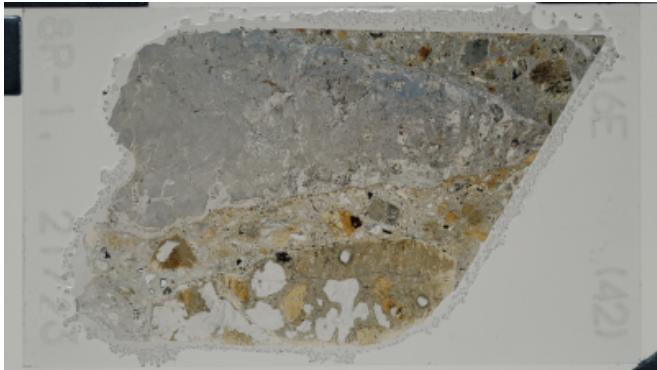


**THIN SECTION LABEL ID: 402-U1616E-8R-1-W 21/23-TSB#42-TS#42****Group      Summaries**

Igneous petrology:

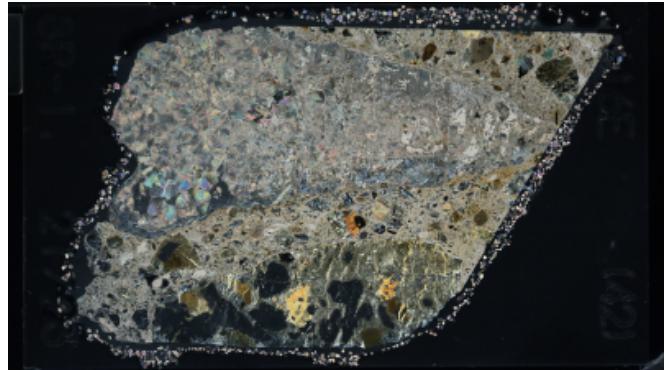
Epidote-bearing metamorphic block in carbonate matrix. Serpentinite blocks and serpentinite-derived minerals are also found.

Plane-polarized



78396211

Cross-polarized



78396191

**IGNEOUS PETROLOGY****Lithology:**

Observer: TM

Interval domain no:

Domain description:

Epidote-bearing metamorphic rock block  
semented in carbonate minerals

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-9R-1-W 5/7-TSB#43-TS#43****Group              Summaries**

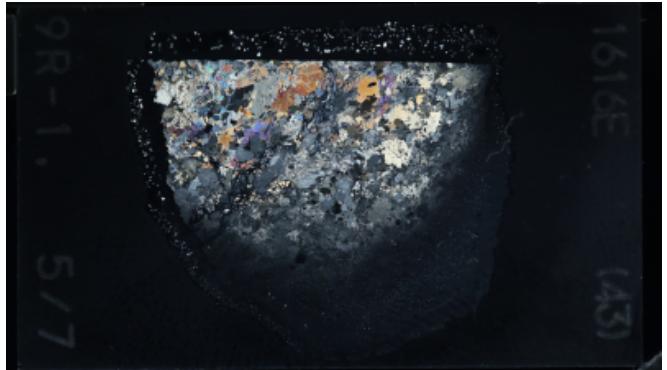
Igneous petrology: Olivine-bearing amphibole gabbro

Plane-polarized



78379471

Cross-polarized



78379491

**IGNEOUS PETROLOGY****Lithology:** olivine-bearing gabbro

Observer: TM

Interval domain no: Domain description: Olivine-bearing amphibole gabbro

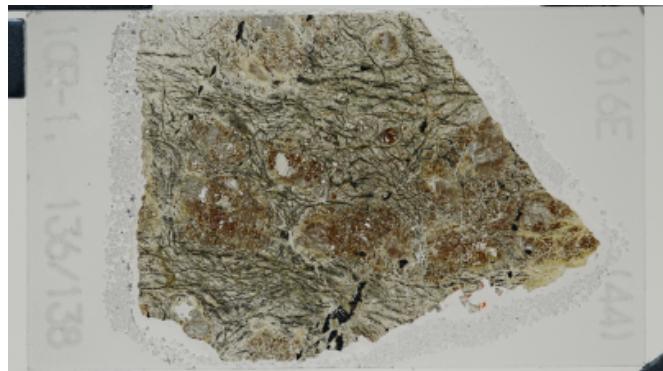
Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	25	75	25		anhedral	elongate	
Plagioclase	40	90	10		subhedral	subequant	
Clinopyroxene	25	95	5		anhedral	subequant	
Amphibole	8	95	5		subhedral	ophitic	
Oxide	2	100					

