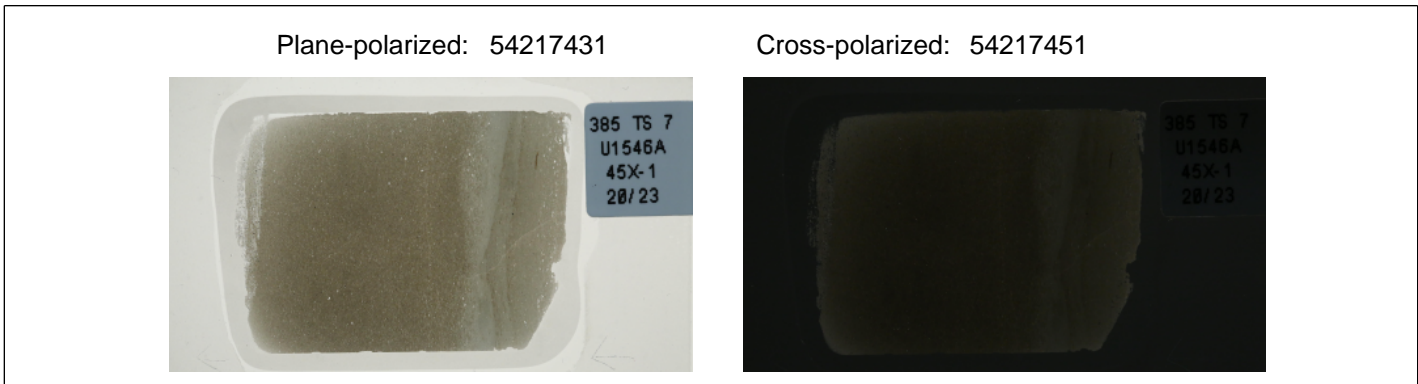


THIN SECTION LABEL ID: **385-U1546A-45X-1-W 20/23-TSB-TS 7** Thin section no.: 7
 Observer: km



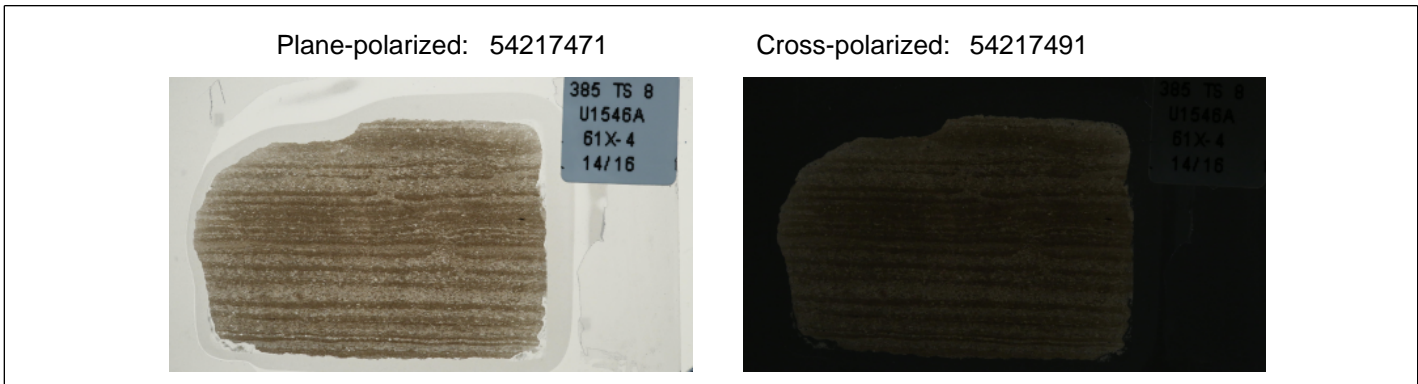
Sediments and Sedimentary Rock
 Lithology: micrite

TEXTURE	Percent	CONSTITUENT	Percent
Sand		Siliciclastic Grains/Mineral	13
Silt		Authigenic Minerals	52
Clay		Biogenic Grains	35
Total Texture		Total Constituent	100

