

79X06

4L7 607.5 - 611.4

This 4L unit is bounded at ends by "Bull Quartz veins". Siliceous and fine-grained.

4L7 658.3 - 661.4

Chlorite contents increase from 651 m. in 5B6 (f-fining) and changes gradually into 4L7 at around 658 m. This gradual facies continues to 668 m and, within 5 cm interval, changes into 5B23 again. It means that upper boundary of 4L is gradual and lower one is relatively sharp in this case.

4K7 671.0 - 672.0

Massive PO of thickness of about 1 m could be vein. However, small amount of galena band suggest that it is something like a slumping bed in ~~SA19~~ SA19 units. SA1 or SA1 units ~~have~~ have slumped texture too. There is no alteration in these unit, probably because their slump bed or turbidite origin.

4K7 (4K79) - 676.7 - 677.4

This sulfide unit could be ~~some~~ mostly ~~is~~ but there is no "good" lower-layer (~~half~~ half) of typical argill.

4L 679.4 - 706.6

This thick 4L unit shows ~~some~~ color change at first (4L3) it contains abundant white clay, ~~about~~ but the chlorite content in this unit increases gradually and it becomes typical 4L6 rock. This white → green cycle repeats ~~to~~ twice and end up by third white 4L unit (4L7). This 4L unit ~~for~~ it falls in 5B23 or SA and followed by ~~the~~ P. texture ~~is~~ prominent

in "white" part.

4E ~ 4G unit 706.6 -

At the top of this thick ore, there is magnetite bearing 4E8 which suggests the top of the ore sequence. Other observation shows that this unit ~~could~~ could be "proximal" ore deposit. Therefore, following 4L unit (763m -) can be fortwell alteration. In between ore and 4L unit, there is

thick 4A4 unit. Sph content decreases towards downwards and it becomes to be normal graphitic quartzite (po bearing).

There are few intercalated 4L unit within ore.

4L units below 800m

This unit has homogeneous ~~face~~ faces throughout the sequence and ~~of~~ has gradual contact with underlying 5D6. These sequences rest on 5A* graphitic, brecciated quartzite.

Comments

1. Three thin 4L units at 558.7, 607.5, and at 613.8 m do not show correlation with sulfide ores. Thick 4L unit at ~~681~~ 681 m - 706 m underlies only thin sulfide layers of about 2 m thick.
2. These units can be ~~lateral~~ ^{facies} (marginal) 4L of ~~Baritic~~ Baritic ores intersected by 77x05.
3. 4L unit between 679.4 m and 706.6 m is thought to be footwall alteration of overlying ores. Typical zoning is observed in this section.
4. 4L unit below 800 m is facies. From the observation of neighbouring cores (79x14, 77x05), time equivalent facies ~~are~~ ^{are} graphitic unit (5A0) sericite schist (5B0), ore (4A0), ^{and} or • tuff? (5D). We must check ~~that~~ whether the alteration is strong enough to change rock composition completely like this case or not.