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-10R-1-W 136/138-TSB#44-TS#44****Group      Summaries**

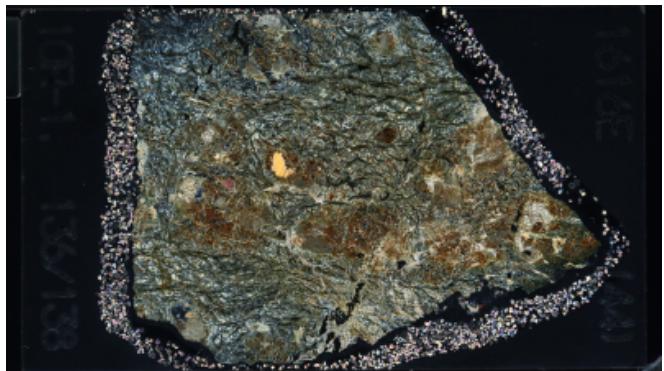
Igneous petrology:	Serpentinized, weathered and carbonated harzburgite.
Alterations features:	Carbonate minerals form at location where primary olivine around opx porphyroblast presented. Carbonate veins are frequently observed.

Plane-polarized



78396151

Cross-polarized



78396171

**IGNEOUS PETROLOGY****Lithology: harzburgite**

Observer: TM

Interval domain no:

Domain description:

Serpentinized/Weathered/Carbonated  
harzburgite

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	75	0	100				Former olivine position is replaced by carbonate mineral.
Clinopyroxene	3	80	20		anhedral	subequant	
Orthopyroxene	20	50	50		anhedral	subequant	
Spinel	2	95	5		anhedral	elongate	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-11R-2-W 89/91-TSB#45-TS#45****Group      Summaries**

Igneous petrology: Serpentinized/Weathered/Carbonated Iherzolite

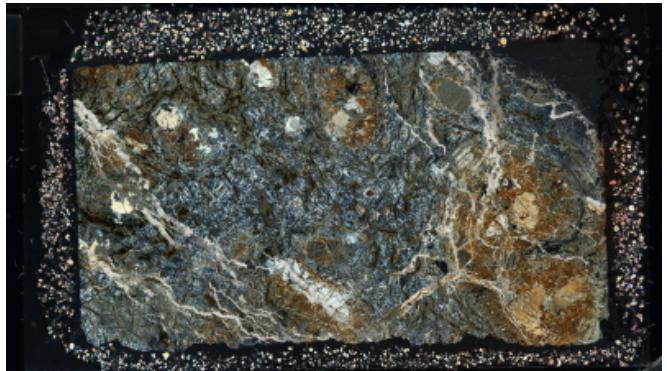
Alterations features: Carbonate minerals form at location where primary olivine around opx porphyroblast presented. Carbonate veins are frequently observed.

Plane-polarized



78437061

Cross-polarized



78437081

**IGNEOUS PETROLOGY****Lithology:** Iherzolite

Observer: TM

Interval domain no:

Domain description:

Serpentinized/Weathered/Carbonated Iherzolite

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	69	0	100				Former olivine position is replaced by carbonate mineral.
Clinopyroxene	5	50	50		anhedral	subequant	CPX locally concentrated where opx is abundant.
Orthopyroxene	25	50	50		anhedral	subequant	
Spinel	1	95	5		anhedral	subequant	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-11R-2-W 124/126-TSB#46-TS#46****Group              Summaries**

Igneous petrology: Piemontite-bearing metamorphic rock

Plane-polarized



78396131

Cross-polarized



78396111

**IGNEOUS PETROLOGY****Lithology:**

Observer: TM

Interval domain no:

Domain description:

Piemontite-bearing metamorphic rock?

