3550 level
1500	max. 200x70'	1,130' 2675-3675 +	668	1.37;0.45	3.04	0.06/0.01 = 6.0	0.12/0.01 = 12.0	N30E 55° 2700-3400	Underground 200' interval D.D. on 3550 level

Table 1: Summary of Mineral Deposits - con't

Name	Dimensions (ft) Horizontal	Vertical	Tons X 1,000	Grade Ni;Cu	Ni;Cu	Co ore / Co waste	Cr ore / Cr waste	Plunge of ore	Discovery
1400	max. 50x60'	468' 3275-3725 +	53	0.71;0.32	2.21	0.03/0.005 = 6.0	-	N50W 65° 3275-3725	Underground 200' interval D.D. on 3550 level
Chinaman	max. 90/100'	638' 2700-3290 +	376	0.73;0.30	2.43	0.046/0.010 = 4.6	0.225/0.10 = 2.50	N60W 68° 2650-3050	Below Trail Surface showing
Climax	max. 50x90'	598' 2700-3200 +	211	0.78;0.36	2.16	0.028/0.010 = 2.8	-	N30W 63° 2650-3200	Intersected in 3050 X.C.
512	max. 30x50'	225' 3875-4015	28	1.08;0.41	2.63	-	-	S45W 75° 3725-3850'	Below Nickel Star showing

TABLE 2: SUMMARY OF MINERAL DEPOSITS

NAME	GEOLOGICAL SETTING	ALTERATION	STRUCTURAL SETTING
Pride of Emory	Several elongate mineralized bodies; in ore zone, rock grades from dunite to bronzite; sharp contact to east with H.Px and grades into Pdt or dunite on the west.	Strong talc in H Px immediately north of P. E. pit	N 20E strong fractures; NW and NE faulting
Brunswick 1	Zoned from dunite core to harzburgite to barren bronzite; main diorite contact to the south is parallel to footwall of ore.		Sketchy information indicates moderate faulting NW-NE throughout Br. 1,2,2A.
Brunswick 2; 2A,2G	Massive type; enstatine and olivine with interstitial sulfides;	Moderate-strong Ac , in hanging wall parallel to plunge.	
Brunswick 5;7	Enclosed in enstatitic Px, Br 5 has dunitic core grading to Pdt to barren enstatite rock.	Most of the dunite shows crumbly	Weak NW faults dip 45°E.
Brunswick 8	Massive ore body; ore is enstatitic Px in sulfide groundmass ; barren Px and norite lenses may be inclusions	Ac in H.px on NW side	
Brunswick 10	Ore associated with lense of enstatite.		Intersecting NW and NE fault zones below ore zone.
2663	Mineralized Pdt core surrounded by barren Px; diorite contact in footwall.	Moderate crumbly in Pdt to north, moderate Ac parallel to Pdt-Px contact to south	Faulting N 75 W60°N; N 20E 40E.
6800	Several tabular zones; fine sulfides in Px, breccia fragments of norite occur in ore zone	Crumbly zone below deposit on 2950 level.	Faulting N 50-70 W
600	Pdt ore follows steeply plunging norite - H Px contact	Zones of crumbly have irregular distribution.	Faulting N15E parallel to long axis.
Portal Zone	Low grade Pdt mineralization enclosed in H px		

TABLE 2: con't

NAME	GEOLOGICAL SETTING	ALTERATION	STRUCTURAL SETTING
4600	Zoned with olivine barren core and olivine rich rim; inclusions of diorite occur in ultramafic; Massive ore sections favor footwall side of ore body.	Weak Ac in footwall moderate crumbly at Px-Pdt contact to north	Fault N 15E 40°W
4400	Ore lies along a N-S Pdt-Px contact	Crumbly parallel to north and east contacts on footwall; Ac with faults	Faulting NW dip E; N 20E 35E, N 15W 55E
4300	Probably off-shoot of 4600; disseminated sulfindes in H Px	Fracture zones contain act.	Faulting N 15W vertical
2200	Ore near the contact of norite embayment; sulfides are disseminated in Pdt pipe enclosed in barren px.		
1900	Zoned body; consists of irregular disseminations in an oval shaped body with H. Pdt core rimmed by enstatite-hypersthene rock and a partial H. Px shell	Strong talc in ore near footwall	Faulting N 15W 40W
1800	Mineralized body occurs in pipe-like body of Pdt enclosed in px.	Some talc at contact	1800 may be a faulted offset of 2200
1700	Dunitic ore NW of 2000	Crumbly altered	
1600	Zoned body; dunitic core to barren H. Pdt; On 3200 level a breccia with ore fragments in norite may indicate post-ore faulting.	Strong talc in ore near diorite contact along hanging-wall; strong crumbly near top of ore.	

TABLE 2: con't

NAME	GEOLOGICAL SETTING	ALTERATION	STRUCTURAL SETTING
1500	Ore in both H. Pdt and H Px as both massive and lacy types with a concentration of massive near bottom; ore has been either dammed or cut off by a flat hornblendite dike; footwall contains a breccia with diorite fragments in mineralized H Px	Large zone of crumbly north of ore zone; some crumbly in ore zone.	Moderate faulting parellel to to major axis of ore body.
1400	Ore in a Pdt-px mixture with diorite on southwest and northeast contacts.	Moderate act. in px	NW trending faults dip east and west.
Chinaman	Ore mainly in H Px with barren Pdt core; footwall and NE side is a H Px-diorite Px Zone	Strong act - talc-magnetite below and in hanging-wall of zone.	
Climax	Ore parallels norite contact and overlaps Pdt-px contact	Crumbly near north contact	
512	Zoned structure with barren core and sulfides in shell of olivine px; barren H Px and hornblendite surrounds ore.		