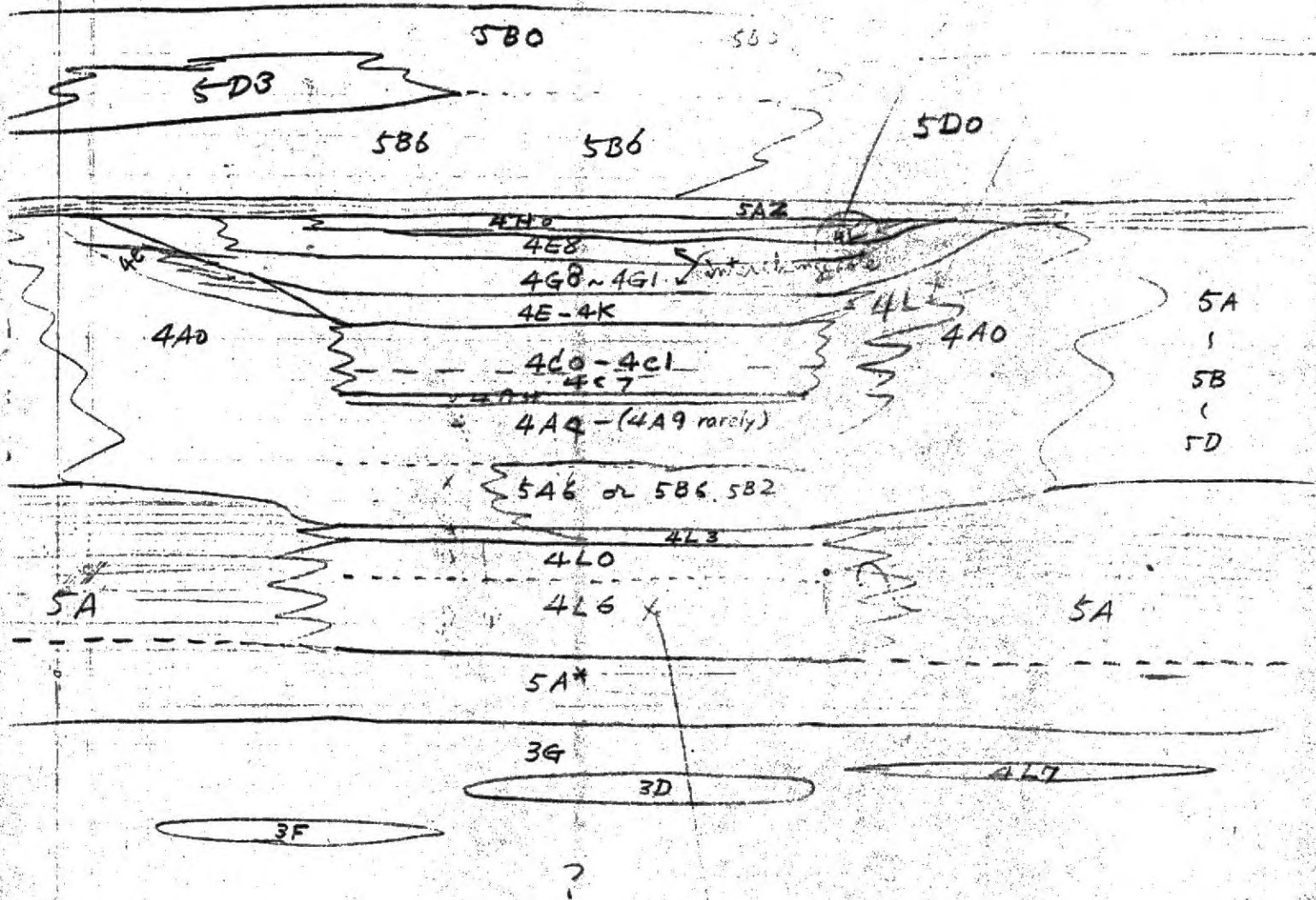
My tentative image of ideal cross section
of DY deposit

July 28/80

Total 100

Vertical scale exaggerated.

Time axis



As a working hypothesis, I classify 4L
following three categories,

- (i) intercalation
- (ii) time axis marginal
- (iii) ...

79X11 >

Core re-log

T. 1000

p. 1000

4L6 661.3 - 661.5 m

This unit is considered to be quartz-chlorite-py vein of later stage.

4L6 661.5 - 665.4 ----- gtz vein at 670.6 (OQO)
 4L0 665.4 - 674.9

Upper boundary of this 4L unit is gradual with 5B6. As is described in log book, upper half of this 4L unit is chlorite-rich in the amount of chlorite decreases downwards. There is few po and py in both 4L6, and 4L0. This 4L unit is ~~not~~ carbonate-free.

5B6 674.9 - 680.0

This poorly laminated gray phyllitic unit should be called as 4L0 (not calcareous) or 4L7.

4L7 680.0 - 686.5

This is almost continuous to the 5B6 but the chlorite content is less than the former. This downward decrease (gradual) is also observed at ~660.5 - 674.9 m. Near the bottom of this unit, very minor sph and gn are observed. These two minerals could be detrital from nearby oolite at the time of ore formation. Po is very common. 684.6 - 685.5 should be called 4L17.

4L2 (4L29) 686.5 - 687.2

The pyrite is very coarse grained and some of them are not single crystals but aggregates.