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-11R-3-W 43/45-TSB#47-TS#47****Group      Summaries**

Igneous petrology: Serpentinized, weathered and carbonated harzburgite.

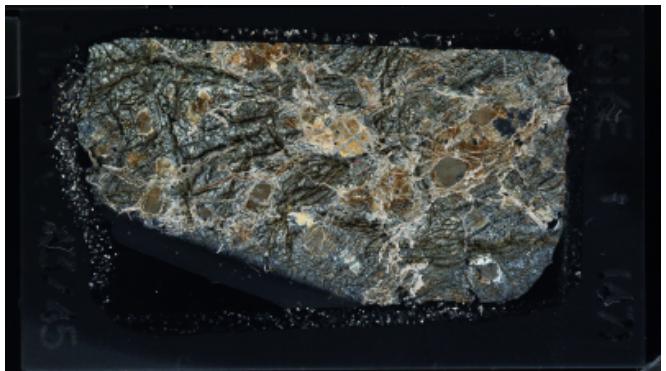
Alterations features: Carbonate minerals form at location where primary olivine around opx porphyroblast presented. Carbonate veins are frequently observed.

Plane-polarized



78396071

Cross-polarized



78396091

**IGNEOUS PETROLOGY****Lithology:** harzburgite

Observer: TM

Interval domain no:

Domain description:

Serpentinized/Weathered/carbonated  
harzburgite

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	73	0	100				Former olivine position is replaced by carbonate mineral.
Clinopyroxene	1	50	50		anhedral	subequant	
Orthopyroxene	25	30	70		anhedral	subequant	
Spinel	1	95	5		anhedral	subequant	

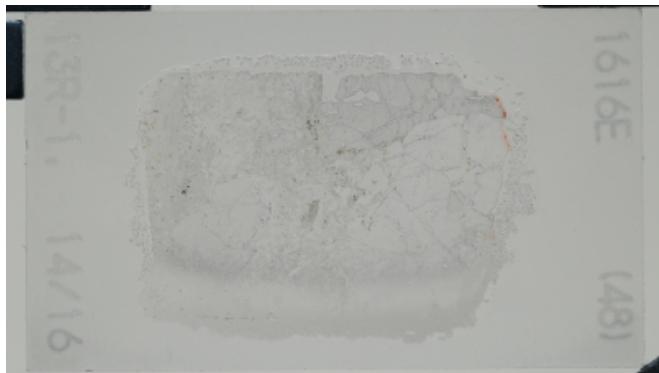
Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-13R-1-W 14/16-TSB#48-TS#48****Group      Summaries**

Igneous petrology: Carbonate vein (in serpentinite)

Alterations features: Serpentinite fragments exist in the finer grained areas of the carbonate vein

Plane-polarized



78402611

Cross-polarized



78402631

**IGNEOUS PETROLOGY****Lithology:**

Observer: TM

Interval domain no:

Domain description:

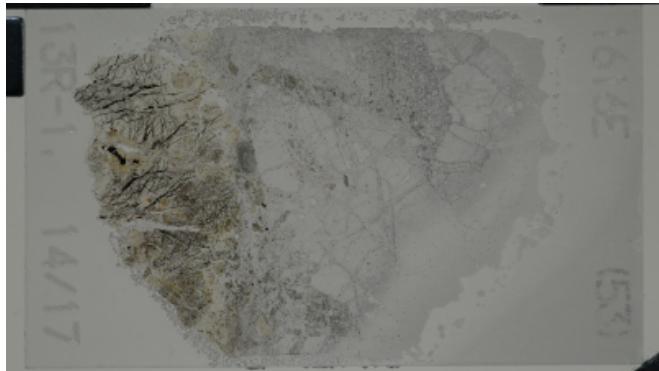
Carbonate vein cutting serpentinite,  
serpentinite clusts included

