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PETROGRAPHIC AND GEOCHEMICAL REPORT ON TEXMONT MINE PROPERTY, ONTARIO

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SUMMARY

Texmont mine, located 35km south of Timmins (UTM NAD 83, Zone 17, ~484820m E, ~5334690mN) has been in exploitation in 1971 and 1972. Since 2006, an exploration drilling program have been conducted by Fletcher Nickel inc. A small petrological and geochemical studies have been made from representative samples taken on the South Zone, the Main Zone and the North Zone.

Samples consist in peridotite or ultramafic komatiite cumulate, pervasively serpentinized. Some samples are also carbonatized. Mineralization is composed by magmatic sulphide. The mineralization consists in pentlandite and pyrrhotite in the South Zone, and in pentlandite in the Main Zone and in the North Zone.

In most samples, mineralization is not linked to carbonatization. However, in some samples, mineralization is linked to carbonatization and CaO correlate with S. These samples are highly carbonatized and sulphide is recrystallized in violarite and millerite. Also, sulphide is remobilized and produce pyrrhotite veinlets and pyrrhotite and pendlantite veinlets. In samples highly serpentinized with chrysotile, pentlandite is pseudomorphosed by violarite.

A more detailed geochemical and petrographic studies with micropobe analyses is recommended for a better understanding of mineralization and emplacement processus.

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1. INTRODUCTION

Texmont mine, located 35km south of Timmins (UTM NAD 83, Zone 17, ~484820m E, ~5334690mN) has been in exploitation from July 1971 to december 1972 by underground working at a rated capacity of 500 tons per day. Since 2006, an exploration drilling program have been conducted on Texmont property to determine size and grade of Texmont Mine workings, exploration of open pit possibilities and upgrading of previously calculated mineral resource to be NI43-101 compliant (Jean, 2008).

From historical surface and underground exploration drill holes, six lenses have been determined: one lenses for the South Zone, four lenses for the Main Zone and one lense for the North Zone. Sulphides from Texmont has been described by Naldrett et al. (1972) as largely composed by pentlandite and pyrite with minor amounts of heazlewoodite, violarite and chalcopyrite. They have also described godlevskite in one drill core sample from an unknown location in the mine.

Representative samples have been collected from the three zones for petrographic study. These samples have been taken in best mineralized zones and are representative of different kind of sulphide texture. Two dikes have been collected for lithologic identification.

Also, representative samples have been collected from mineralized cumulate komatiite for geochemical study. They come from the three mineralized zones and samples are unmineralized to mineralized.

The goals of petrographic and geochemical studies are to determine the role of alteration on mineralization and to determine mineralogical composition of the mineralized zone to help for metallurgical test.

2. PETROGRAPHIC SAMPLE DESCRIPTION

17 samples have been took for petrographic studies. Samples from drill holes TEX07-12 and TEX07-13 are located in the South Zone, samples from drill holes TEX07-16, TEX07-18 and TEX07-19 are located between the South Zone and the Main Zone, samples from drill holes TEX07-17 is located near, but north of the Main Zone, samples from drill holes TEX07-20, TEX07-21 and TEX07-22 are located in the North Zone and sample from drill holes TEX08-27 and TEX08-28 are located in the Main Zone. In table 1, all minerals found are listed.

Thin section #1
TEX07-12
Sample 153366
Peridotite is fine grained, massive, dark grey to black and has 10% sulphide. In thin section, no primary minerals, except sulphides, are preserved (figure 1a). Sulphides are composed by pyrrhotite (7%) enclosed in pentlandite (3%) (figure 2a and figure 2b). Some chalcopyrite (trace) is found. Contact between sulphides is sharp. Sometime, magnetite is enclosed in pyrrhotite. Olivine is completely serpentinized and carbonatized. 25% carbonate is very fine grained and pervasive. 5% fine grained carbonate and 10% fine

grained chlorite are in inclusion in sulphide principally near the rim. Rim of sulphide is also corroded by carbonate and chlorite. Serpentine veinlets are the last event in this rock.

Thin section #2
TEX07-13
Sample 153444
Peridotite is fine grained, massive, dark grey to black and has 10% sulphide. In thin section, no primary minerals, except sulphides, are preserved (figure 1b). Sulphides (10%) are composed by cluster of pyrrhotite and pentlandite (figure 2c and figure 2d). Pyrrhotite is surround by pentlandite. Very fine grained pentlandite is disseminated in trace. Olivine is pseudomorphosed by serpentine (antigorite; 67%). Serpentinization enhance magnetite (10%) crystallization. After serpentinization by antigorite, peridotite is serpentinized by chrysotile, chloritized (10% chlorite) and carbonatized (2%) (figure 1c and figure 1d). Majority of chlorite is found near sulphides. Sulphides rim is corroded by chlorite, chrysotile and carbonate (figure 2c and figure 2d). Serpentine veinlets are the last event in this rock.

Thin section #3
TEX07-16
Sample 598
Peridotite is fine grained, massive, dark grey to black and sulphide has net texture. In thin section, no primary minerals, except sulphides, are preserved (figure 3a). Sulphide is composed by pyrrhotite (10%), pentlandite (10%) and trace of chalcopyrite (figure 4a). Pervasive serpentinization has entirely replace olivine and allows crystallization of serpentine (30%) and magnetite. Then, carbonatization (30% carbonate) and some talc (5%) crystallization took place (figure 3a). Carbonate and talc are very fine grained. Rock is cut by sulphide veinlets composed by pentlandite, pyrrhotite and chalcopyrite (figure 4b). These veinlets could be linked to carbonatization or to fluid percolation along sulphide veinlets selvage to allow carbonate crystallization in a later stage. Sulphide veinlets are cut by chrysotile veinlets and then, by serpentine and carbonate veins. Sulphide rim is hematized.

Thin section #4
TEX07-16
Sample 610
This sample is characterized by a peridotite with bedding composed by semi-massive sulphide with net texture and serpentinized intergranular olivine (figure 3b). Sulphide is composed by pyrrhotite (34%), pendlantite (10%) and chalcopyrite (1%) (figure 4c et figure 4d). Modal sulphide composition is highly variable with pentlandite as minor to major phase and pyrrhotite as major to minor phase. When pyrrhotite is more aboundant than pentlandite, pentlandite has pyrrhotite inclusion. Olivine is entirely serpentinized (35% serpentine). Serpentine is mainly composed by chrysotile. Chlorite flakes and chrysotile fibers crystallized at the expense of sulphide in less carbonated area. Carbonate veins stopped on sulphide bed. Carbonated fluid has percolated between sulphide grains and has enhanced carbonatization of serpentinized olivine. Foliation indicated by carbonate grains elongation. Sulphide rims are slightly hematized (figure 3c). A late pyrrhotite and carbonate vein cut peridotite (figure 3d).

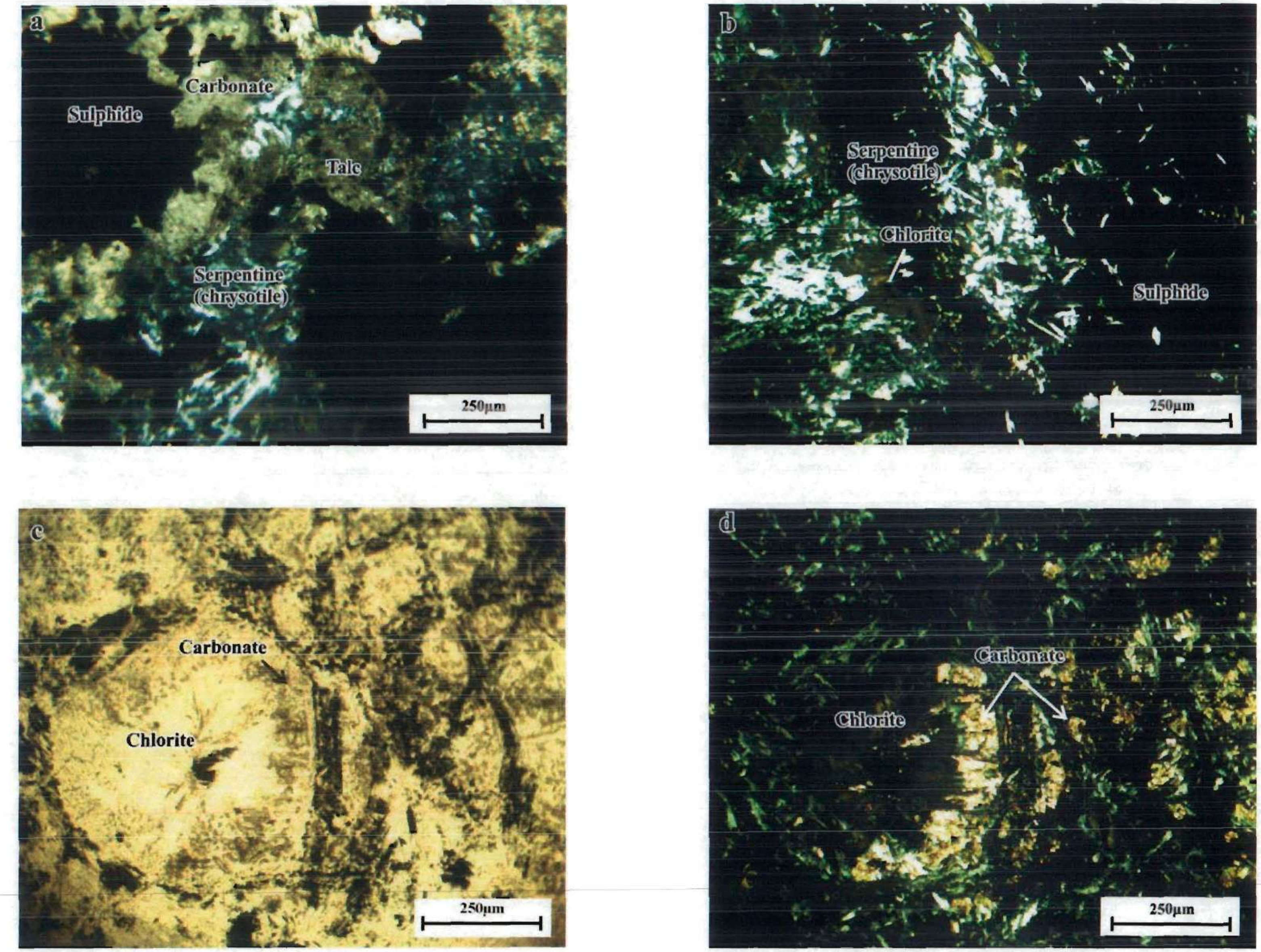


Figure 1: TEX07-12, sample 153366: a) Serpentine alteration followed by talc and carbonate alteration around sulphide; TEX07-13, sample 153444: b)Sulphide corroded by chrysotile and chlorite; c) and d) olivine pseudomorph altered by chlorite, carbonate and serpentine (PPL and XPL, respectively)

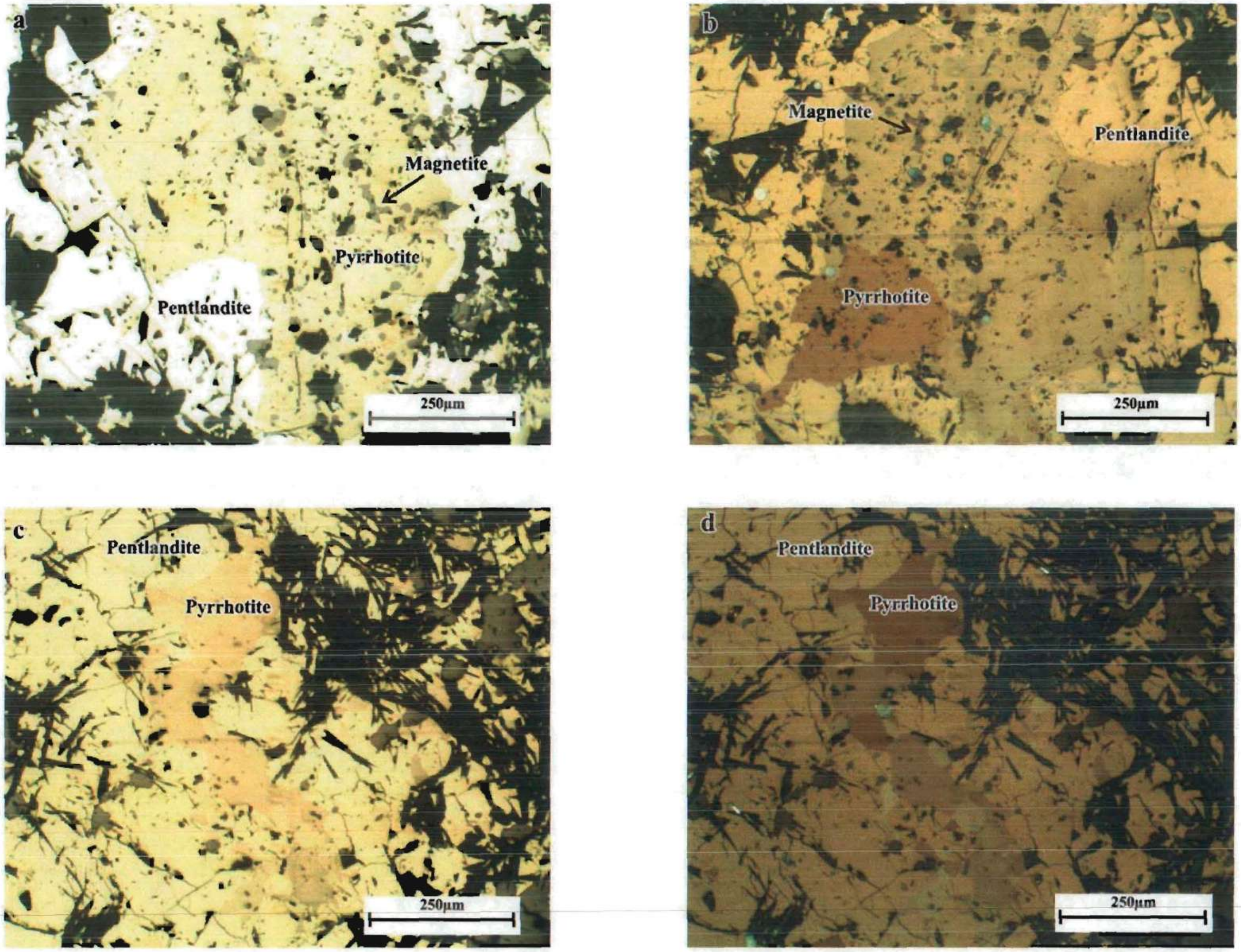


Figure 2: TEX07-12, sample 153366: a)Pyrrhotite surround by pentlandite and fine grained magnetite inclusion in plane polarized reflected light; b) Same view in cross polarized light with 180° clockwise rotation ; TEX07-13, sample 153444: c) Pyrrhotite surround by pentlandite with fine grained magnetite inclusion. Pentlandite is replaced by chrysotile in plane polarized reflected light; d) Same view in cross polarized light;