It suggest that pyrite bearing 4L unit (4L2) may be contemporaneous 4L and the pyrite fragments are reworked equivalent of massive pyrite (4E). There are three possible candidates of 4E or 4C in 79X14, that is, 4C86 at 686.3m, 4C28 at 689.0m and 4C7 at 704.1m.

586 696.5 - 701.6 m

This unit is not calcareous except q-cal-po veins which cut 586. There is a question to call this unit as 58. I prefer to call this as 4L7. There is no difference in appearance between this 586 and following 4L7.

4L5 711.4 - 712.9

Calcite(?) forms discrete layers in this 4L unit. This is rather rare. Other features are similar with above 4L7.

4L2 712.9 - 728.2

Grain size or size of pyritic fragments are smaller than those ~~in~~ in 4L2 (686.5m). Pyrites does not disseminate throughout this unit but occur ~~in~~ within quartz rich layers. It suggests clastic origin of pyrite. In the lower part, po increases its amount and pyrite becomes less common. There is no definite boundary between this unit and underlying ~~4L~~ 4L7.

4L1 807.4 - 813.3

This unit is almost ~~the same as~~ 4L7 in appearance. It is ~~the same as~~ 4L7.

5D3 832.0 - 861.5, 872.3 - 878.2

No difference between this unit and underlying 4L.

1. Comments

1. latest vein

Quartz - calcite - chlorite (^{bright} green) - pyrrhotite

This vein cuts almost ~~every~~ every 4L, ~~and~~ 5B, 5C, and 5A units. There is very rare sericite in this vein. Sericite tends to recrystallize along S₂ plane and seems to be not mobile during metamorphism. Dolomite and siderite are also rare or ~~absent~~ absent.

2. lateral equivalent type 4L unit

could be 4L2.

79X14 core to log

580 ~ 673.8

Po bearing, calc. zone

5B26 673.8 - 685.0

non-calcareous. po - lg. contains py fragments.

4L0 685.0 - 686.3

Probably, alteration associated with po vein.
Non-calcareous.

4C2 689.0 - 689.8

Contains large to sh silicates. Pyrite fragments
rich 4L.

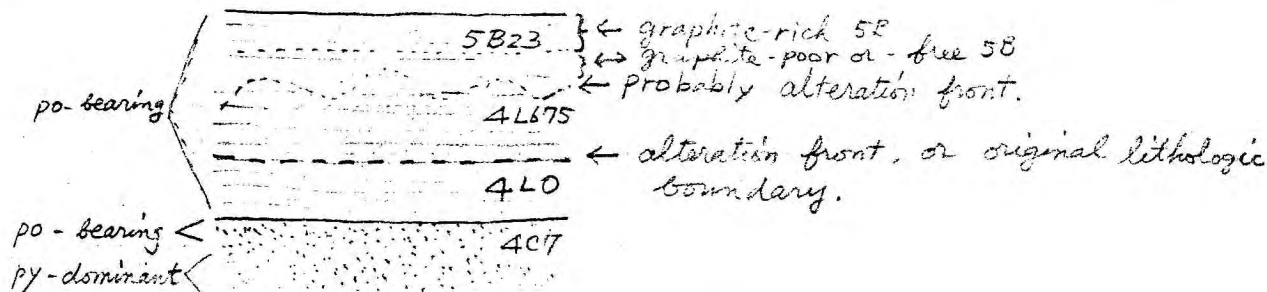
(5B23 690.6 - 698.0

4L675 698.0 - 702.5

Calcareous. Boundary between these two units is
not clear. The 4L675 is a good example of wall-rock
alteration of 5B23 unit.

4L0 702.5 - 704.1

4L unit becomes non-calcareous.



4A0 → 720.8 - 723.9

This is a typical example of footwall graphitic unit with small amounts of sulfides in it. It contains pyrite breccias.

4L0 — 723.9 - 734.1

This is a typical 4L0 below the 4A0 unit. The boundary between 4A0 and 4L0 seems to be concordant but quartz vein separates them. Qtz veins are seen frequently until 727.5m. Po veinlets are common. Grain size of sericite is relatively large.

From ~728m, chlorite content decreases and the rock becomes siliceous. Main components of it are $gt + ser \pm po$. Pyrite fragments layers occur several times.