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-13R-1-W 14/17-TSB-TS#53****Group      Summaries**

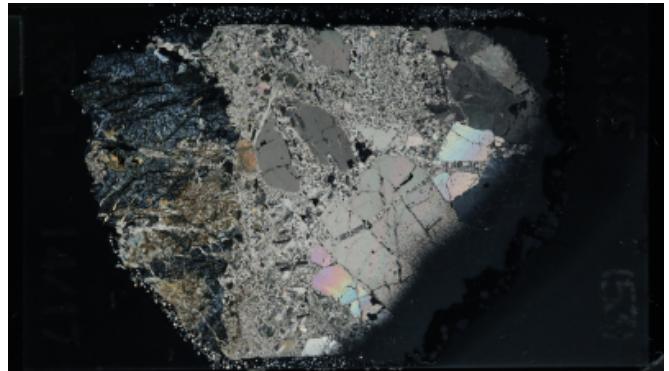
Igneous petrology:	Carbonate vein in serpentinite.
Alterations features:	Carbonate minerals form at location where primary olivine around opx porphyroblast presented. Carbonate veins are frequently observed.

Plane-polarized



78402671

Cross-polarized



78402651

**IGNEOUS PETROLOGY****Lithology:**

Observer: TM

Interval domain no:

Domain description:

Carbonate vein cutting Serpentinite. Olivine around pyroxene is replaced by carbonate minerals.

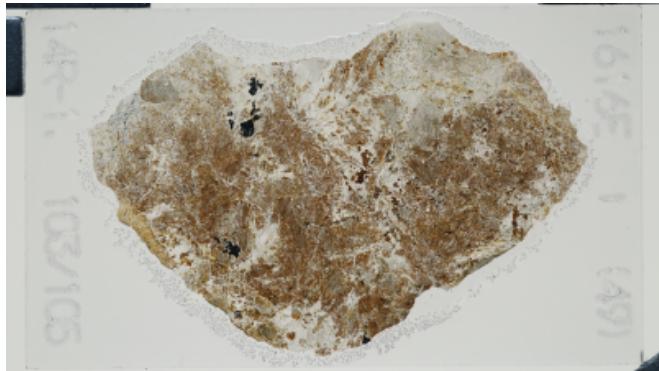
Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-14R-1-W 103/105-TSB#49-TS#49****Group      Summaries**

Igneous petrology: Carbonated (weathered, serpentinized) orthopyroxene-rich harzburgite

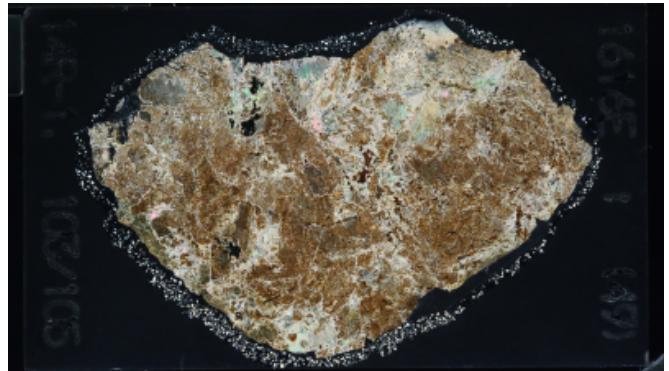
Alterations features: Orthopyroxene is replaced by talc and carbonate minerals. Spinel is altered.