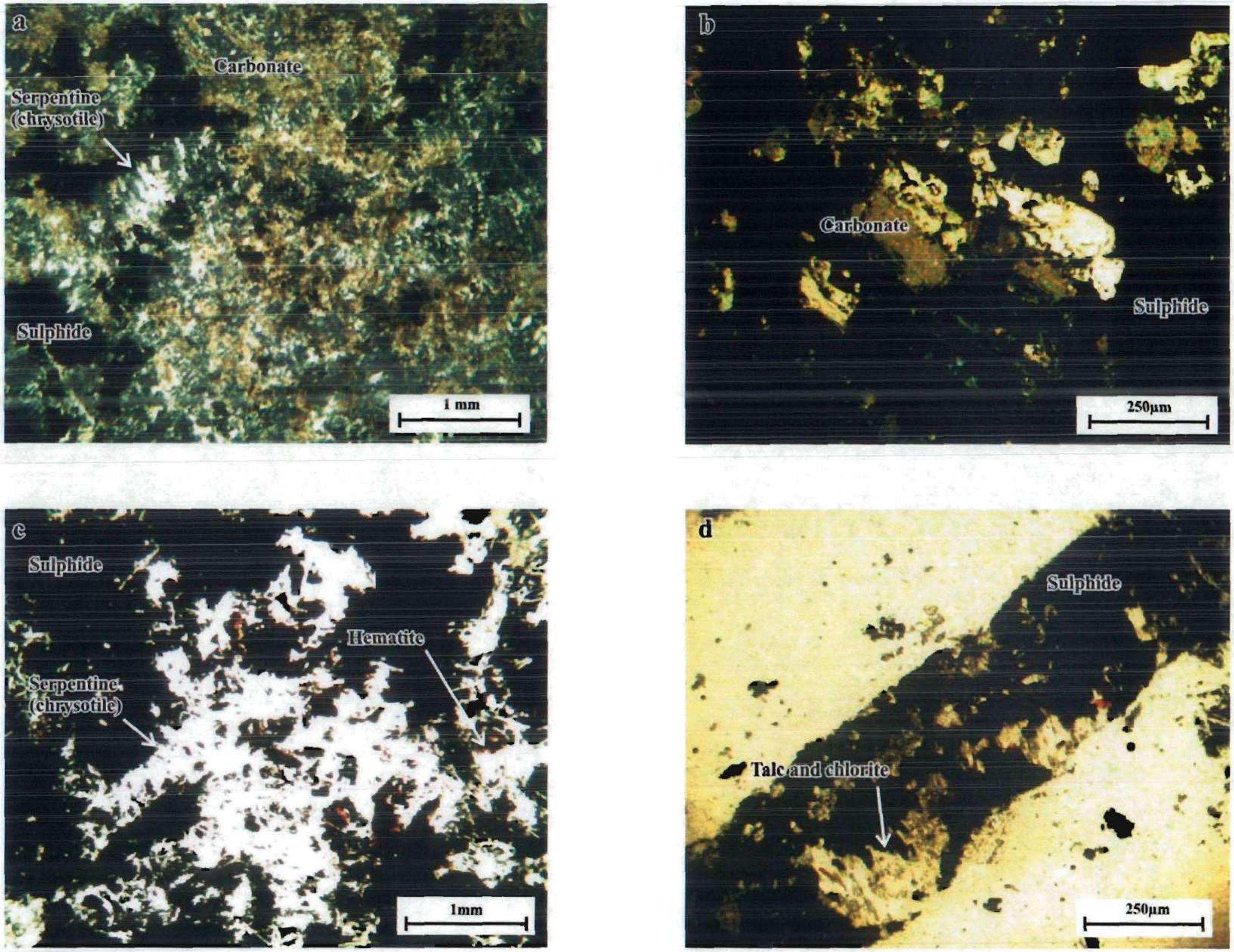


Figure 3: TEX07-16, sample 598: a) Strong serpentinization and carbonatization; Sample 610: b) Sulphide with net texture and carbonate crystallization; c) Sulphide cut by serpentine (chrysotile); d) Sulphide, chlorite, talc and carbonate vein.

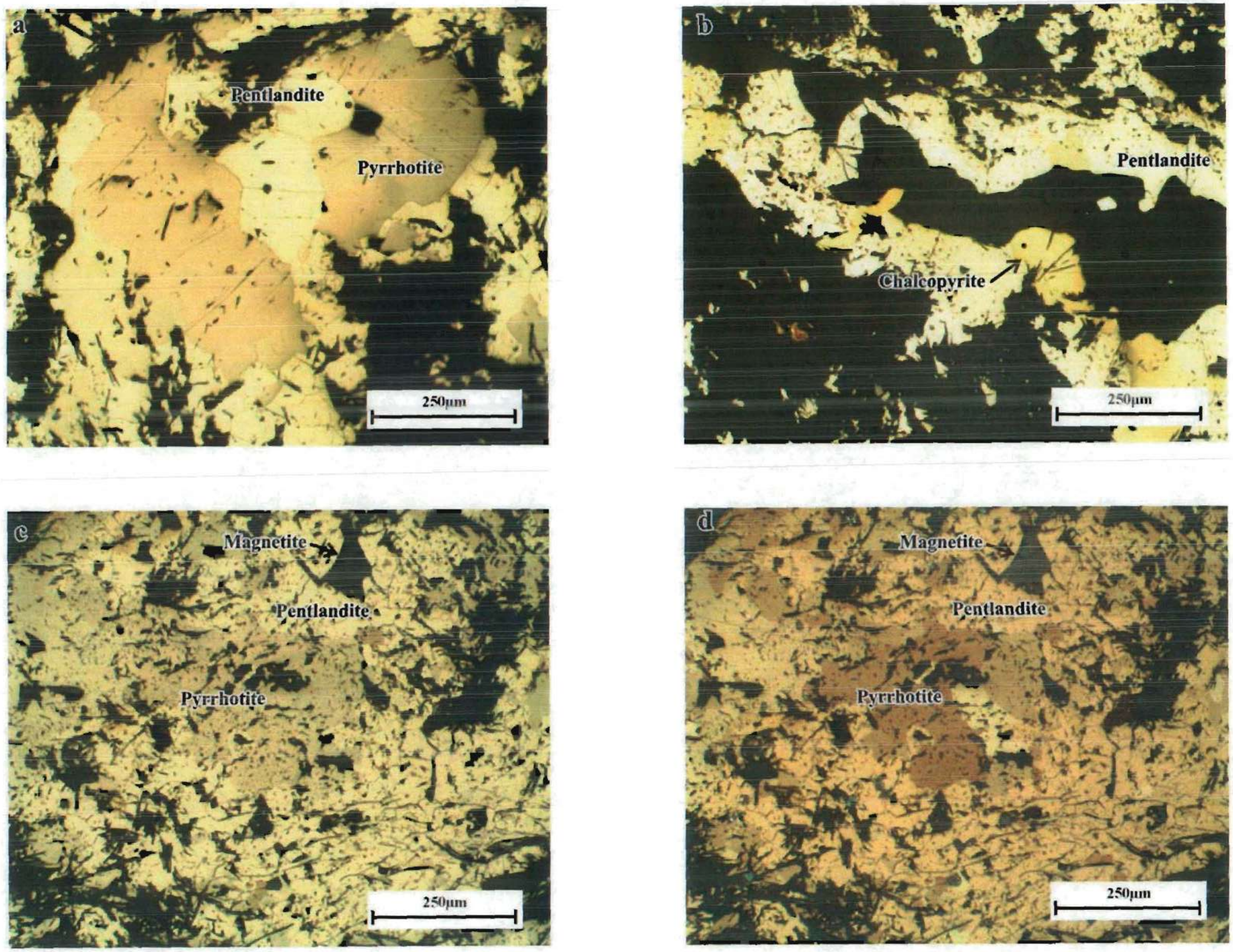


Figure 4:TEX07-16, sample 598: a)Pyrrhotite and pentlandite in plane polarized reflected light; b) Pentlandite and chalcopyrite veinlet in plane polarized reflected light; Sample 610: c) Pyrrhotite surround by pentlandite in plane polarized reflected light; d) Same view in cross polarized reflected light.

Thin section #5
TEX07-16
Sample 613
This sample is a serpentinized peridotite with some sulphides clusters. No primary minerals, except sulphide, are preserved (figure 5a). Sulphide composed by pentlandite (3%) as cluster (figure 6a) and disseminated sulphide. Custer is composed by pentlandite and magnetite (2%) intergrowth. Chromite (trace) with magnetite rim is found (figure 6b). Cumulus olivine is pseudomorphosed by serpentine (50%) and intercumulus phase (perhaps pyroxene) is pseudomorphosed by chlorite (5%) and chrysotile (30%). Talc (<1%) crystallization follow serpentinization and chlorite crystallization (figure 5b). Chlorite is surround by talc corona. Sulphide rim is corroded and, talc and chrysotile crystallized at the expense of sulphide.

Thin section #6
TEX07-16
Sample 650
Sample is black peridotite, medium grained and massive with sulphide clusters. No primary minerals, except sulphide, are preserved (figure 5c). Sulphide cluster is composed by pentlandite (3%) and pyrrhotite (2%) (figure 6c). Sulphide has anhedral to idiomorphic (cubic and octahedral) habitus. Some skeletal oxide (2%) is present and it is composed by chromite with magnetite rim and by magnetite (figure 6d). Olivine is completely pseudomorphosed by serpentine (85%) and olivine ghost is present. Intergranular chrysotile veinlets crystallized between serpentinized olivine grains. Sulphide rim is corroded by carbonate (3%) and chlorite. Carbonate, talc and chlorite have crystallized in central part of oxide (figure 5d). Sample is cut by serpentine and carbonate veins, talc, carbonate and sulphide veinlets and by magnetite and sulphide veinlets.

Thin section #7
TEX07-17
Sample 734
Peridotite is medium dark grey, fine grained and matrix is carbonatized. No primary minerals, except sulphide, are preserved. Sulphide cluster is composed by pentlandite (2%), millerite (1%) and pyrrhotite (trace) (figure 8). Some oxide as magnetite (1%) and chromite (1%) rimed by magnetite has skeletal habitus (figure 7a and figure 7b). Chromite has also cubic habitus. Pervasive serpentinization has completely replaced primary minerals. Sulphide is corroded by serpentine. Medium grained chlorite flake is found inside skeletal oxide and crystallized before talc. Primary sulphides are replaced by violarite (3%) and secondary millerite (2%) (figure 8a and figure 8b). These sulphides have anhedral to idiomorphic habitus and are disseminated. Secondary sulphides are found in close association with carbonate and talc. Carbonate and acicular talc crystallized in the same event. Skeletal oxide rim is corroded by carbonate, talc and chlorite (figure 7a and figure 7b). Medium grain carbonate vein cut peridotite. Carbonate and talc veinlets injected along carbonate vein selvage.

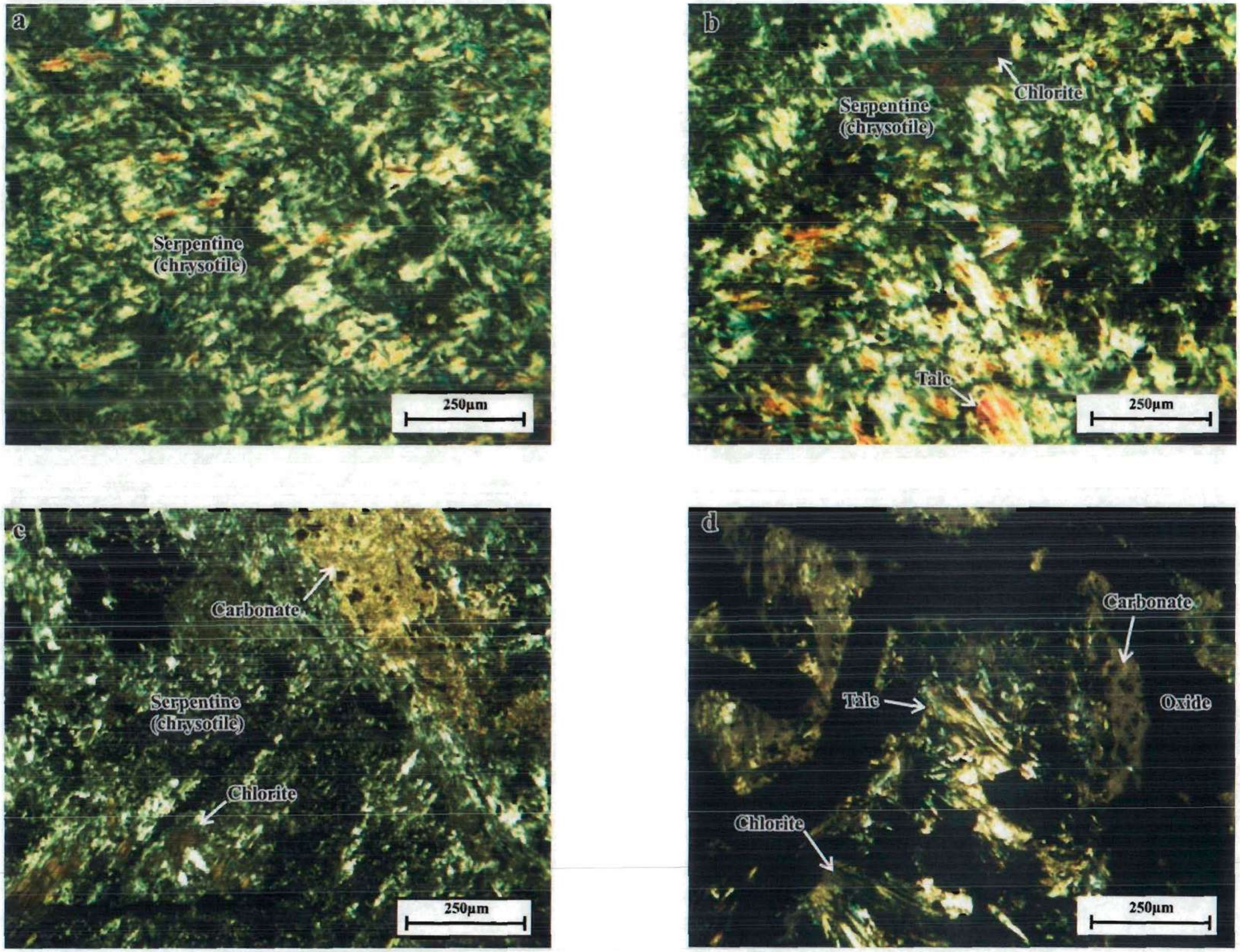


Figure 5: TEX07-16, sample 613: a) Pervasive serpentinization by chrysotile; b) Pervasive alteration by chrysotile, talc and chlorite; Sample 650: c) Pervasive serpentization by chrysotile, carbonate and chlorite; d) Skeletal oxide filled by carbonate, talc and chlorite.