Framework grain abundance

Component	%	Component	%	Component	%
Quartz	1	Ferromagnesium minerals		Vitric Grains	
Feldspar	1	Opaque Minerals		Foraminifera	
Plagioclase		Zeolite		Radiolarians	
Rock Fragments		Pyrite	3	Diatoms	30
Igneous Volcanic Fragments		Quartz (Authigenic)		Organic Debris	5
Sedimentary Fragments		Calcite		Plant Debris	
Matrix (Silt and Clay)		Dolomite	49	Fish Remains	
Biotite	1	Porosity		Other	
Clay Minerals	10				

THIN SECTION LABEL ID: **385-U1546A-61X-4-W 14/16-TSB-TS 8** Thin section no.: 8
 Observer: km



Sediments and Sedimentary Rock
 Lithology: micrite

TEXTURE	Percent	CONSTITUENT	Percent
Sand		Siliciclastic Grains/Mineral	18
Silt		Authigenic Minerals	61
Clay		Biogenic Grains	11
Total Texture		Total Constituent	90

Framework grain abundance

Component	%	Component	%	Component	%
Quartz		Ferromagnesium minerals		Vitric Grains	
Feldspar		Opaque Minerals		Foraminifera	
Plagioclase		Zeolite		Radiolarians	
Rock Fragments		Pyrite	1	Diatoms	10
Igneous Volcanic Fragments		Quartz (Authigenic)		Organic Debris	1
Sedimentary Fragments		Calcite		Plant Debris	
Matrix (Silt and Clay)		Dolomite	60	Fish Remains	
Biotite		Porosity		Other	
Clay Minerals	18				

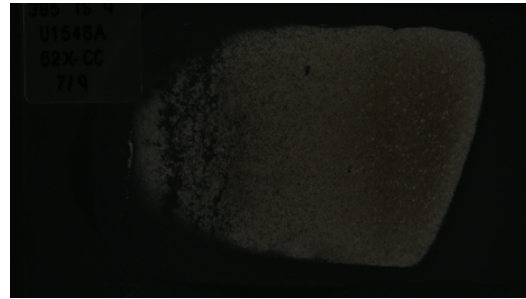
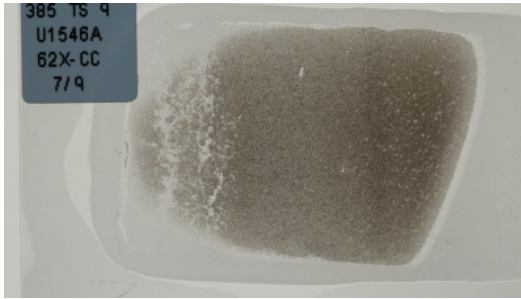
THIN SECTION LABEL ID: **385-U1546A-62X-CC-W 7/9-TSB-TS 9**

