Merritt Area.

010472

Summary of Geology on Properties.

Gordon Bk ppty (Noranda): road from Dot (½ m. W of), 10 m.; also to Mynes, Tam Lake & Aberdeen road. also to Promontory Hills.

SW½ strike E-W. mostly on (W.P. 91, 111, 116, 117.), 3200' lng. — was a coal bn in Spence Bridge gp.

400-scale claim-&-picket line map of property.; also geology, roads & trenches streams

"tied" to I.R.9.

(# 245).

Geology: No sed'y Nicola rocks.
No min. seen in Spence's Bridge Gp.
"granitized dior" is dior with much QR.
Gordon Bk - Nicola contact is mixed one (like I.M.?)
Some bedding evident in Nicola basic tuffs.

CJS (#215). access: thru Bryant ppty, then 3 m. on dirt road (steep). Or via Gordon Bk.
< 1% o/cps. except near I.R.9 (S.W. claims adjoin this).
(CJS 65 claims ½ m. N of Promontory Hills lots).

David Bk on a NE-trending synclin in Nicola?, with vole rocks in the core big altered to meladiorites, amphibolites. ? (P.E. Hirst)

No Tertiary beds existing in area (or likely to, acc. to PEH.)
Mild skarnification (epidotization) in tuffs with original clastic texture, in SW part of area.

Rocks mapped: QD
diorite
metadior / amphib.
Nicola { Nicola - diorite breccia
tuffaceous beds
agglom, andesites, basalt flows

PSCop photos used (& B.C. air photos) to make a base map 1000 scale. (maps in Report show claims & (separately) geology. Minimum topogr. detail given). 1000 scale.)

PTO

K.L Gp (Rio Tinto Canadian) (#227) (See later: Dodo gp).

1320' claim-map, 1320' geol map (overlay on mosaic) with minimum topog. & with picket-lines. "Tied" to I.R.9, Canex (Betty Lou), Bgnt, & Gdn Ck gp, C.J.S. gp. They made a photo mosaic on this scale — is it available? (is it useful?)

Add'l geol maps on 400 scale from picket-line control, with form-lines & claim-posts.

Camp was established on David Creek.

(Rio Canex mosaic (from B.C. photos enlarged to 1320') covers from Bgnt adit on E to near W margin of I.R.9 on W, & from just S of Lookout to CJS gp on N.)

Hank gp (option by Centurion-Magnum). (#240) NE end traversed by Lookout Pt access-road.

Claim-map 1320' scale. (SE corner-peg of I.R.9 is mentioned, & 6600' B/L extends E from it). (Map given of picket-lines 40-scale.)

(No geology described). Hank #30 already drilled

Craigmont: Hec gp. (#204, 205). (C.C. Rennie)

Kingsvale: basalts, A, aggl, tuffs, breccia. < 500' thick.

~~(Claim-maps & picket-lines 400 scale)~~ 200 scale mapping showing claim-bdys.

(See my trace of Grant claim-map 2500' scale. for geology.)

Blazed & chained line runs E-W ~~near~~ inside S^n margin of gp, with N^y lines from it.

(Kingsvale covers the Nicola-dior contact, approx on Hec #6 claim).

Interesting magnetic anomalies on a) Hec #3-#4 (strike ca. S 70° W) ~~near Hec #8~~ bending to NW^y on Merchant #5 (to E). b) Hec #8. (acc^g to Rennie, this is likely to be in Nicola (∴ favorable) whereas a) is probably at or inside diorite contact.)

Centennial: (PCM & Cap).

claim-map 650-scale

geol-map " . (JC Fournier). — get copy of this ✓

Rocks mapped:	Batholith: Granite, alt^d G.	Nicola: basalt	Kingsvale: aggl-hb-P	
	Grd	prpl. A	pink hb-fld por P	
	dior	tuff	grey " " "	
	Transition rocks (to Nicola)	A	basalt	
			A	

Camp established near King's ranch-house (on Lookout Pt access-road)

(PCM, Cop — cont.).

geology plotted on to air photos, as well as claim-posts. (E+W B/L used).
— photos were presumably PSCop 650-scale.