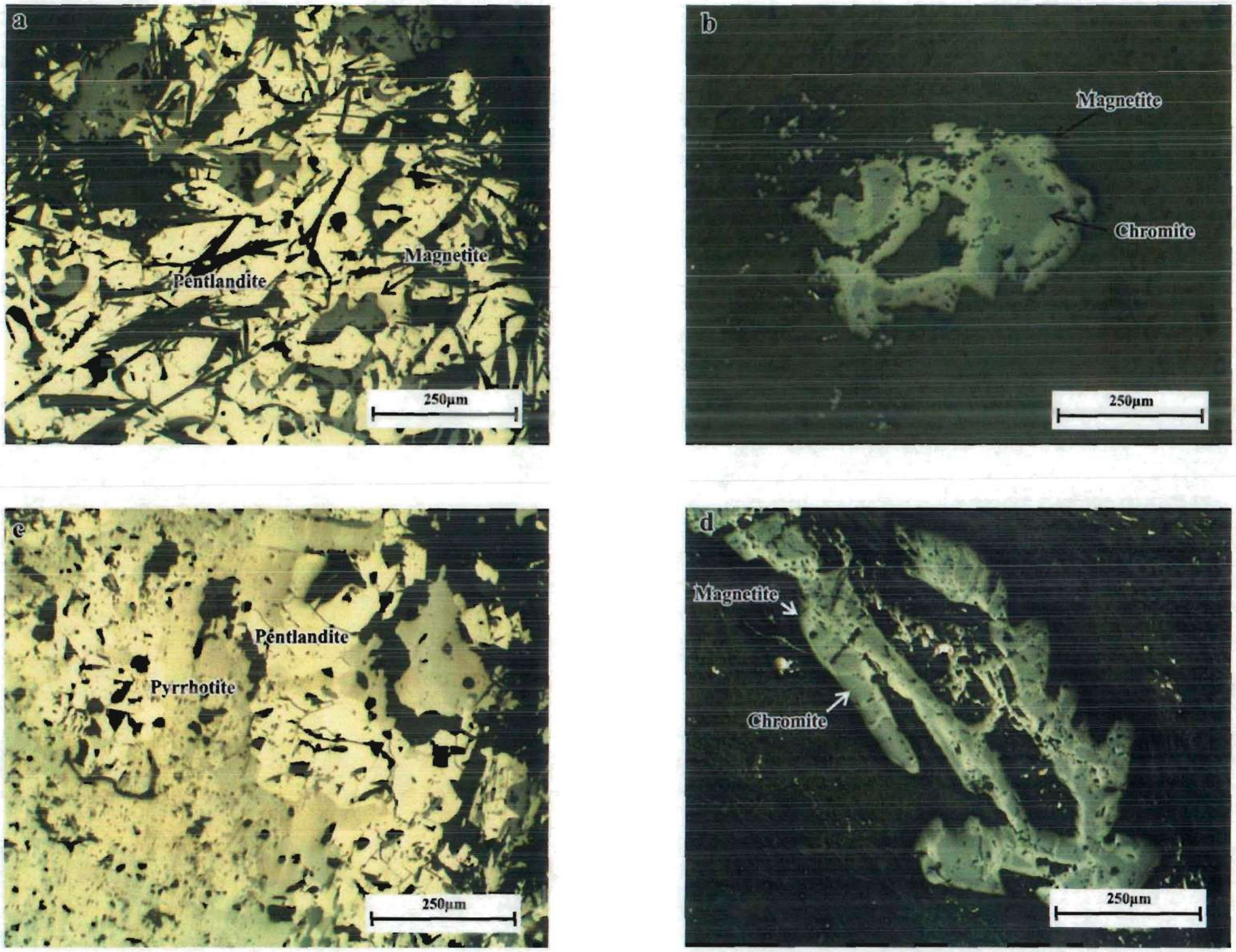


Figure 6: TEX07-16, sample 613: a)Pentlandite with fine grained magnetite inclusions and an other fine grained Ni sulphide inclusions, pentlandite is altered by chrysotile in plane polarized reflected light; b) Chromite with magnetite rim in plane polarized reflected light; Sample 650: c) Pyrrhotite and pentlandite in plane polarized reflected light; d) Skeletal chromite with magnetite rim in plane polarized reflected light.

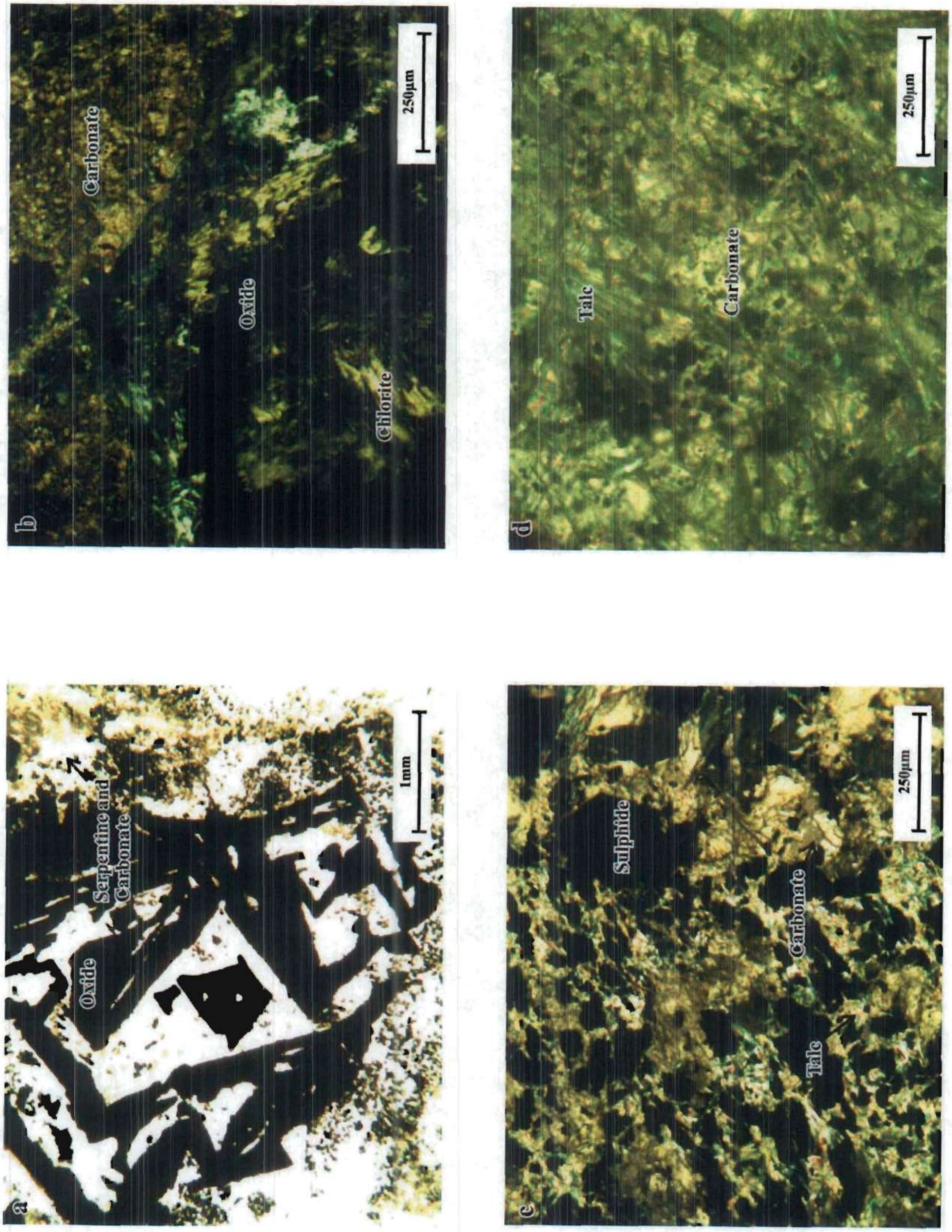


Figure 7: TEX07-17, sample 734: a) Oxide with skeletal habitus; b) Skeletal oxide with chlorite crystallization inside oxide and matrix carbonatization; c) Sulphide, carbonate and talc vein; d) Carbonate and talc alteration.

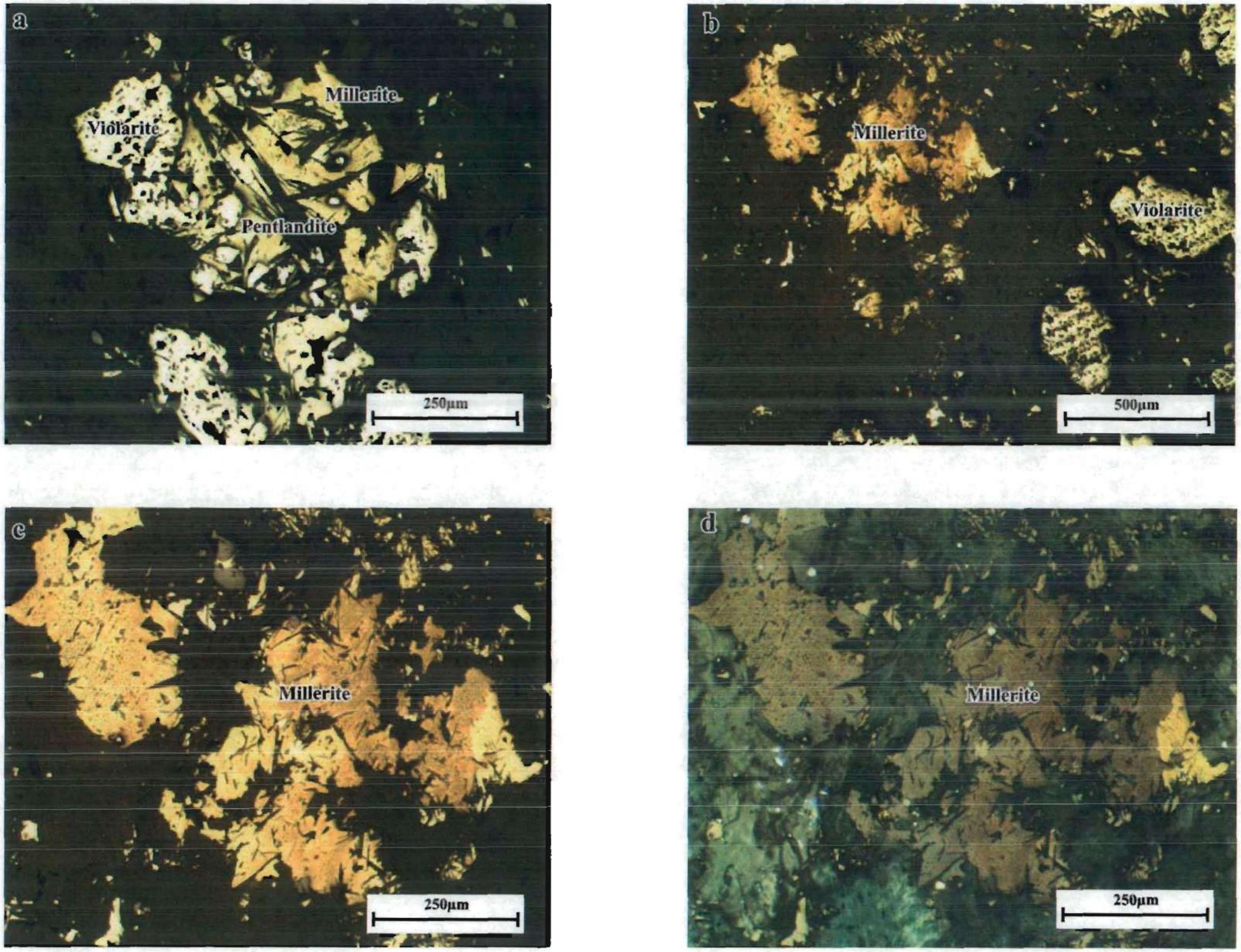


Figure 8: TEX07-17, sample 734: a) Millerite and pentlandite replaced by violarite intergrowth in plane polarized reflected light; b) Medium grain of millerite and violarite with altered pentlandite by chrysotile in plane polarized reflected light; c) Closer view of millerite in plane polarized reflected light; d) Same view in cross polarized reflected light.

Thin section #8
TEX07-18
Sample 780
Sample is black peridotite with sulphide in matrix between serpentinized olivine grains. Matrix is carbonated and peridotite cut by serpentine veinlets. In thin section, no primary mineral is preserved, except sulphide. Sulphide and oxide cluster are composed by pentlandite (1%), pyrrhotite (1%) and magnetite (1%) intergrowth (figure 13a). Olivine grain is cumulate phase and has xenomorph habitus. Olivine is pseudomorphosed by serpentine (58%) (figure 9a). Serpentinization enhance magnetite (5%) crystallization. Sulphide (2%) has sharp contact with olivine and sulphide rim is slightly corroded by carbonatization. Carbonate (30%) is found around sulphide grains (figure 9a). Flake and granobrastic chlorite (5%) crystallized at the expense of sulphide. Serpentine veinlet is the later event.

Thin section #9
TEX07-18
Sample 785
This sample is massive black peridotite with strong serpentinization and with chloritization around sulphide grains. One serpentine veinlet cut peridotite. In thin section, no primary mineral, except sulphide, is preserved. Cluster is composed by pentlandite (2%) and magnetite (1%) intergrowth (figure 13b). Pervasive serpentinization is composed by fine grained serpentine. Two generations of carbonate is present. Carbonate 1 crystallization is pervasive and followed serpentinization. Talc is linked to this pervasive carbonatization. Carbonate 2 crystallized with chlorite flake and fibrous chrysotile around sulphide (figure 9b). These minerals induce light corrosion of sulphide grains. Finally, discontinuous chlorite, chrysotile and carbonate veins cut peridotite.