Thin section no.: 9

Observer: km

Plane-polarized: 54236501

Cross-polarized: 54236521



Sediments and Sedimentary Rock

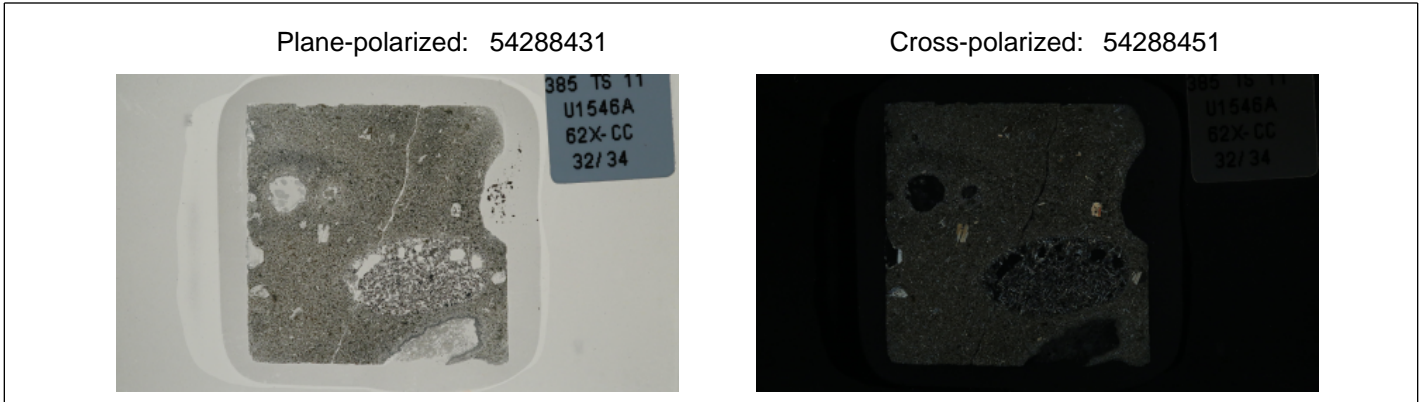
Lithology: micrite

TEXTURE	Percent	CONSTITUENT	Percent
Sand		Siliciclastic Grains/Mineral	25
Silt		Authigenic Minerals	70
Clay		Biogenic Grains	5
Total Texture		Total Constituent	100

Framework grain abundance

Component	%	Component	%	Component	%
Quartz		Ferromagnesium minerals		Vitric Grains	
Feldspar		Opaque Minerals		Foraminifera	5
Plagioclase		Zeolite		Radiolarians	
Rock Fragments		Pyrite	10	Diatoms	
Igneous Volcanic Fragments		Quartz (Authigenic)		Organic Debris	
Sedimentary Fragments		Calcite		Plant Debris	
Matrix (Silt and Clay)	25	Dolomite	60	Fish Remains	
Biotite		Porosity		Other	
Clay Minerals					

THIN SECTION LABEL ID: **385-U1546A-62X-CC-W 32/34-TSB-TS 11** Thin section no.: 11
 Observer: Wei Xie
 Thin section summary: LITHOLOGY: plagioclase phyric dolerite sill GROUNDMASS: fine-grained, felty GRAIN SIZE DISTRIBUTION: Bimodal TEXTURE: porphyritic PHENOCRYSTS: 2% plagioclase VESICLES: sparsely vesicular ALTERATION: moderately altered VEINS: absent



Igneous Petrology

Lithology: plagioclase phyric dolerite sill **Groundmass grain size (avg.):** fine-grained [NMJ05]
Texture: porphyritic **Grain size distribution:** Bimodal

Phenocrysts	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	2	2	0		3	euhedral	elongate	

Groundmass	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	60	50	10	0.5	1	euhedral	elongate	
Clinopyroxene	40	20	20	0.01	0.1	subhedral	equant	
Fe-Ti oxide						subhedral	equant	

Vesicle	Original (%)	Empty (%)	Filled (%)	Size min. (mm)	Size max. (mm)	Shape	Density	Comments
	1				2	subrounded		

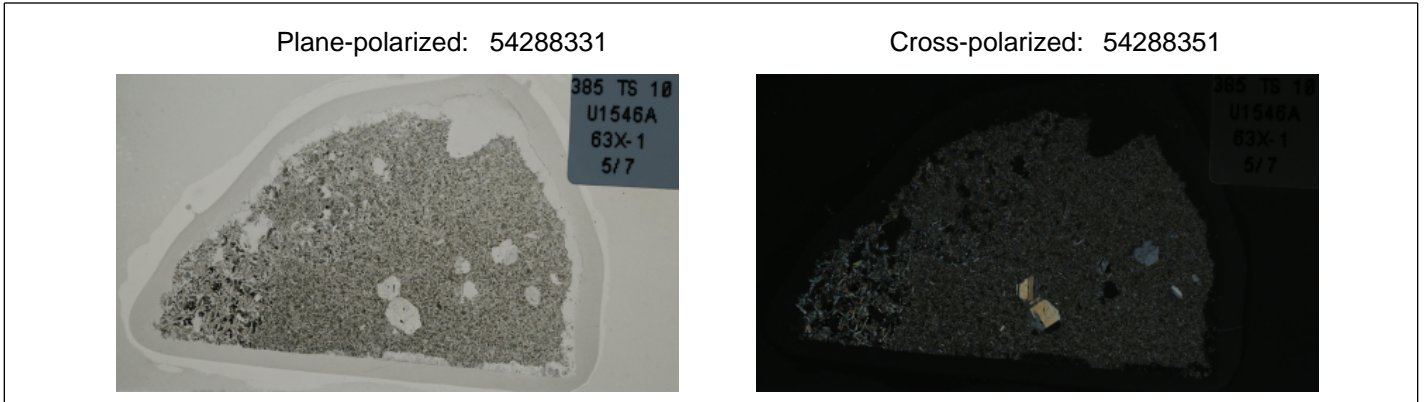
Alteration

Alteration intensity: moderately altered **Texture of Alteration:** patchy **Recrystallization extent:** weak [recryst]