"Transit-survey" presumed to show ENE & NE fold-trends. No lengthy descript^n of geology is given.

Dominion Gp. (Formation)
#235 claim-map w. o/crop pos^ns & geol notes 200-scale; also I.R.P. SE^n peg & roads. Cross road to Lookout.

Apparently all o/crops are of Rhyolite agglom, brown-H & andesitic porphyry, with some epid^n & py^n. Trends approx NE, dips steep N^ly?

NB. "Noranda had S^n part of Bathurst photo'd in spring '58 & photos are much better than previous existing ones".

MERRITT prpty (Noranda).
1000 scale claim-map.
#236 400 scale geol, claims, roads, I.P.1 posts, trenches, DDHs, picket lines.
(Get pp 5-8 photo duplicated).

(NB. NW^n used 1000 scale enlargement of Interim maps, together with picket lines.

Eye gp.
(#230) flspr-P dykes common in Qtz-QD & Dirls diorite — similar to flows of Spence Bridge Gp. (OMC. Probably the dykes on K.L. gp is of Spence Bridge age). Well exposed on Eye #25.

Flow-bdg is prevalent in Spence Bridge volcs (acid types). A band of buff-col^d volc. bx is identifiable thru length of property.

1000 scale claim-map
" " geol "

Gengrain Mineral Industries Ltd — H.S. gp. 12 cl.s 6 m W of Merritt, S of CPR. 400-scale claim & magnetom map (Wrnsworth — assess rept, Mar. '59). Nicola g/stones ~~except~~ w. py & pyrrh near large pos. anomaly just W of creek. (returned)
Grd on H.S. 1 & 3. Anomalies + 2500 γ.

" " — Liz gp (just NE of Canford R.R. stn. Adjoining Monts, PCM ~~Prts~~ PRO, & PLs. Wrnsworth-assess rept, Mar 59. (returned)
(Arts staked latest & in-between as fractions) 17 claims.
2,500 – 3,500'.

Cp in g/stone found W of Liz 6 (on Art 19 fr).
400-scale claim & magnetom map, tied approx to Canford & to other claim-groups.

" — Sam gp 8 cls. ½ E of PCM & Cap gp apparently. U/lain wholly by Kysole. No interesting magnetom. results.

Rio Canex — Dodo gp (rept, Apr. 1959) (Gatenby). Rept on 6 claims, but whole gp is 17.
geol. / geochem / magnetom. / S.P. } (tracings made) 1320 cl-maps & geol map. "Tied" to Mark (SW end of), & to Canford saw-mill & Nicola R. (taken off airphotos). NW. end is along Shockelly Ck. Mark camp is shown.
minor Cu showing on Dodo #18. 400' wide Lst belt runs ~~S~~ SW from Mark camp (on Mark 21 near NW corner). Another lst belt (~~[illegible]~~) ca 1200' ~~800~~' wide, similar strike, lies to SE separated by andesite & succeeded E'y by tuffs, aggl. Grid lines surveyed & picketed. 600' spacing.
Kysole in W'n part.
No signif. geochem. anomalies or trends
No " magnetom results
S.P. not signif. results.

24 / 720

Granby (Art gp) (#248): Nicola, etc. S of proposed new 3 miles due W of Merritt.
400-scale claim, EM, magnetom, & geol. - ofp map.
(See MERRITT 1 for descrip'n of rept).

Estimate of Craigmont Orebody, March 1960, using vertical sections.

Between 1850 W & 590 W (over 1,260 feet; thus excluding about 700 ft in E-end, & also excluding low grade mineral^n to W of #29 DDH.)