Thin section #10
TEX07-19
Sample 267209
Peridotite is black, massive and serpentinized. It contains 10% sulphides. In thin section, no primary mineral, except sulphide, is present. Sulphide and oxide cluster is composed by pentlandite (4%), violarite? (3%) and magnetite (3%) (figure 13c). Pentlandite is partly pseudomorphosed by violarite?. Olivine is pseudomorphosed by serpentine (78% serpentine) (figure 9c and figure 9d). Sulphide rim is slightly corroded by carbonate, chlorite and chrysotile (figure 9d). Then, allotriomorphic carbonate, chlorite flake, allotriomorphic chlorite and fibrous chrysotile composed veins and veinlets. These veins and veinlets are mainly found around sulphide. Late chrysotile veinlets cut peridotite.

Thin section #11
TEX07-20
Sample 89547
Peridotite is medium dark grey and massive. In thin section, no primary minerals are preserved except sulphide. Sulphide is intercumulus phase and it is composed by pentlandite (2%) and violarite? (3%) (figure 10a and figure 13d). Violarite? pseudomorphosed pentlandite and has good cleavage. Magnetite (2%) is found as

inclusion in sulphide. Some light brown area could be glass. Equigranular olivine is pseudomorphosed by serpentine (20% antigorite or lizardite and 67% chrysotile) (figure 10a and figure 10b). Serpentinization enhances secondary magnetite (3%) crystallization. Talc (2%) located near sulphide crystallized at his expense. Finally, chrysotile veinlets and veins cut peridotite.

Thin section #12
TEX07-21
Sample 154043
Peridotite is black with strong serpentinization. It contains sulphide clusters and it is cut by chrysotile. In thin section, no primary minerals are preserved, except sulphide and oxide. Sulphide and oxide are intercumulate phase and form cluster composed by pentlandite (16%) and magnetite (9%) intergrowth (figure 14a). Olivine is entirely pseudomorphosed by pervasive serpentinization (40%) (figure 10c and figure 10d). Foliation is well developed and it is marked by olivine elongation. Fibrous chrysotile (30%) crystallized after first serpentinization (figure 10c and 10d). Outer part of pentlandite is corroded by talc, ±chrysotile and ±carbonate (figure 14a). Serpentine veins and veinlets cut all alteration phase. Lately, talc (4%) veins and veinlets are injected.

Thin section #13
TEX07-21
161m
Basalt composed by olivine and pyroxene porphyre, medium grained and massive. In thin section, basalt has glomeroporphyric texture (figure 11a). Glomeroporphyre is composed by 25% olivine and 25% augite. 20% plagioclase porphyre is totally altered by clay Matrix is composed by 15% fine grained tabular augite, 15% fine grained tabular clay altered plagioclase, 1% biotite and 1% pyrite. An enclave of komatiite partly resorbed by basalt is present. Komatiite has spinifex texture and it is composed by fresh acicular olivine (figure 11b).

Thin section #14
TEX08-22
Sample 154092
Peridotite is medium dark grey and has sulphide clusters. It is cut by serpentine veinlets. In thin section, no primary mineral is preserved except sulphides. Sulphide is composed by pentlandite (2%) and chalcopyrite (trace) (figure 14b). Sulphide has magnetite (3%) rim. Chromite with cubic and skeletal habitus is found and has magnetite rim. Some light brown area could be glass (figure 11c). Olivine is completely pseudomorphosed by serpentine (38%) (figure 11d). 10% magnetite crystallized with olivine serpentinization. Chrysotile (45%) with fibrous habitus crystallized pervasively after first serpentinization (figure 11c). Sulphide rim is corroded by chrysotile.

Thin section #15
TEX08-28
Sample 154682
Peridotite is black, fine grained with sulphide cluster and cut by carbonate veinlets. No primary mineral is preserved, except sulphide. Sulphide cluster is composed pentlandite (9%) and chalcopyrite (trace) (figure 14c). Sulphides intergrowths with magnetite (1%). Olivine is pseudomorphosed by serpentine. Secondary magnetite (5%) crystallization is linked to serpentinization. Chlorite crystallizad at the same time. Long acicular chrysotile cut fine grained serpentine and chlorite (figure 12a). Diffuse chrysotile and carbonate veins is injected afer serpentinization. Sulphide is corroded by talc (3%) and carbonate. In a late stage, talc veinlets is displaced by chrysotile, carbonate and ±talc veinlets (figure 12b). Sometime, sulphide fragment is found in veinlets central part. Some sulphide vein is found and they are composed by pentlandite.

Thin section #16
TEX08-28
Sample 154681
Peridotite is black to medium dark grey, 3% sulphide clusters and cut by serpentine and carbonate veinlets. In thin section, no primary mineral is preserved, except sulphide. Sulphide is composed by pentlandite (4%) and chalcopyrite (trace) (figure 14d). Pentlandite contains some magnetite (1%) inclusions. Olivine is completely pseudomorphosed by serpentine (70%). It is cut by diffuse chlorite veins. Carbonate is allotriomorphic and crystallized near sulphide. Carbonate is fine grained when associated with talc and chrysotile (figure 12c). Talc and chrysotile have an acicular habitus. Serpentine veinlets cut this assemblage. Chrysotile and carbonate veins cut earlier serpentine veinlets. Fibrous chrysotile crystallized perpendicular to vein selvage and carbonate crystallized in the inner part of vein (figure 12 d).

Thin section #17
TEX08-27
569.4m
Quartz diorite is medium grained and grey green. In thin section, this rock is composed by quartz (10%), andesine (30%), orthose (2%), green hornblende (5%), pyrrhotite (2%) apatite and zircon (figure 15a). Andesine is recrystallized in albite (13%) and hornblende is replaced by actinolite (35%) (figure 15b). Plagioclase is altered by sericite (1%). Lately, carbonate veinlets cut this assemblage.

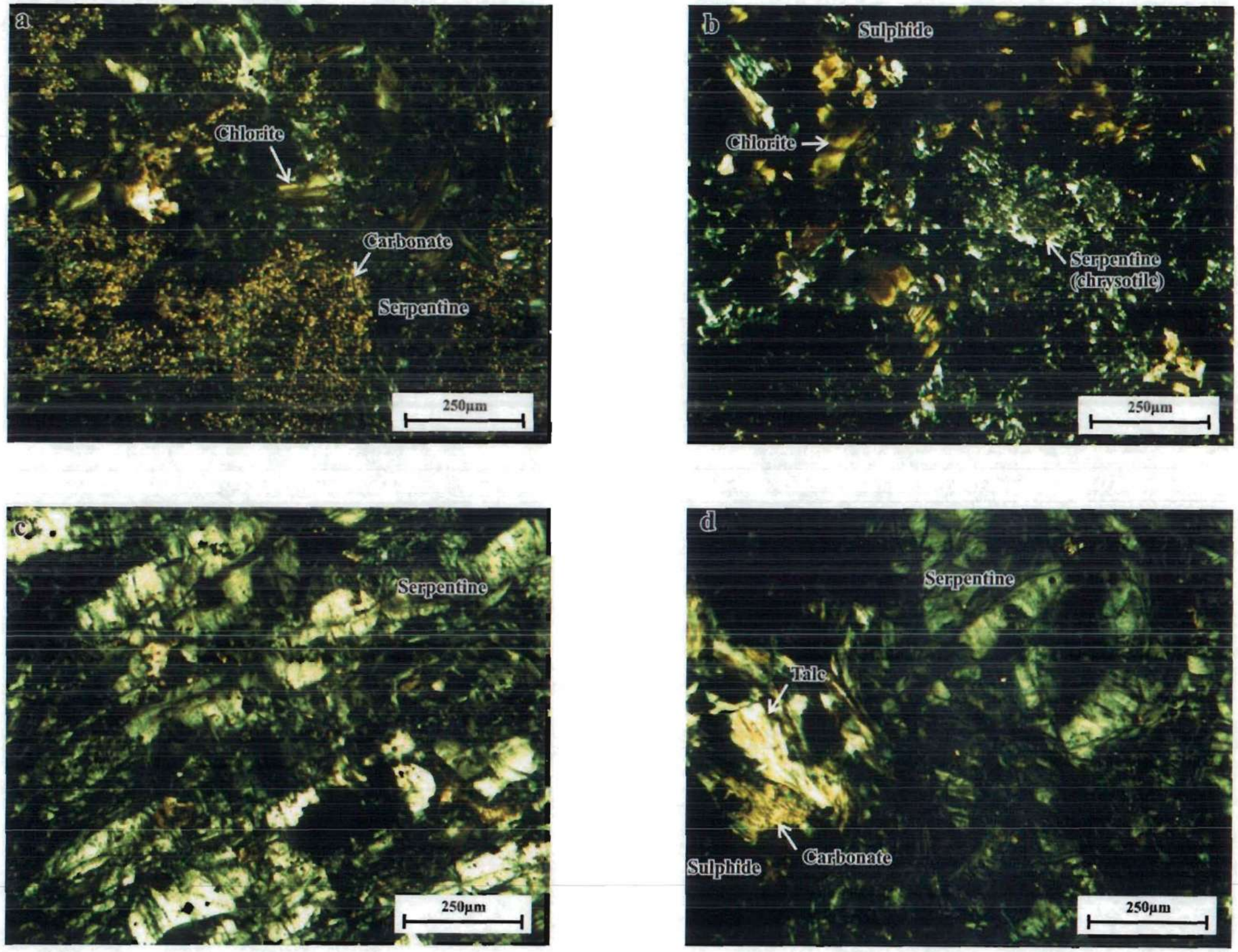


Figure 9: TEX07-18, sample 780: a) Pervasive carbonate and serpentine alteration; Sample 785: b) Serpentine and alteration of matrix and chlorite crystallization near sulphide; TEX07-19, sample 267209: c) Serpentinized olivine pseudomorph; d) Serpentinized olivine pseudomorph and, talc and carbonate alteration near sulphide.

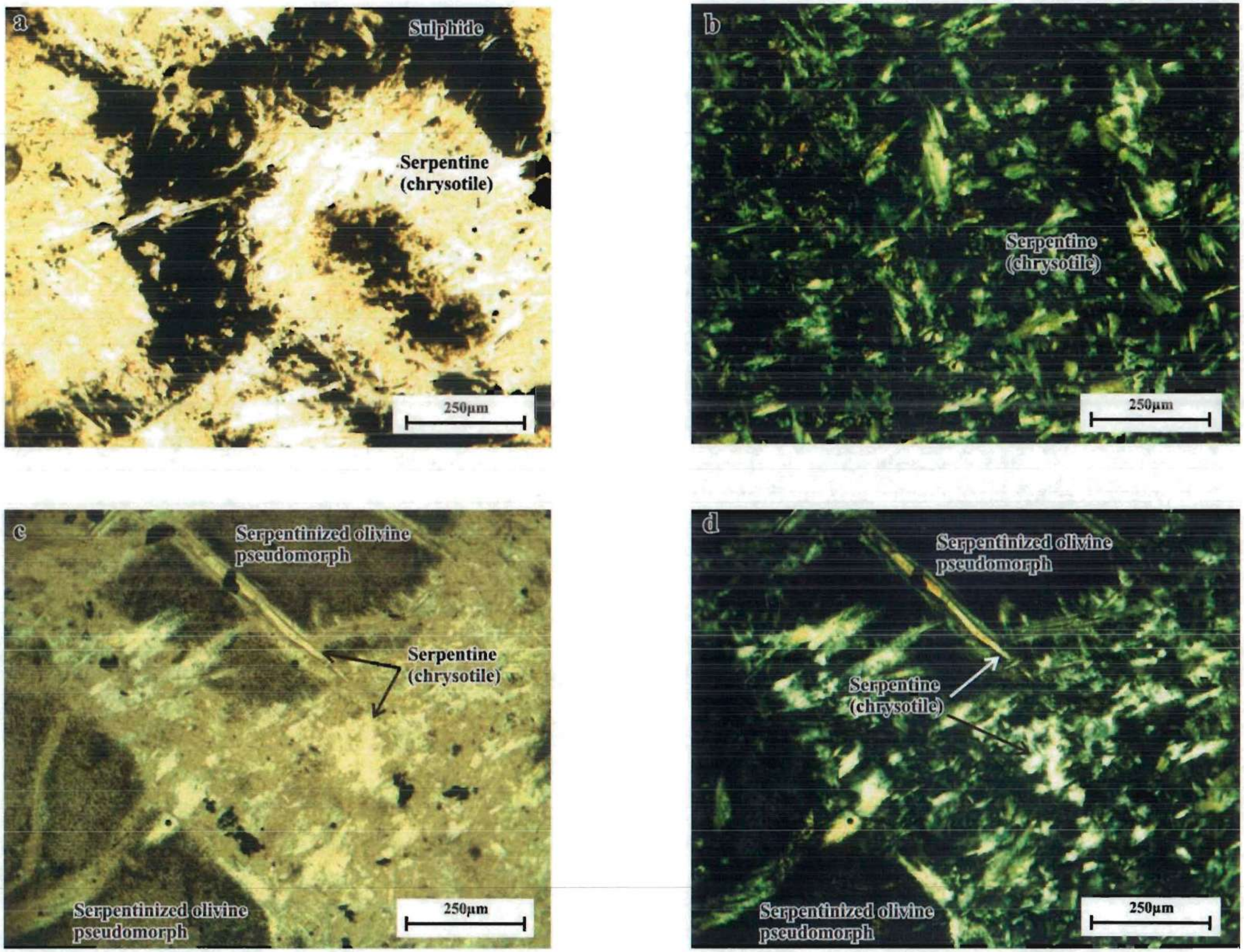


Figure 10: TEX07-20, sample 89547: a) Serpentinized olivine pseudomorph and intercumulate sulphide (PPL); b) Serpentinized peridotite by chrysotile (XPL); TEX07-21, sample 154043: c) and d) Serpentinized olivine pseudomorph and intercumulate phase serpentinized by chrysotile (PPL and XPL, respectively).