731.4 - 731.7m : calcareous

731.7 - : chlorite content becomes to increase.

733.0 - : calcareous, py bearing

734.1 - 734.9 : 4L2, siliceous, pyritic. → detrital?

4L7 734.9 - 742.0

Contains chlorite. Pyritic layers occur sporadically. Chlorite content becomes less below 738m and rock becomes sericitic. 4L3 occurs at 738.2 - 738.4m.

4L42 742.0 - 742.3

Sphalerite and galena occur together with fragmental pyrite. We can temporarily designate this as ore-equivalent type 4L. 4L2 at 743.9 - 752.8 also contains sph.

4L672 743.9 - 752.8

Chlorite decreases its amount gradually between 748 and 753m and the rock becomes 4L12. Chlorite is not seen in the lower half of 4L2 unit (752.8 - 756.6).

4L2 752.8 - 766.7 (two 50' units)

This is Q+ser+py rock. In the 4L2
calc-py layer at 752.0m is an exception. Py/py
ratio increases below 761m. 4L3 unit occurs
at 762.0-764.0. Chlorite is more below this unit
and the rock starts to look like 4L3.

4L3 766.7 - 776.5

Upper boundary of this unit is not sharp.
Lower boundary is sharp.

—Comments—

1. Usually 5B3 (calcareous) does not coexist with ores and some 4L units. Exception is 79X06 at 667.7m. In this case 5B23 overlies ore, but, the ore itself contains carbonate (4K7). 5B26 is much more common host rock of the ore.
2. 4L3 unit is a pure, mono-mineralic, sulfide-free thin unit which occurs very close to the ore, that is, at hanging-wall, foot-wall, and at inter-ore waste.
3. Quartz vein containing sericite clots in it is another common facies at hanging- and foot-wall of ore.
4. Above observation suggests that hot sulfate rich acid solution which was squeezed out from the orebody during compaction may play significant role for the formation of above units.
Metamorphism of ore could produce some reactions, that is, dissolution of calcite from 5B, formation of quartz vein, and formation of thin 4L unit at hanging wall.
5. Does (Did) graphite react with "ore-solution"? I hope we can see the relation between graphite-bearing 5B (5B23) and 4L675 at around 760m.
It is noteworthy that these transition is very rare in drill core.
6. Characteristic feature of the 4L unit of this core is its abundant pyrite fragments-layers until ~ 754m.
7. 5D units in 4L (ex. 756.5, 759.0m) are thin and calcareous. These are not typical 5D.

73X07

10.5 m	100		
11.5	100		
1.0	400	←	
1.5	500	←	50
1.2	300	←	100
3.1	200-400		
13.1	100-150		
3.2	400	←→	50
2.3	500	←→	50
0.2	200	←→	50
0.5	200	←→	50
5.1	400	←→	50
0.3	500	←→	50
7.7	200	←→	50
2.5	400	←→	50
1.4	200-300	←→	50
1.8	200	←→	50

5B



79X08

Re-log

T-1

Aug 2/80

1. Logging of this hole is excellent and I have no objection.

2. If we look at the sequence of Unit 4 between 501.5 m and 558.0 m, certain symmetric relation is shown.

Thickness (m) (Unit)			Thickness unit unit	
①	7.7	5D3 (5)	③ 5B6	2.5
②	4.2	4L7 (5)	⑩ 4L7 (28)	1.5 (75) — 1.27
③	2.5 (55)	4L3 (7)	⑧ 4L47	1.0 — ② 4L7
④	1.3	4D08	⑨ 4D8	0.7 — ④ 4L1
⑤	0.8	4G8	⑥ 4G8	0.6 — ④ 4G1
⑥	0.3	4D7-4L34	⑦ 4C8	0.3 (75) — 4L4
⑦	1.6 (65)	4C8	④ 4G0	3.0 — ④ 4K0
⑧	2.1	4C0	⑤ 4K0	1.6 — 4K1
⑨	2.7	4C7	④ 4C8	0.8 — 4E0
⑩	0.3	5D61		0.3
⑪	0.7	4C7 (29)	② 4C7 (29)	0.4 — ④ 4L1
⑫	1.0 (65)	5D61	③ 4K17	0.9 (75) — ④ 4A7
⑬	2.6	4D8 (mag)	⑩ 4C0.8	6.1 — 5A1
			⑪ 4E0	0.6 (75)
⑭	6.0	4C24	⑥ 4C8	7.5
⑮	0.8 (62)	4L0-5D6		— ④ 4L1