The estimates include ore intersected or inferred from adjacent panels, to total depth to which I have info^n (not including any results from work on 3000 L).

	to depth	area (sq ft)	vol (cu ft.)	tons
590 W	3250 L	92,500 × 95	= 8,787,500	= 878,750
780 W	3000 L	145,000 × (95 + 47½) [142½]	= 20,662,500	= 2,066,250
875 W	3150 L	170,000 × (47½ + 32½) [80]	= 13,600,000	= 1,360,000
950 W	3125 L	190,000 × (32½ + 52½) [85]	= 16,150,000	= 1,615,000
1055 W	3000 L	211,250 × (52½ + 47½) [100]	= 21,125,000	= 2,112,500
1140 W	3200 L	105,000 × (47½ + 65) [112½]	= 11,812,500	= 1,181,250
1270 W	3250 L	97,500 × (65 + 52½) [117½]	= 11,456,250	= 1,145,625
1375 W	3375 L	40,000 × (52½ + 42½) [95]	= 3,800,000	= 380,000
1460 W	3500 L	45,000 × (42½ + 57½) [100]	= 4,500,000	= 450,000
1575 W	3500 L	70,200 × (57½ + 40) [97½]	= 6,844,500	= 684,450
1655 W	3425 L	80,000 × (40 + 60) [100]	= 8,000,000	= 800,000
1775 W	3225 L	100,500 × (60 + 37½) [97½] } 115	= 11,557,500	= 1,155,750
1850 W	3225 L	100,500 × 37½		13,829,575
		Total: 1,260 ft.	Total: 137,295,750 cu ft	

Tonnage factor (mineralogically calculated) = 9.64 ≃ 10) (June 1960: tonnage factor 10 used by Rennie; his physical measurements (S.G., etc.) gave very variable figures, so he based it on mineralogical comp^n.)

(garnet-skarn ores v. high S.G.
epid-chl skarn ores low S.G.)

Total tonnage indicated from surface to elevations ranging from 3500 L to 3000 L (average base of calculated ore is 3,265 L)

= <u>13,829,000</u> tons of non-calculated grade (presumably greater than 1% Cu)

(This compares with Chapman's estimate, following completion of scheduled work on 3000 level, of 13,375,000 semi-proven ore of grade 1.8% Cu & 20.1% Fe.)

PTO

Area of orebody between 590W & 1850W on 3500L is 167,500 sq ft.
or 16,750 tons/vert ft.

∴ from 3265 level to near-surface (say 4000' elev.)
— a vert. dist. of 735 ft — the orebody is 12,171,250 tons
which indicates that the 3500 level is probably slightly below-average
in extent of ore.

PRINCIPAL CRAIGMONT ROCK GROUPS RECOGNIZED BY DEPARTMENT OF MINES, JANUARY, 1959.

1. **Field Name Used in 1958:** pale siliceous tuffs.

   Field Appearance: tough fine to fine-medium grained light grey and grey-green rocks; moderately well laminated; somewhat banded; tendency to fracture conchoidally like quartzite; most has easily-visible irregular quartz grains seldom exceeding ½ mm. in length; quartz-epidote veinlets; pyrite disseminated; garnet seams occasional; little or no free calcite.

   Proposed Name: greywacke

   Remarks: rocks probably equivalent to these occur in outcrops at Look-Out Point, Promontory Hills.

   Drill-core specimens: Hole #19 at 314 ft. & 430 ft. (JMC58-265[5])
   Hole #21 at 450 ft. (JMC58-270; RL H21-450)

2. **Field Name Used in 1958:** dark siliceous tuffs.

   Field Appearance: rather tough fine-grained dark grey or dark green rocks; laminated and partly foliated, with pink, light green and light grey foliae in a dark matrix; may contain dense, fine-grained, pink, angular fragments up to 2 inches; contain little free calcite though may be interbedded with heavily skarnified or mineralized sections.

   Proposed Name: quartzofelspathic tuffs.

   Remarks: some of the rocks are lithic tuffs or volcanic greywackes with vitrophysic andesite fragments. Others may be hornfelsed greywacke. The pink fragments and lenses consist almost wholly of alkali-felspars in granular mosaic. Some of the rocks carry fine-grained epidote and actinolite and are skarny.

   possibly equivalent rocks occur in outcrop at Promontory Hills, some being pebbly or agglomeratic.