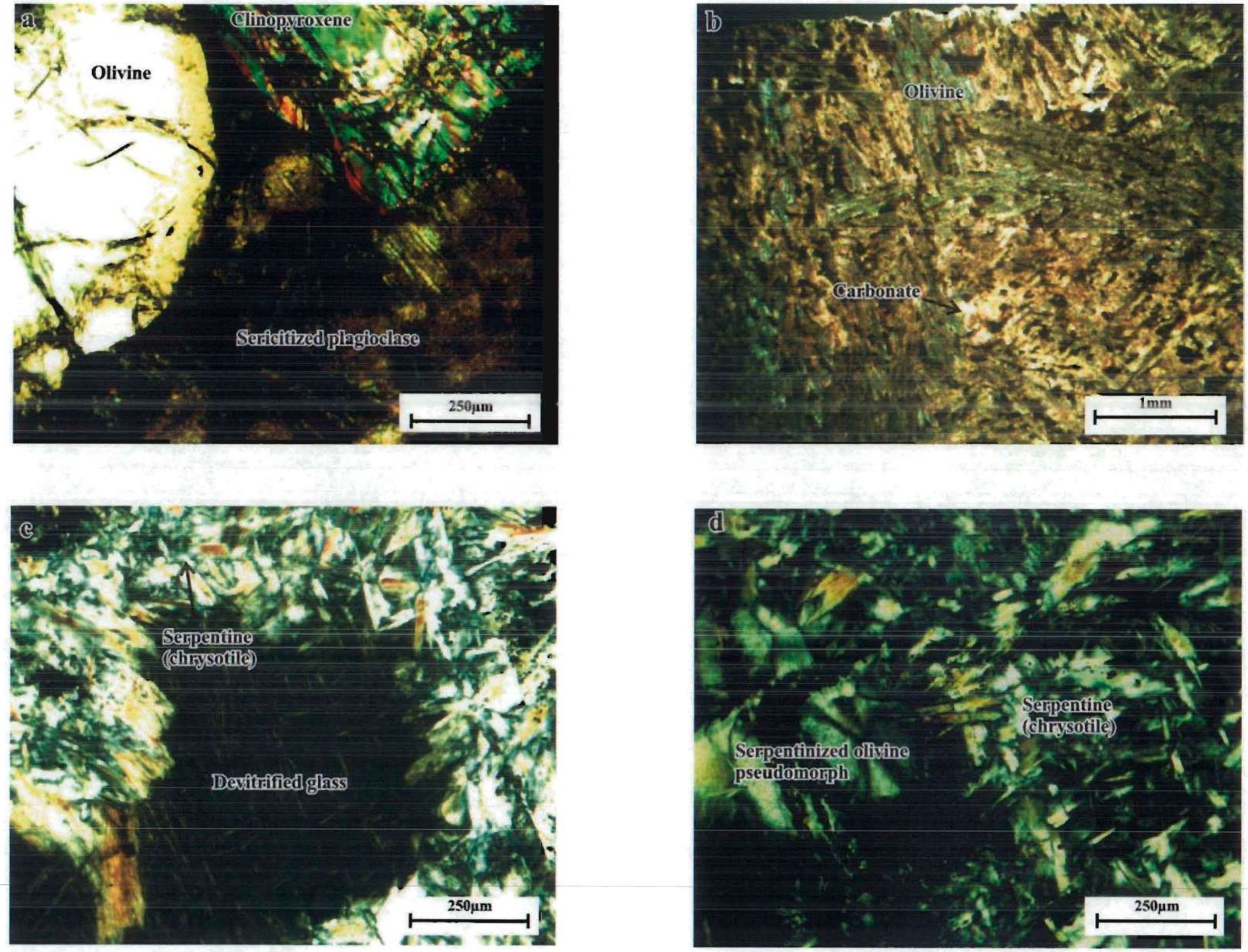


Figure 11: TEX07-21, sample 154004: a) Olivine basalt with porphyric olivine and clinopyroxene, and sericitized plagioclase matrix; b) Komatiite enclave with spinifex olivine; TEX08-22, sample 154092: c) Devitrified glass and matrix composed by chrysotile; d) Serpentinized olivine pseudomorph and matrix composed by chrysotile.

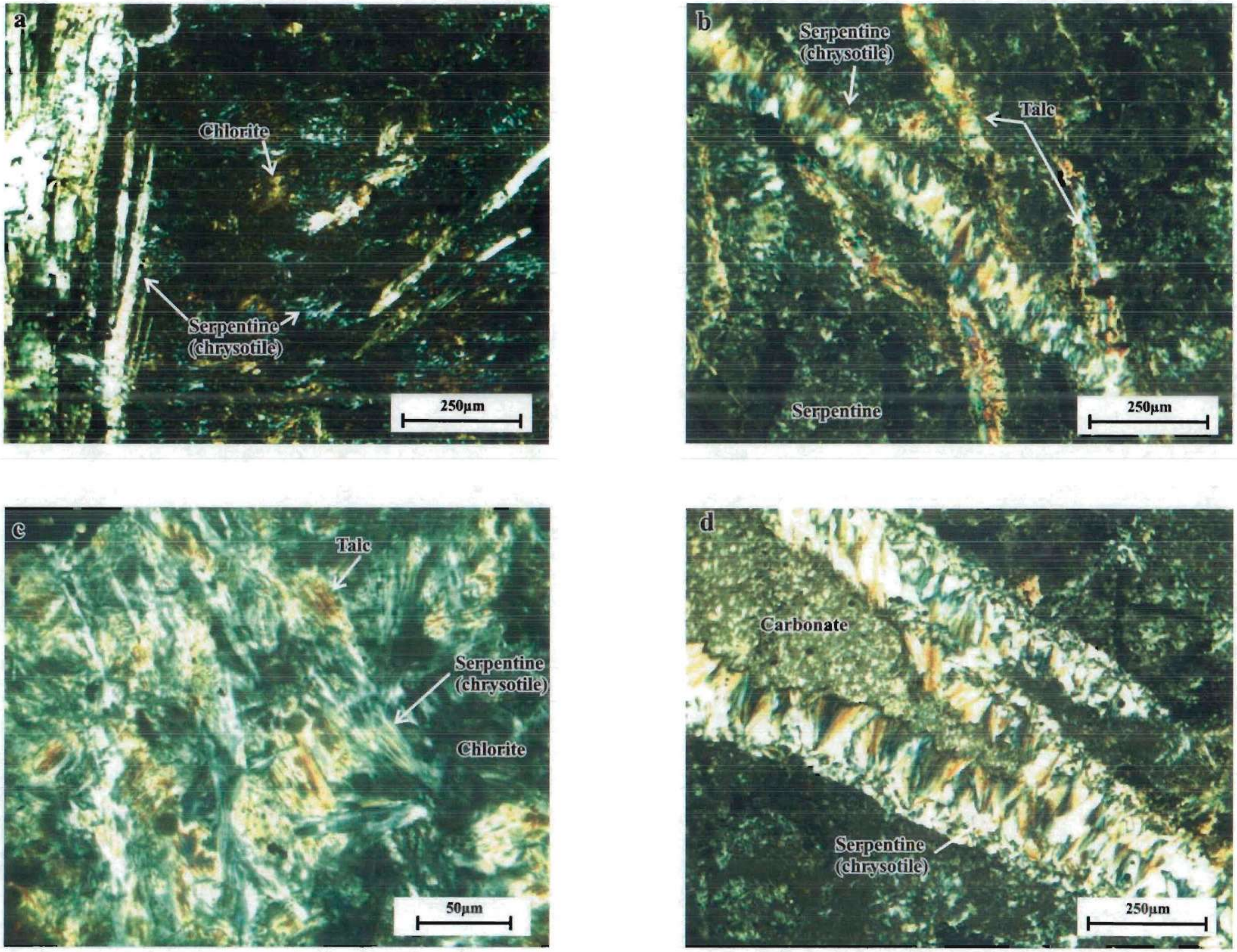


Figure 12: TEX07-28, sample 154682: a) Chlorite and chrysotile cut by long fibrous chrysotile; b) Talc veins cut by chrysotile vein; Sample 154681: c) Very fine grained chrysotile and talc alteration; d) Chrysotile and carbonate vein.

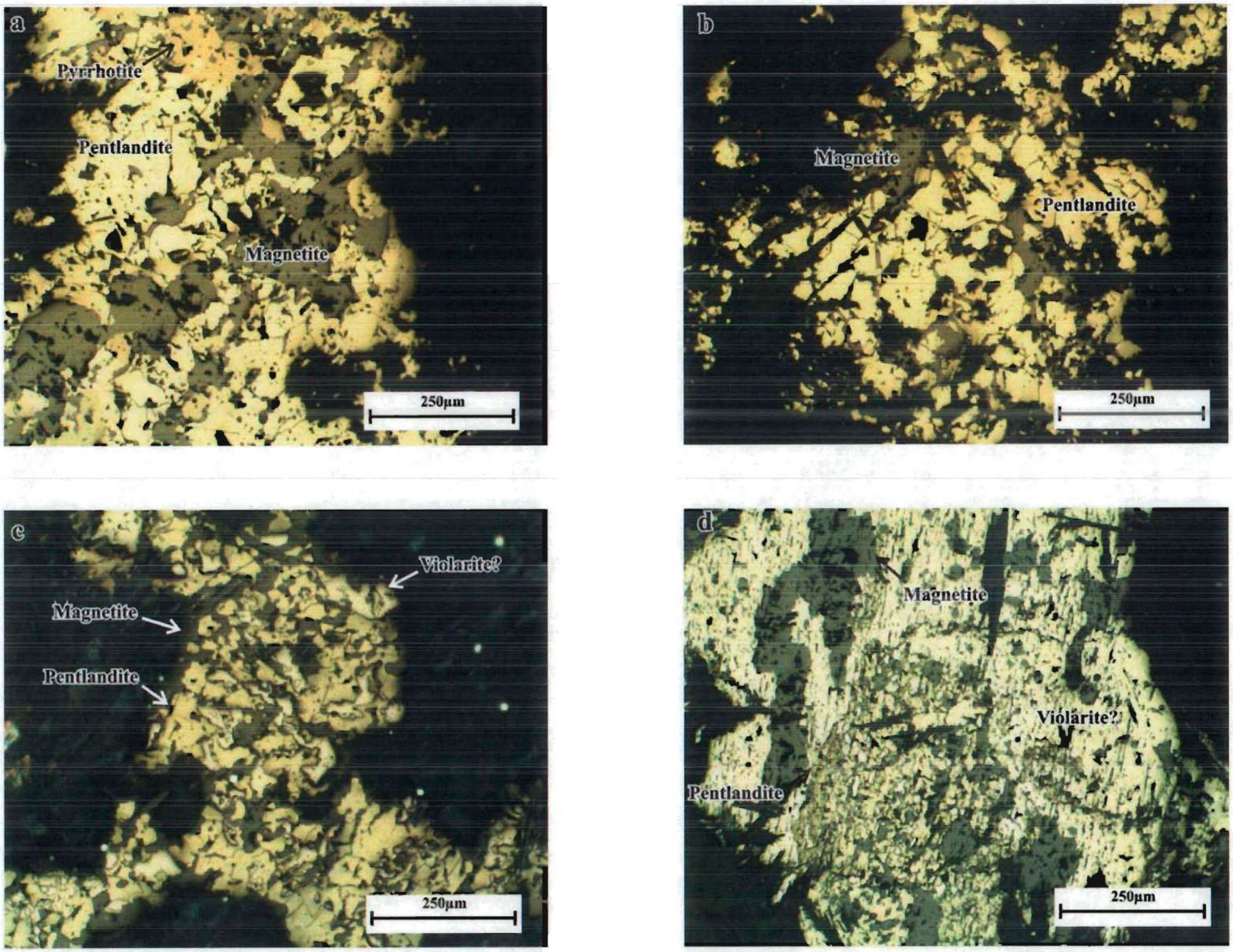


Figure 13:TEX07-18, sample 780: a) Pentlandite, magnetite and pyrrhotite, plane polarized reflected light; Sample 785: b) Pentlandite and magnetite, plane polarized reflected light; TEX07-19, sample 267209: c) Pentlandite altered by violarite? and rimed by magnetite, plane polarized reflected light; TEX07-20, sample 89547: d) Violarite? showing good cleavage and pseudomorphosed pentlandite, plane polarized light.

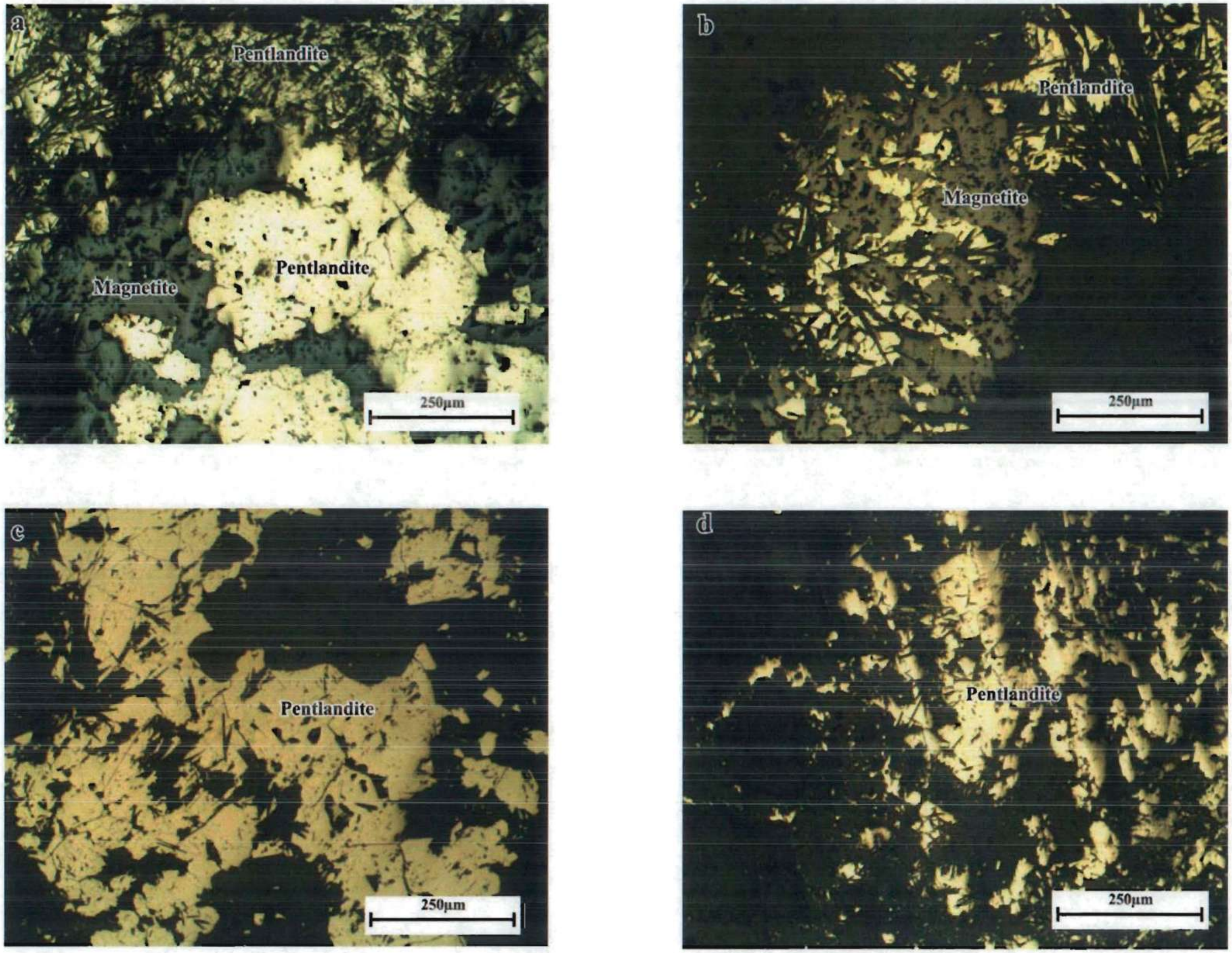
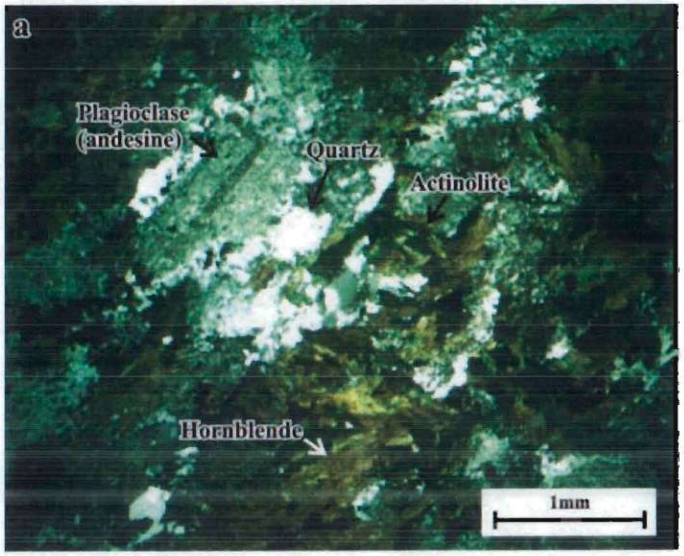