Plane-polarized



78396051

Cross-polarized



78396031

**IGNEOUS PETROLOGY****Lithology:** harzburgite

Observer: TM

Interval domain no:

Domain description:

Carbonated orthopyroxene-rich peridotite

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	73	0	100				Former olivine position is replaced by carbonate mineral.
Orthopyroxene	35	95	5		subhedral	subequant	Replaced by talc carbonate
Spinel	2	50	50		anhedral	subequant	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-15R-1-W 72/74-TSB#51-TS#51****Group      Summaries**

Igneous petrology: Metamorphosed gabbro

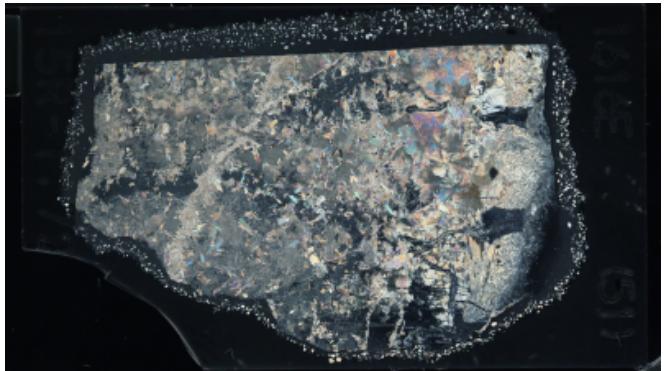
Alterations features: Tremolite, chlorite, talc

Plane-polarized



78436981

Cross-polarized



78437001

**IGNEOUS PETROLOGY**

Lithology: gabbro

Observer: TM

Interval domain no: Domain description: Metamorphosed gabbro

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	58	0	100				
Clinopyroxene	40	0	100				
Oxide	2	100	0				

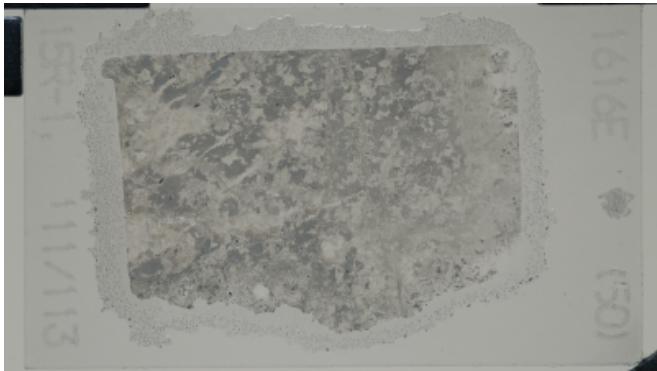
Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-15R-1-W 111/113-TSB#50-TS#50****Group      Summaries**

Igneous petrology: Metamorphosed gabbro

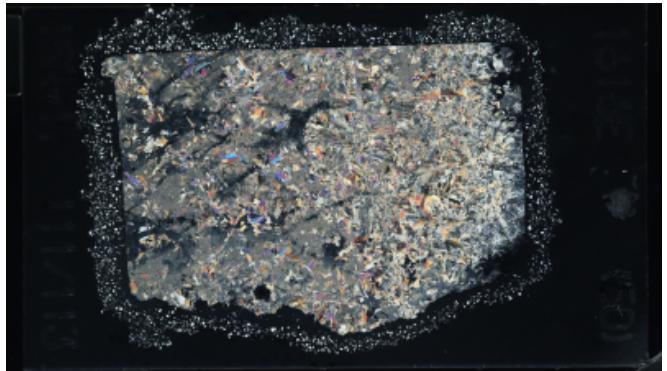
Alterations features: Tremolite, chlorite, talc

Plane-polarized



78437041

Cross-polarized



78437021

**IGNEOUS PETROLOGY**

Lithology: gabbro

Observer: TM

Interval domain no: Domain description: Metamorphosed gabbro

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	58	0	100				
Clinopyroxene	40	0	100				
Oxide	2	100	0				

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-16R-1-W 38/40-TSB#52-TS#52****Group      Summaries**