   Drill-core specimens: Hole #7 at 20 ft. and 656 ft. (JMC58-277[5])
   (JMC58-272[5])
   (RL H7-20)

3. Field Names used in 1958: dark limey tuffs, greenstone, andesite

Field Appearance: dark green or dark grey-green fine to fine-medium grained rocks; actinolitic and/or chloritic; mostly without conspicuous lamination; may contain grey or pink, fine-grained, sub-angular volcanic fragments up to 2 inches; may have a blotchy texture due to uneven distribution of the principal mineral components; free calcite generally present as streaks and patches; red-brown garnet if present may be either heavily disseminated, in isolated crystals or aggregates, or in seams and layers; heavily mineralized sections occur preferentially with rocks of this group.

Proposed Names: limey tuffs, skarnified tuffs, skarn.

Remarks: in thin-section, potash-felspar is a common component of many rocks and also occurs as a principal component in the pink fine-grained fragments, which are similar to those in the quartzofelspathic tuffs. Tourmaline was noted in one rock. An unusual type in this rock-group is skarnified agglomeratic limestone (JMC 58-278^S) (at end of hole #7). At Look-Out Point, the outcrop includes nearly pure limestones, pebbly limestones and limey tuffs. The apparent sequence of these rocks includes some quartzo-felspathic rocks.

Drill-core specimens: Hole #7 at 489 ft, 625 ft. and 750 ft. (JMC58-274^S) (JMC58-276^S; RL.117-630') (JMC 58-278^S; RL-750^S)
Hole #15 at 1125 ft. (globular-tuted garnet skarn JMC58-326^S; RL 15-1125')
Hole #21 at 748 feet and 778 ft. (JMC58-281) (JMC58-282^S; RL.21-778')

4. Field Name Used in 1958: micro-quartz-diorite. (or "diorite")

Field Appearance: fine-medium grained, holocrystalline, mesocratic rock of felted texture and with white felspar and chloritized biotite the most conspicuous minerals; magnetite disseminated; the pink felspar content is variable.

Proposed Name: as above. Not named andesite in order to prevent confusion with vitrophysic flow-rocks and tuffs of this composition.

Remarks: is partly quartz-monzonite in composition.

Drill-core specimen: Hole #19 at 145 ft. (JMC58-279^S)

ADDITIONAL COMMENTS ON CRAIGMONT ROCK-TYPES

(a) Diorite was logged in 1958, distinct from micro-quartz-diorite. Some of the so-called diorite may be of metasomatic origin, e.g., veins in Hole #21 at 617 ft. (JMC 58-280s) (RL 21-617)

(b) Rock type at 935 feet in Hole #15 (JMC 58-287s) was logged as ~~tuff~~ "m/porph. Andesite" but in thin-section is classified as porphyritic micro-quartz-diorite; may be meta-tuff. (is it not andesite?) (no, according to Bill Pentland, who says it is considered a tuff (slightly limey)) Is andesite, by exam of core 16 June '59.

(c) In general, distinct pyroclastic textures are wanting and most of the stratified rocks were probably water-deposited. The name "tuff" is retained for convenience. A more correct terminology would be difficult to obtain and even more difficult to use in the field.

(d) Some specimens have a texture resembling mylonitic texture, e.g., in Hole #7 at 656 feet.

(e) The prevalence of potash-felspar (probably orthoclase) is of interest. It was not seen in specimens collected from Look-Out Point.

(f) Mineralized sections were classified according to (i) presence or absence of unreplaced fragments, (ii) whether these fragments are limey or quartzo-felspathic, (iii) relative proportion of specularite and magnetite ~~(or the magnetic paramorph after specularite)~~, (or magnetic specularite (iv) abundance of pink felspar in the ore-section.

Department of Mines,
Victoria, B.C.,
January 21st, 1959.