Figure 14:TEX07-21, sample 154043: a) Pentlandite rimed by magnetite, and pentlandite rim altered by chrysotile, plane polarized reflected light;TEX08-22, sample 154092: b) Pentlandite and magnetite, plane polarized reflected light; TEX08-28, sample 154682: c) Large pentlandite field, plane polarized light; Sample 154681: d) Large pentlandite field, plane polarized light.



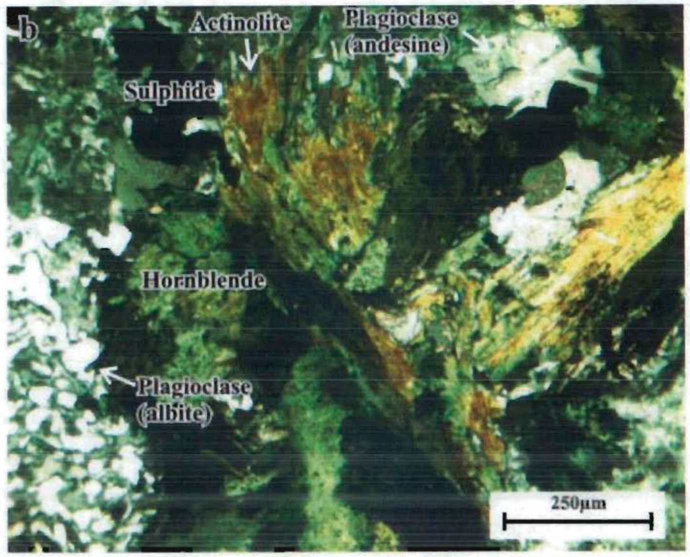


Figure 15: TEX07-27 at 569.4m: a) Quartz diorite composed by plagioclase, quartz and hornblende; b) Hornblende is metamorphosed in actinolite.

Table 1: Samples mineralogical descriptions

Sample	Lithology	Magmatic minerals	Alteration minerals
Thin section #1 TEX07-12 Sample 153366	Peridotite	7% pyrrhotite 3% pentlandite 1% magnetite <1% chalcopyrite	35% serpentine (10% chrysotile: 0.005 to 0.2mm) 30% carbonate 10% chlorite 5% talc (0.01 to 0.02mm) 4% magnetite
Thin section #2 TEX07-13 Sample 153444	Peridotite	8% pentlandite 2% pyrrhotite 1% magnetite	65% serpentine (10% chrysotile: 0.01 to 0.1mm) 10% chlorite 9% magnetite 2% carbonate 2% talc (0.01mm) 1% hematite
Thin section #3 TEX07-16 Sample 598	Peridotite	9% pentlandite 8% pyrrhotite 3% chlacopyrite	35% serpentine (20% chrysotile: 0.01 to 0.7mm) 30% carbonate 5% talc (0.01 to 0.05mm) 5% magnetite 2% pentlandite 1% pyrrhotite 1% chalcopyrite 1% chlorite
Thin section #4 TEX07-16 Sample 610	Peridotite	34% pyrrhotite 10% pentlandite 1% chalcopyrite	32% serpentine (25% chrysotile: 0.01 to 0.35mm) 15% carbonate 5% magnetite 3% chlorite 2% pyrrhotite (veinlets) <1% hematite
Thin section #5 TEX07-16 Sample 613	Peridotite	3% pentlandite 2% magnetite <1% chromite	80% serpentine (30% chrysotile: 0.01 to 0.1mm) 5% carbonate 5% chlorite 5% magnetite <1% talc
Thin section #6 TEX07-16 Sample 650	Peridotite	3% pentlandite 2% pyrrhotite 1% magnetite 1% chromite	85% serpentine (10% chrysotile: 0.01 to 0.05mm) 5% magnetite 3% carbonate 2% chlorite

Sample	Lithology	Magmatic minerals	Alteration minerals
Thin section #7 TEX07-17 Sample 734	Peridotite	2% pentlandite 1% millerite 1% magnetite 1% chromite	35% serpentine (10% chrysotile: 0.01 to 0.1mm) 25% carbonate 25% talc (0.01 to 0.1mm) 5% chlorite 3% violarite 2% millerite
Thin section #8 TEX07-18 Sample 780	Peridotite	1% pentlandite 1% magnetite	57% serpentine (5% chrysotile: 0.01 to 0.1mm) 30% carbonate 5% magnetite 5% chlorite 1% talc (<0.01mm)
Thin section #9 TEX07-18 Sample 785	Peridotite	2% pentlandite 1% magnetite	72% serpentine (2% chrysotile: 0.01 to 0.7mm) 10% carbonate 10% chlorite 4% magnetite <1% talc
Thin section #10 TEX07-19 Sample 267209	Peridotite	4% pentlandite 3% magnetite	78% serpentine (70% chrysotile: 0.01 to 0.4mm) 5% chlorite 3% carbonate 3% violarite? 2% talc (0.01 to 0.35mm) 2% magnetite
Thin section #11 TEX07-20 Sample 89547	Peridotite	2% pentlandite 2% magnetite	87% serpentine (67% chrysotile: 0.01 to 0.1mm) 3% magnetite 3% violarite? 2% talc (0.01 to 0.05mm) 1% carbonate
Thin section #12 TEX07-21 Sample 154043	Peridotite	16% pentlandite 9% magnetite	70% serpentine (30% chrysotile: 0.01 to 0.1mm) 4% talc (0.01 to 0.4mm) 1% magnetite
Thin section #13 TEX07-21 161m	Basalt	25% olivine 40% clinopyroxene 1% biotite 1% pyrite	35% sericite (plagioclase alteration)
Thin section #14 TEX08-22 Sample 154092	Peridotite	3% magnetite 2% pentlandite <1% chalcopyrite	83% serpentine (45% chrysotile: 0.01 to 0.35mm) 10% magnetite <1% talc <1% carbonate

Sample	Lithology	Magmatic minerals	Alteration minerals
Thin section #15 TEX08-28 Sample 154682	Peridotite	9% pentlandite 1% magnetite <1% chalcopyrite	60% serpentine (20% chrysotile: 0.01 to 0.1mm) 18% carbonate 5% talc (0.01 to 0.35mm) 5% magnetite 2% chlorite
Thin section #16 TEX08-28 Sample 154681	Peridotite	4% pentlandite 1% magnetite <1% chalcopyrite	70% serpentine (25% chrysotile: 0.01 to 1mm) 10% chlorite 10% talc (0.01 to 0.05mm) 5% carbonate
Thin section #17 TEX08-27 569.4m	Quartz diorite	30% plagioclase (andesine) 10% quartz 5% hornblende 2% orthose 2% pyrrhotite <1% apatite <1% zircon	13% plagioclase (albite) 35% actinote 1% sericite <1% carbonate

3. INTERPRETATION FROM PETROGRAPHY

Peridotite serpentinization is the first alteration stage. Olivine is pseudomorphosed by serpentine. In the same stage, some chloritization took place. Carbonatization is the subsequent alteration stage. This alteration is more present in the South Zone and the Main Zone. This stage is shown in five holes (TEX07-12, TEX07-16, TEX07-17, TEX07-18 and TEX08-28). Carbonatization consists in pervasive alteration with chlorite and talc crystallization. Carbonate is very fine grained. Chlorite could crystallized later with carbonate around sulphide. Different stages of veinlets and veins injections are presents. The first one is carbonate, ±talc and ±chlorite veins and veinlets, then chrysotile, ±carbonate and ±talc veins and veinlets and talc veinlets.

Two other types of rock are present in thin section, a glomeroporphyric basalt (TEX07-21 at 161m) and a quartz diorite (TEX08-27 at 569.4m). Glomeroporphyric basalt has fresh olivine, fresh clinopyroxene and altered plagioclase in a plagioclase altered matrix. It contains an enclave of spinifex komatiite with fresh acicular olivine. Quartz diorite has a fresh assemblage of quartz, andesine, orthose, green hornblende, apatite and zircon. It has undergone greenschist metamorphism with actinolite and albite crystallization.

Generally, all sulphides are primary. Sulphide is idiomorphe to anhedral and it forms scatter clusters in the rock. Sometime, sulphide is intercumulus phase between olivine cumulus. In two thin section, oxide (chromite with magnetite rim and magnetite) has skeletal habitus (sample 598 and 650 from TEX07-16 and sample 734 from TEX07-17).

This habitus is indicative of magmatic origin. Oxide rim is corroded by carbonate, talc and chlorite. Sulphide remobilization is shown in sample 610 from TEX07-16. Carbonate alteration induce sulphide remobillzatlon from sulphide bed and pyrrhotite crystallized as veinlets with carbonate. Violarite is found in three samples. In sample 734 from hole TEX07-17, violarite and millerite crystallized in close association with carbonate and talc. In sample 297209 from TEX07-19 and sample from TEX07-20, pentlandite is partly pseudomorphosed by violarite?. These samples have a high chrysotile modal content and high fO_2 could have enhance sulphide recrystallization (Grapes and Challis, 1999).

Thin sections from drill holes TEX07-12 and TEX07-13 come from the South zone. They are composed by magmatic pentlandite, pyrrhotite and trace of chalcopyrite. Magnetite is followed by pyrrhotite and then by pentlandite and chalcopyrite as crystallization order. All these sulphides are magmatic as indicated by alteration of sulphides by serpentine and chlorite.

Thin sections from drill holes TEX07-16, TEX07-18 and TEX07-19 are located between the South Zone and the Main Zone. Samples from drill holes TEX07-16 and TEX07-18 are mainly composed by an intergrowth of pentlandite with minor amounts of pyrrhotite and by magnetite. Pentlandite, pyrrhotite and magnetite are magmatic. In sample from drill hole TEX07-19, pentlandite is more altered and it is partly pseudomorphosed by violarite.

Thin sections from drill holes TEX07-17 and TEX08-28 come from just north of the Main Zone and from the Main Zone, respectively. Main Zone is principally composed by pentlandite. Clusters are composed by pentlandite and magnetite aggregates. In sample from TEX07-17, millerite and violarite are also present, millerite as primary and secondary phase and violarite as secondary phase.

Thin sections from drill holes TEX07-20, TEX07-21 and TEX08-22 come from the North Zone. Mineralization is composed by pentlandite. Pentlandite is intergrowth with magnetite. Pentlandite rim is altered by chrysotile and chlorite at variable degree. Pentlandite is pseudomorphosed by violarite? in sample 89547 from TEX07-20

4. GEOCHEMICAL SAMPLE DESCRIPTION

93 samples from five drill holes (TEX07-15, TEX08-28, TEX08-34, TEX08-49 and TEX08-102) have been collected from mineralized cumulate komatiite. They come from the South Zone (TEX07-15 and TEX08-102), from the Main Zone (TEX08-28 and TEX08-34) and from the North Zone (TEX08-49).

5. GEOCHEMICAL INTERPRETATION

High MgO contents over 30% (30 to 40%) is indicative of olivine cumulate and in agreement with texture shows on core. Lahaye et al. (1995) have made geochemical assays on 10 spinifex komatiite samples and on 6 cumulate komatiite samples from Texmont. Their komatiites are Al-undepleted with close-to-chondritic Al_2O_3/TiO_2 ratios ~20 and we have the same results on samples from Fletcher Nickel drill cores.

Al_2O_3 content allows to separate basalt or mafic dyke from ultramafic komatiite. Two samples (155088 et 155089) have 11.7 and 12.1% Al_2O_3 contents and 45.4 and 49% SiO_2 contents, respectively. From Jensen (1976) diagram, these samples are in basaltic komatiite field, but near komatiite ultramafic field (figure 16). However, from Jensen and Pyke (1982) diagram, these samples are ultramafic, but they are near basaltic komatiite field (figure 17).