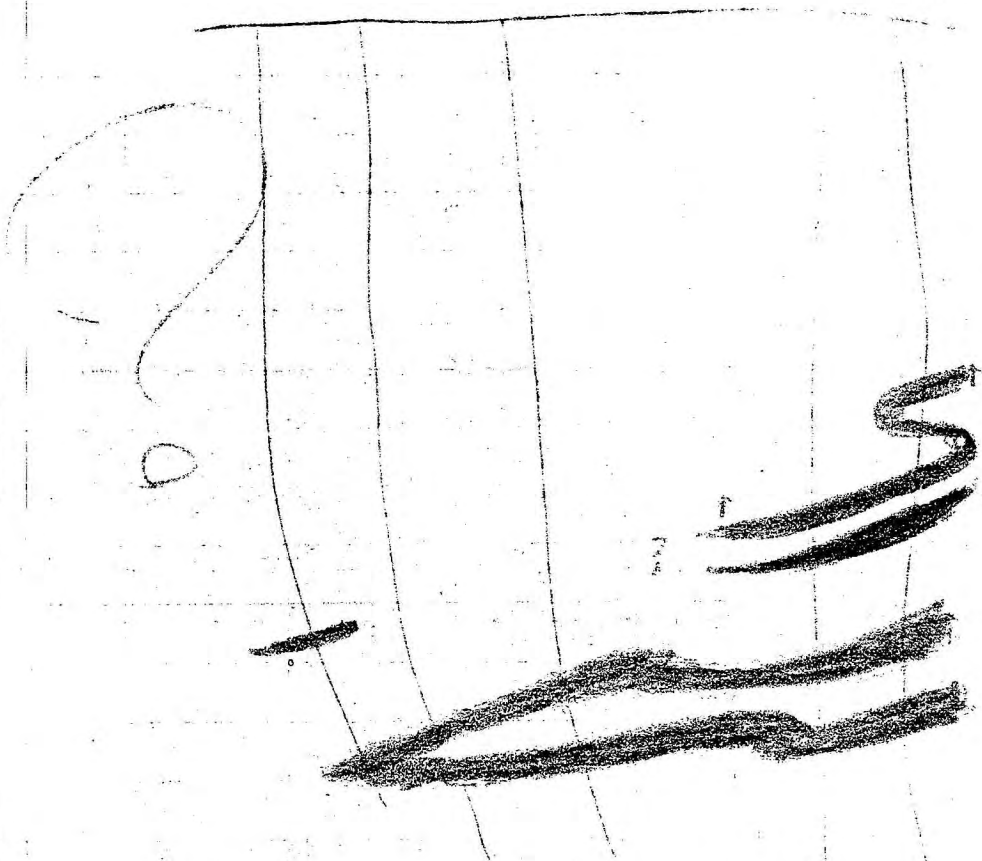
Main sequence are two units (A and B).
The last column denotes following unit in sequence below 567.1 m (unit 29). If we change sign "C" to "A", we find another similar sequence.

3. If we assume a ...
 we may ...
 in ...
 hold, there is ...
 has ...

4. 4A4 (unit 137) at ...
 turned.

unit	alt. num	code		
136	1.3	5F23	---	
137	1.1	4A4	---	
138	2.3	4C3		
139	2.4	4A7	---	
140	7.6	4A0	---	
exp. Red. → 141	0.3	5D6	/	
142	3.5	4A0		
143	2.2	4L1		
144	1.5	5A0		
145	3.2	5E6	---	
146	1.2	4L1		
147	5.9	5E6		
148	2.3	4A0	---	
149	4.3	3B6	---	
150	4.2	0C3		
151	4.2			
152	3.7		---	

Correlation seems to be poor. When we look at the core, some things are strikingly.



5. One is relatively rich in