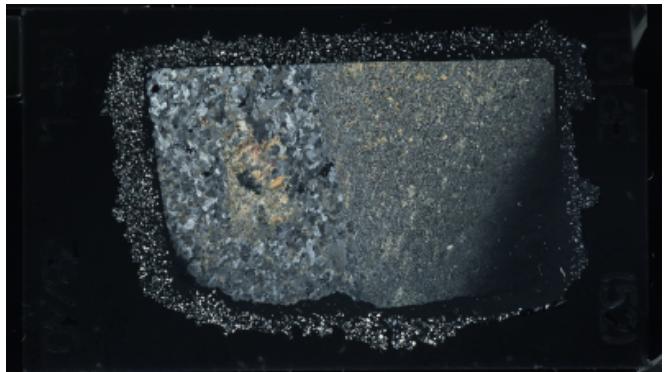
Igneous petrology: Layering of fine-grained amphibole gabbro and coarse-grained amphibole gabbro. Tremolite-chlorite xenolith is included.

Plane-polarized



78436961

Cross-polarized



78436941

**IGNEOUS PETROLOGY****Lithology:** gabbro

Observer: TM

Interval domain no: 1 Domain description: Fine-grained amphibole gabbro

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	67	10	90		subhedral	equant	
Amphibole	30	50	50		anhedral	subequant	
Oxide	3	100	0				

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**Lithology:** gabbro

Observer: TM

Interval domain no: 2 Domain description: Coarse-grained amphibole gabbro

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	72	10	90		subhedral	equant	
Amphibole	25	20	80		anhedral	interstitial	
Oxide	3	100	0				

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**Lithology:**

Observer: TM

Interval domain no: 3 Domain description: Tremolite-chlorite rock

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-18R-1-W 37/39-TSB-TS#54****Group              Summaries**

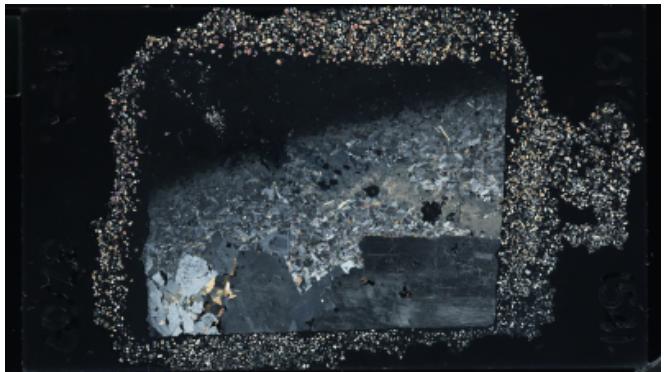
Igneous petrology: Layering of fine-grained amphibole gabbro and coarse-grained amphibole gabbro.

Plane-polarized



78436901

Cross-polarized



78436921

**IGNEOUS PETROLOGY****Lithology:** gabbro

Observer: TM

Interval domain no: 1

Domain description:

Fine-grained amphibole gabbro

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	82	80	20		euhedral	tabular	
Amphibole	15	70	30		subhedral	interstitial	
Oxide	3	100	0		anhedral	subequant	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**Lithology:** gabbro

Observer: TM

Interval domain no: 2

Domain description:

Coarse-grained amphibole gabbro, zircon bearing

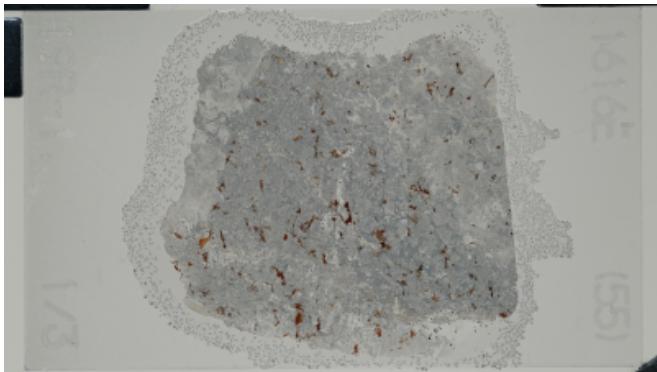
Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	87	90	10		euhedral	subequant	
Amphibole	10	90	10		subhedral	subequant	
Oxide	3	100	0		anhedral	subequant	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-19R-1-W 1/3-TSB-TS#55****Group              Summaries**