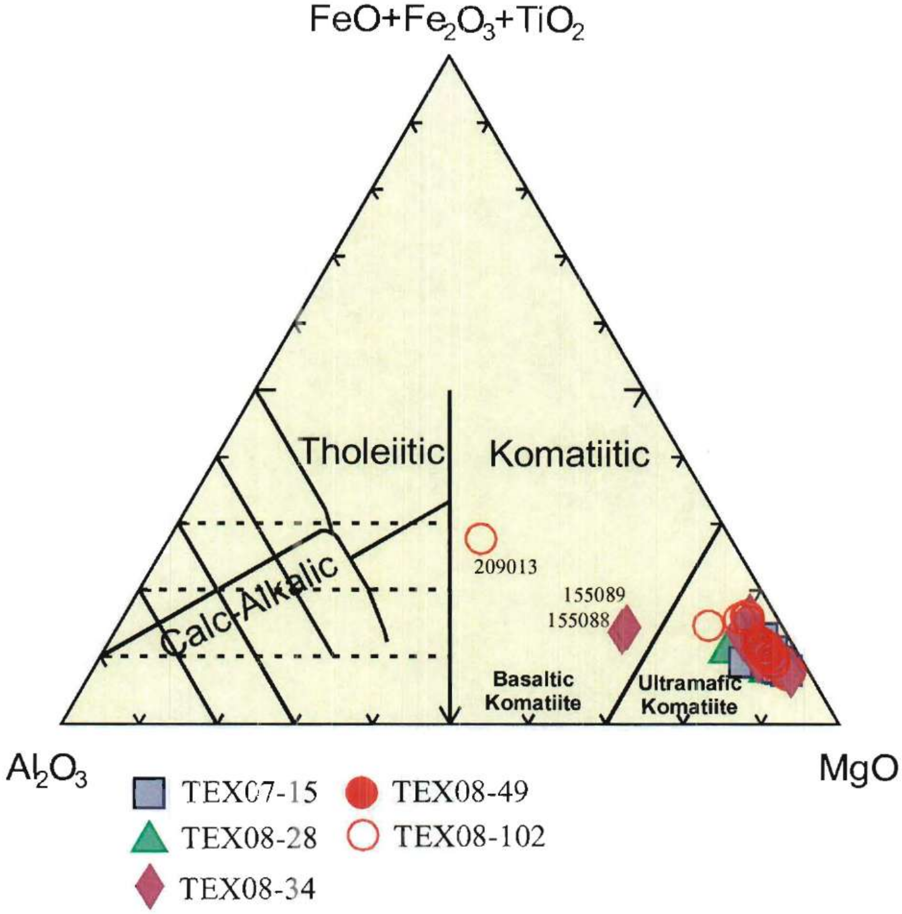


Figure 16: Jensen (1976) diagram

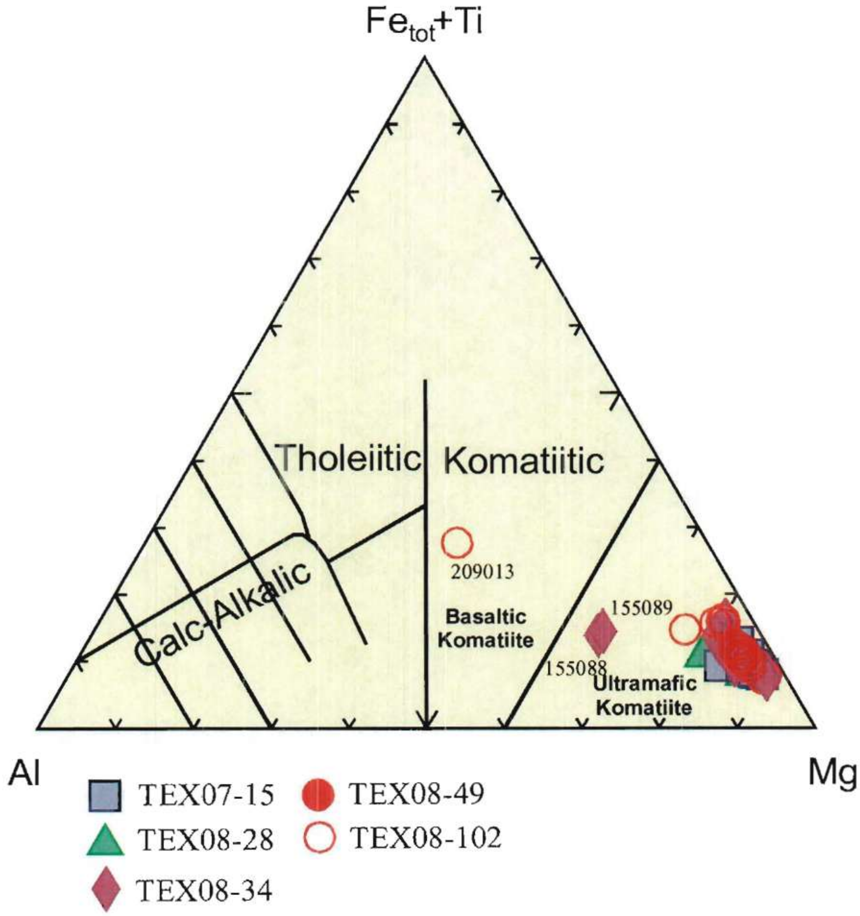


Figure 17: Jensen and Pyke (1982) diagram

One sample (209013) has 14.9% Al_2O_3, 42.16% SiO_2, 18.58% Fe_2O_3 and 10.0% CaO contents and Mg# (Mg/(Mg+Fe)) of 40%. This sample will be a mafic rock with high anorthite content plagioclase and this is indicated by low SiO_2 content. From Jensen (1976) and Jensen and Pyke (1982) diagrams, this sample is in basaltic komatiite field (figure 16 and figure 17).

Samples from TEX08-28 and TEX08-34 show positive correlation between CaO vs LOI (figure 18). This correlation is indicative of carbonatization. Also, high CaO contents could be linked to carbonatization. Some samples from TEX08-102 (209012 to 209017 and 209021) have also high CaO contents, and some of these samples follow the same trend than carbonatized samples from TEX08-28 and TEX08-34. However, four samples (209013, 209014, 209016 and 209021) have CaO content between 6.7 and 8.95% for LOI content between 10.3 and 11.95%. Also, three of these samples show negative correlation between CaO and MgO (figure 19). Thus, this high CaO content is not produced by carbonatization, but presence of magmatic clinopyroxene in komatiite.

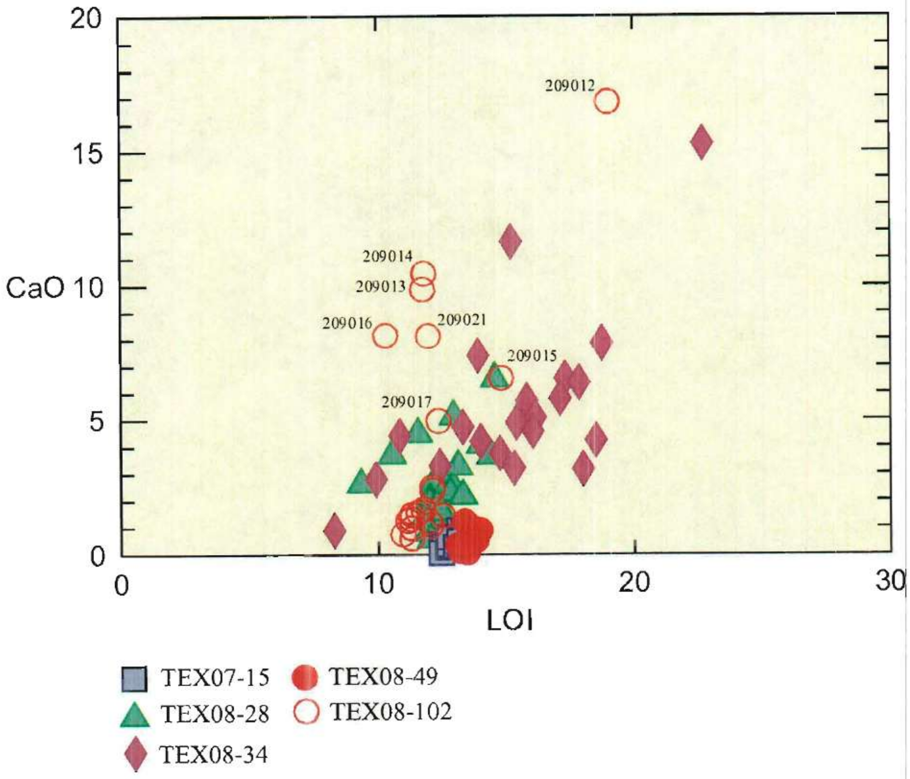


Figure 18: CaO vs LOI diagram

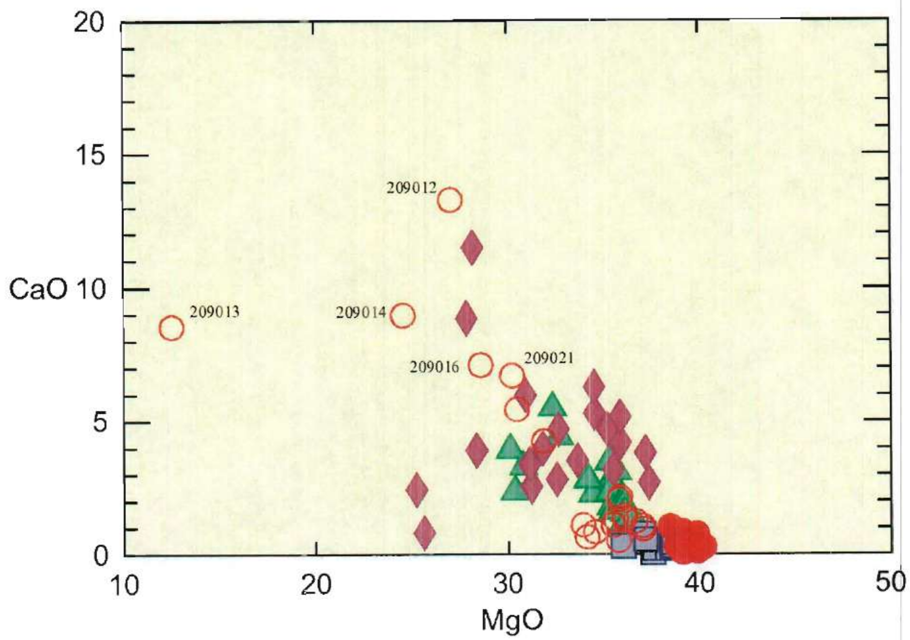


Figure 19: CaO vs MgO diagram

From Ni vs S diagram (figure 20), all drill holes, except TEX08-34 and TEX07-15, show strong positive correlation with a slope near 1 and 0.09% Ni content in silicate could be deduced from regression line. Samples from TEX08-34 show low correlation between Ni and S as two mineralizations types seems to be present. Trend 1 show a positive correlation with a slope near 1 and mineralization is mainly composed by pentlandite. Trend 2 show a positive correlation with a slope <1 and mineralization is probably composed by pyrrhotite and pentlandite. Samples from TEX07-15 show an intermediate slope between trend 1 and trend 2 and mineralization is probably composed by pentlandite and pyrrhotite. Two mafic dyke samples (155088 and 155089) have Ni content two times higher than S content (0.68% Ni and 0.27% S; 0.32% Ni and 0.15% S, respectively). Mineralization of these samples could have millerite or other nickeliferous minerals more Ni enriched than pentlandite.

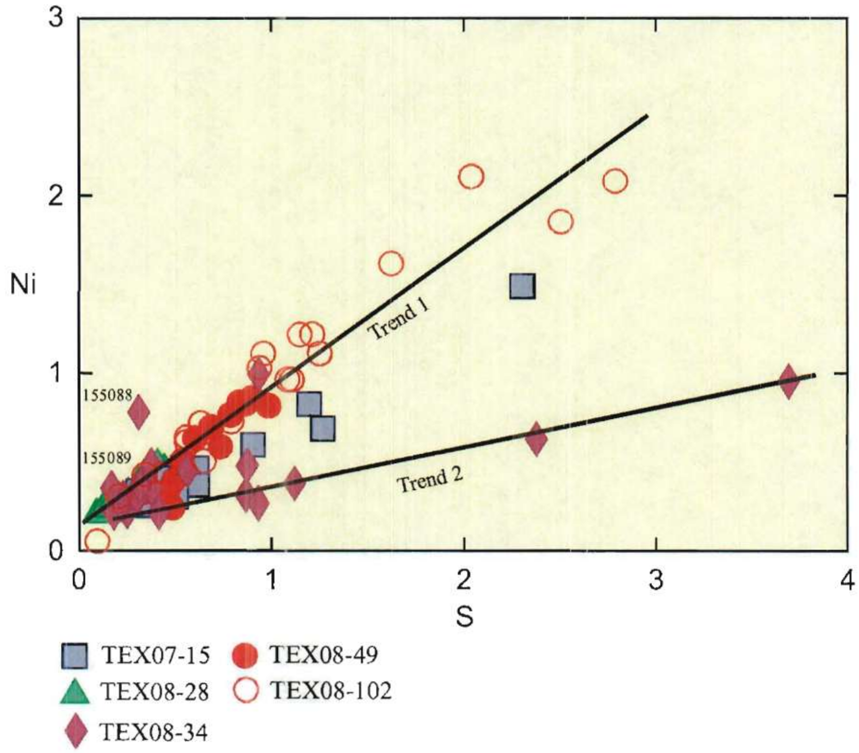


Figure 20: Ni vs S diagram

From Ni vs LOI diagram, Ni content is quite variable for a same LOI, thus alteration is not a key factor for mineralization (figure 21). However, from CaO vs S diagram (figure 22), most samples don't correlate, but some samples from TEX08-34 (155119 to 155122) show positive correlation. In samples 155119 and 155120, Ni content increase with CaO content increase (figure 23). Also, sulphides are found in veinlets in sample 155119. Thus, mineralization for this sample seems to be related to sulphides remobilisation by carbonatization.