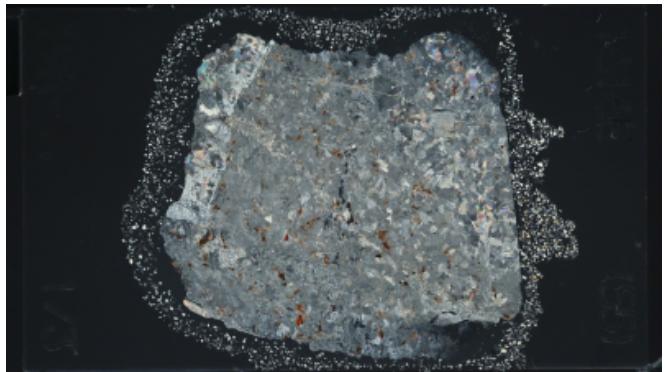
Igneous petrology:      Biotite-bearing diorite

Plane-polarized



78436881

Cross-polarized



78436861

**IGNEOUS PETROLOGY****Lithology:**

Observer: TM

Interval domain no: Domain description: Biotite-bearing diorite

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	83	75	25		euhedral	subequant	
Oxide	2	100	0		anhedral	subequant	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-19R-1-W 133/135-TSB-TS#56****Group              Summaries**

Igneous petrology:      Biotite-bearing gabbro

Plane-polarized



78436811

Cross-polarized



78436841

**IGNEOUS PETROLOGY**

Lithology:    gabbro

Observer:    TM

Interval domain no:       Domain description:       Biotite-bearing gabbro

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Plagioclase	76	85	15		subhedral	subequant	20 % biotite
Clinopyroxene	1	80	20		anhedral	subequant	
Amphibole	1	90	10		anhedral	interstitial	
Oxide	2	100	0		anhedral	subequant	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-20R-1-W 75/77-TSB-TS#57****Group              Summaries**

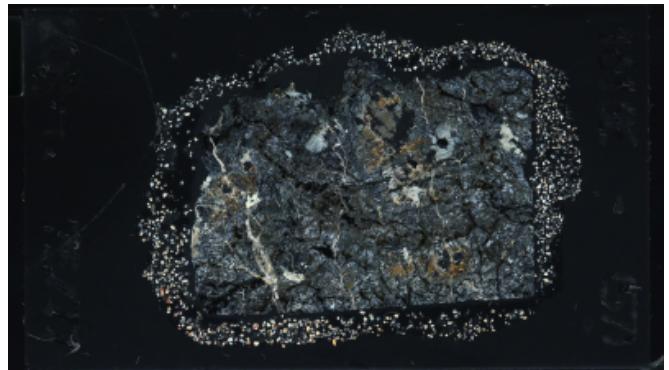
Igneous petrology: Serpentinized/Weathered/carbonated harzburgite

Plane-polarized



78436791

Cross-polarized



78436771

**IGNEOUS PETROLOGY**

Lithology: harzburgite

Observer: TM

Interval domain no:

Domain description:

Serpentinized/Weathered/carbonated  
harzburgite

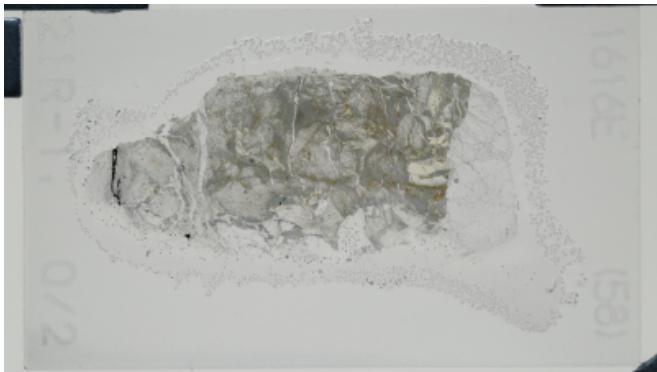
Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	78	0	100				Former olivine position is replaced by carbonate mineral.
Clinopyroxene	1	50	50		anhedral	subequant	
Orthopyroxene	20	30	70		anhedral	subequant	
Spinel	2	95	5		anhedral	subequant	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-21R-1-W 0/2-TSB-TS#58****Group              Summaries**

Igneous petrology: Mica (partly replaced by chlorite)-bearing amphibolite

Plane-polarized



78395991

Cross-polarized



78396011

**IGNEOUS PETROLOGY****Lithology:**

Observer: TM

Interval domain no:

Domain description:

Mica(partly replaced by chlorite)-bearing Amphibolite

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-21R-1-W 77/80-TSB-TS#59****Group      Summaries**

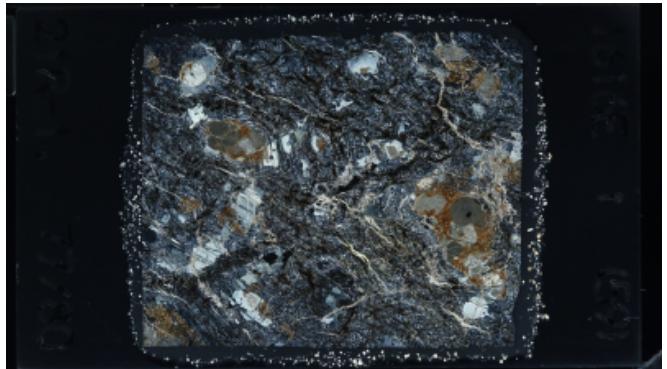
Igneous petrology:	Serpentinized, weathered and carbonated harzburgite.
Alterations features:	Carbonate minerals form at location where primary olivine around opx porphyroblast presented. Carbonate veins are frequently observed.

Plane-polarized



78395971

Cross-polarized



78395951

**IGNEOUS PETROLOGY****Lithology:** harzburgite

Observer: TM

Interval domain no:

Domain description:

Serpentinized/Weathered/Carbonated  
harzburgite

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	62	0	100				Former olivine position is replaced by carbonate mineral.
Clinopyroxene	1	30	70		anhedral	subequant	
Orthopyroxene	25	40	60		anhedral	subequant	
Spinel	2	95	5		anhedral	elongate	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			

**THIN SECTION LABEL ID: 402-U1616E-22R-1-W 39/41-TSB-TS#60****Group              Summaries**

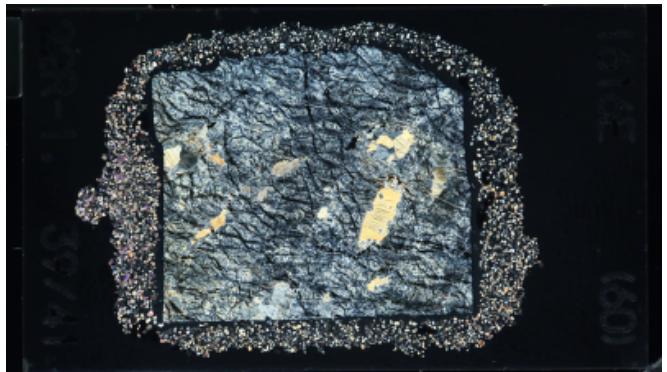
Igneous petrology:      Serpentinized harzburgite

Plane-polarized



78436731

Cross-polarized



78436751

**IGNEOUS PETROLOGY**

Lithology: harzburgite

Observer: TM

Interval domain no: Domain description: Serpentinized harzburgite

Mineral	% Mineral	Original (%)	Altered (%)	Size AVE (mm)	Shape	Habit	Comments
Olivine	83	0	100				No carbonate
Clinopyroxene	1	0	100		anhedral	subequant	
Orthopyroxene	15	0	100		anhedral	subequant	Partly replaced by tremolite or talc?
Spinel	1	95	5		anhedral	elongate	

Pl phenocryst (%)	Total phenocryst (%)	Biotite (%)	Quartz (%)	Quartz alteration intensity
	0			