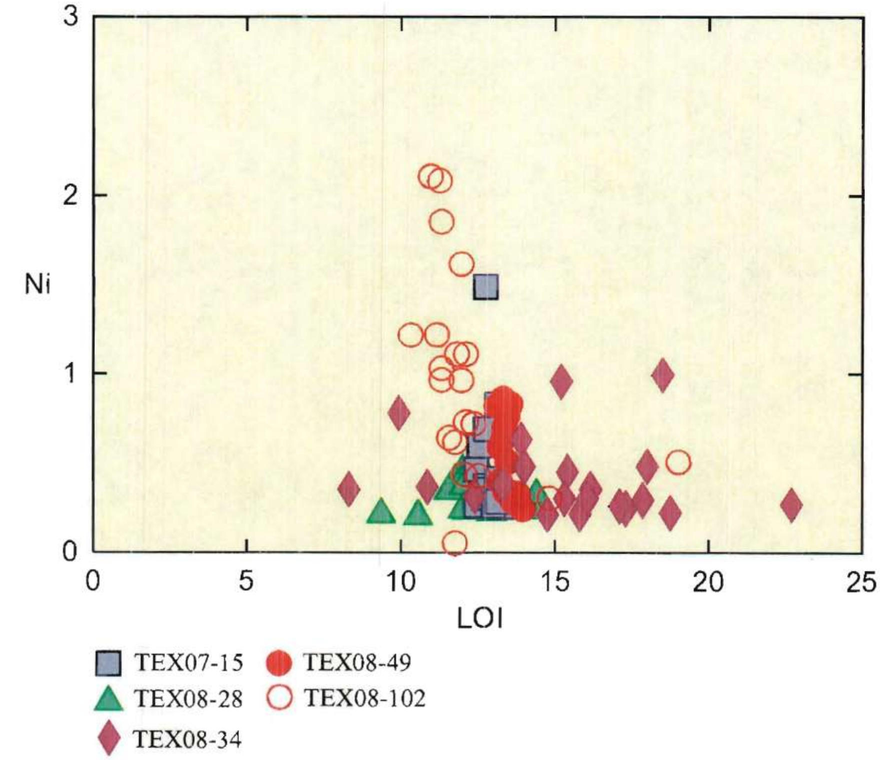


Figure 21: Ni vs LOI diagram

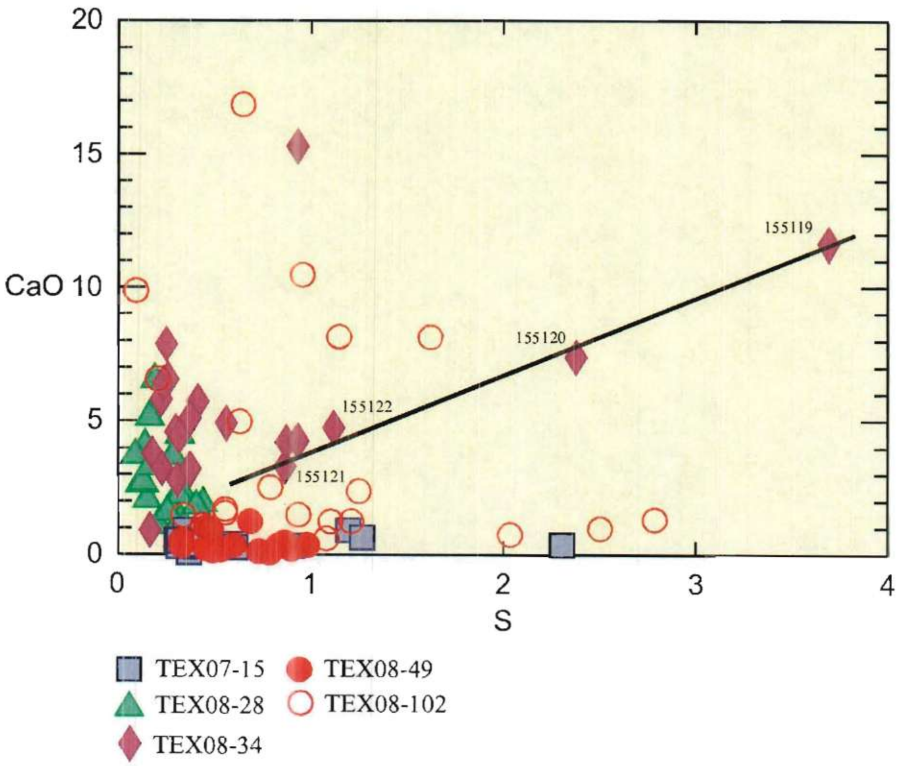


Figure 22: CaO vs S diagram

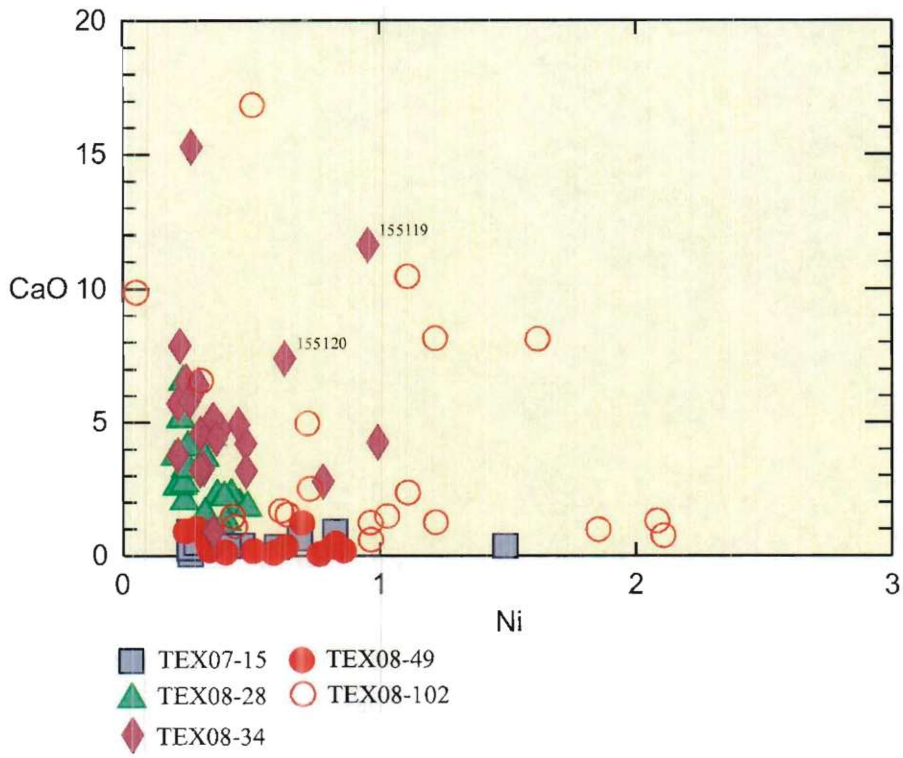


Figure 23: CaO vs Ni diagram

6. CONCLUSIONS AND RECOMMANDATIONS

From geochemical data, we can conclude that these samples come from Al-undepleted komatiite. Majority of samples are ultramafic komatiite cumulate, except for three samples (209013, 155088 and 155089) with mafic composition. TEX08-28, TEX08-34 and some samples from TEX08-102 have undergone carbonatization. It is confirmed by petrographic observation on samples from hole TEX08-28.

From Ni and S contents, mineralization Main Zone and North Zone except TEX08-34 are mainly composed by pentlandite. TEX08-34 have two type of mineralization, one mainly composed by pentlandite and the other one, probably composed by pyrrhotite and pentlandite, but these samples have to be studied in thin section. TEX07-15 from South Zone is composed by pentlandite and pyrrhotite. Petrographic observations confirmed that South Zone is composed by pentlandite and pyrrhotite and Main Zone and North Zone are mainly composed by pentlandite. Two samples from mafic dike (155088 and 155089) have mineralization composed by sulphides with higher contents in Ni, perhaps millerite. This mafic dike has to be studied in thin section to determine sulphide composition.

Mineralization is not linked to carbonatization, except for some samples of hole TEX08-34. In these samples, sulphides are remobilized by carbonatization and are found in veinlets from observation in hand specimen. From petrographic observation, sample from drill hole TEX07-17, drilled on the same section than TEX08-34, has a more complex sulphide mineralogy. Pentlandite is found with millerite and violarite. Violarite and some of millerite have a secondary origin linked to carbonatization. In other samples, violarite crystallization is linked to serpentinization The linked between sulphide remobilization and supergene alteration has been described by several authors (Groves and Keays, 1979; Patterson and Watkinson, 1984; Grapes and Challis, 1999).

Petrographic observations have to be improved by microprobe analyses. A more systematic sampling on each zones for geochemical and petrographical studies with microprobe analysis as master degree project has to be made for a better understanding of the mineralization and his emplacement mecanism.

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Gestion Aline Leclerc inc.
Prepared at Val-d'Or, december 31, 2008

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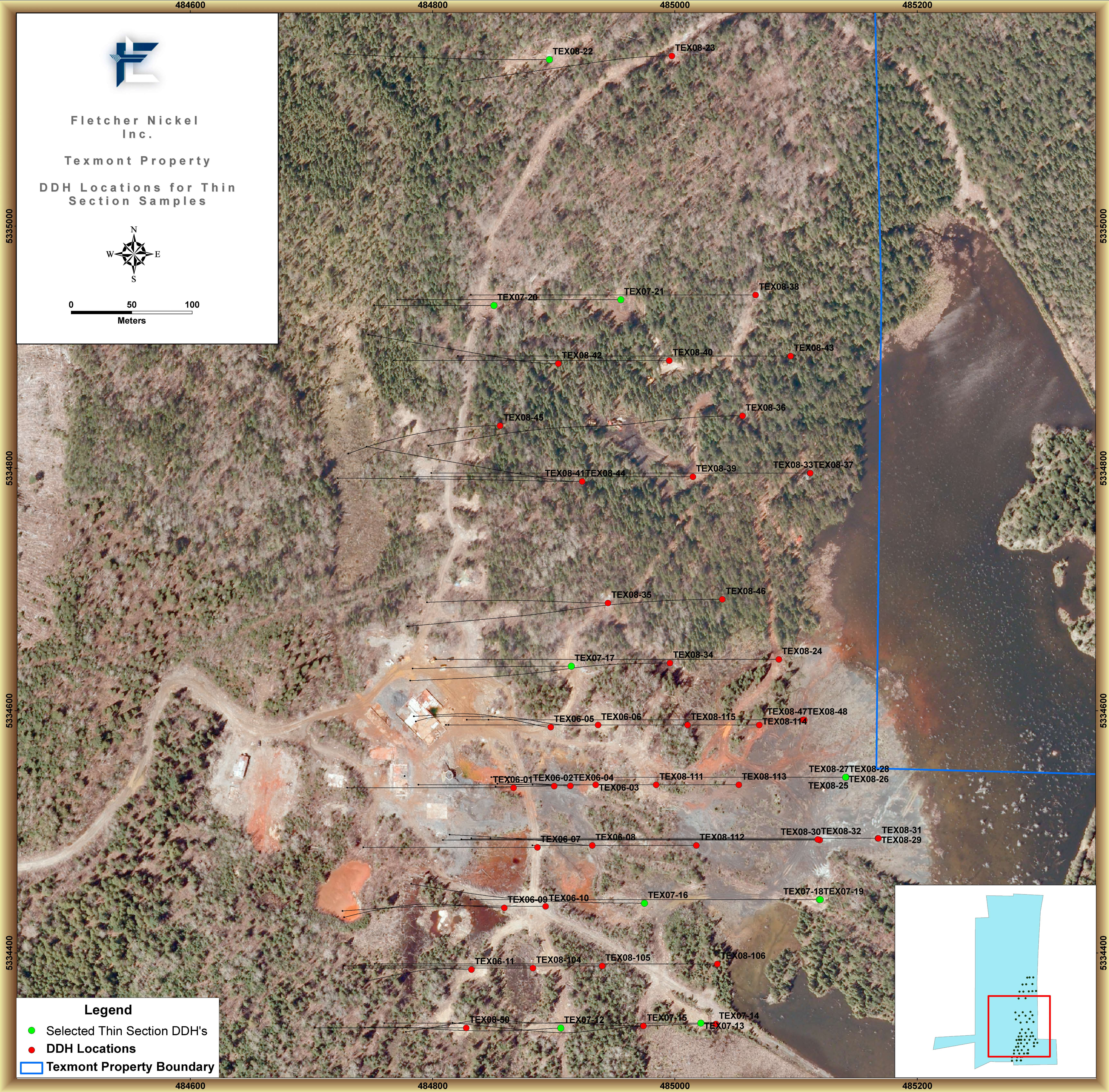
Thin Section #	Sample #	DDH	UTM (NAD 83)		Azm/Dip	Sample Interval (m)	
			Easting	Northing		From	To
Thin section #1	153366	TEX07-12	484905.9	5334338.1	270/-50	163.0	164.0
Thin section #2	153444	TEX07-13	485021.4	5334342.2	270/-50	333.0	334.0
Thin section #3	598	TEX07-16	484975.0	5334441.2	270/-50	232.0	233.0
Thin section #4	610	TEX07-16	484975.0	5334441.2	270/-50	242.0	243.0
Thin section #5	613	TEX07-16	484975.0	5334441.2	270/-50	245.0	246.0
Thin section #6	650	TEX07-16	484975.0	5334441.2	270/-50	280.0	281.0
Thin section #7	734	TEX07-17	484914.5	5334636.8	270/-47	141.0	142.0
Thin section #8	780	TEX07-18	485119.33	5334444.2	270/-62	441.0	442.0
Thin section #9	785	TEX07-18	485119.33	5334444.2	270/-62	445.7	446.7
Thin section #10	267209	TEX07-19	485119.94	5334444.2	270/-47	340.75	341.6
Thin section #11	89547	TEX07-20	484850.7	5334934.5	270/-50	69.9	70.9
Thin section #12	154043	TEX07-21	484955.4	5334939.2	270/-50	198.0	199.0
Thin section #13	154004	TEX07-21	484955.4	5334939.2	270/-50	161.0	162.5
Thin section #14	154092	TEX08-22	484896.4	5335137.3	270/-50	30.6	31.6
Thin section #15	154682	TEX08-28	485141.13	5334545.2	270/-48	342.0	343.0
Thin section #16	154681	TEX08-28	485141.13	5334545.2	270/-48	341.0	342.0
Thin section #17	154788	TEX08-27	485140.83	5334545.2	270/-65	569.0	570.0



Fletcher Nickel Inc.
Texmont Property
DDH Locations for Thin Section Samples
N
W
E
S
0
50
100
Meters
Legend
Selected Thin Section DDH's
DDH Locations
Texmont Property Boundary
484600
484800
485000
485200
5335000
5334800
5334600
5334400
TEX08-22
TEX08-23
TEX07-20
TEX07-21
TEX08-38
TEX08-42
TEX08-40
TEX08-43
TEX08-45
TEX08-36
TEX08-41
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TEX08-37
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TEX07-17
TEX08-34
TEX08-24
TEX06-05
TEX06-06
TEX08-115
TEX08-47
TEX08-48
TEX08-114
TEX08-27
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TEX08-26
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TEX06-03
TEX08-111
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TEX06-07
TEX06-08
TEX08-112
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TEX07-15
TEX07-14
TEX07-13