Vesicle abundance (%): **Vesicle shape:** subrounded **Vesicle distribution:**

Vesicle min. size (mm): **Vesicle max. size (mm):** **Vesicle mode size (mm):**

THIN SECTION LABEL ID: **385-U1546A-63X-1-W 5/7-TSB-TS 10** Thin section no.: 10
 Observer: Wei Xie
 Thin section summary: LITHOLOGY: plagioclase phyric dolerite sill GROUNDMASS: fine-grained, felty GRAIN SIZE DISTRIBUTION: Bimodal TEXTURE: porphyritic PHENOCRYSTS: 2% plagioclase VESICLES: sparsely vesicular ALTERATION: slightly altered VEINS: absent



Igneous Petrology

Lithology: plagioclase phyric dolerite sill **Groundmass grain size (avg.):** fine-grained [NMJ05]
Texture: porphyritic **Grain size distribution:** Bimodal

Phenocrysts	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	2	2	0	0.4	3	euhedral	elongate	

Groundmass	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	50	40	10	0.1	1	euhedral	elongate	
Clinopyroxene	50	30	20	0.1	0.2	subhedral	subequant	
Fe-Ti oxide						subhedral	equant	

Vesicle	Original (%)	Empty (%)	Filled (%)	Size min. (mm)	Size max. (mm)	Shape	Density	Comments
	2			1	3	subangular		

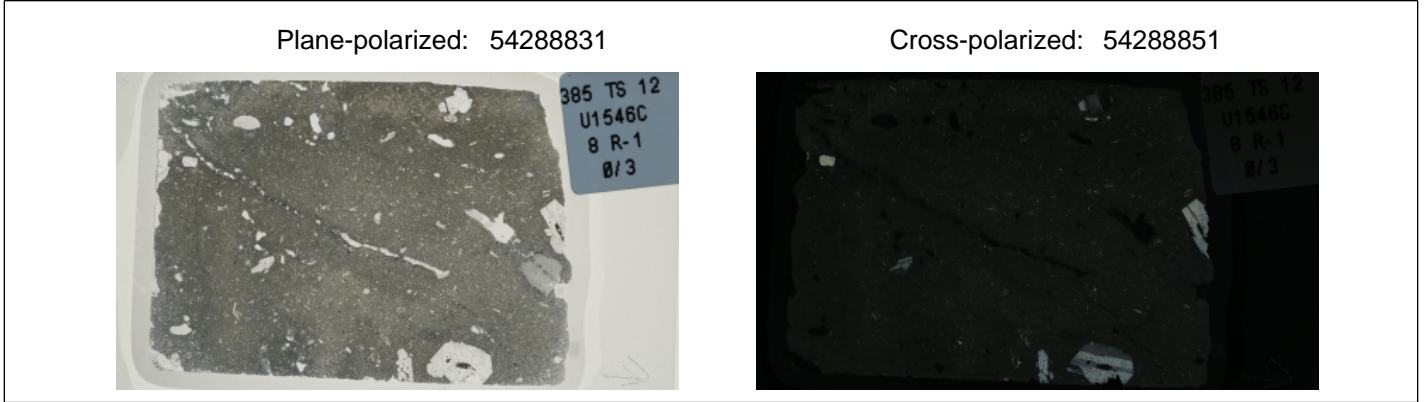
Alteration

Alteration intensity: slightly altered **Texture of Alteration:** patchy **Recrystallization extent:** weak [recryst]

Vesicle abundance (%): **Vesicle shape:** subangular **Vesicle distribution:**

Vesicle min. size (mm): **Vesicle max. size (mm):** **Vesicle mode size (mm):**

THIN SECTION LABEL ID: **385-U1546C-8R-1-W 0/3-TSB-TS 12** Thin section no.: 12
 Observer: Wei Xie
 Thin section summary: LITHOLOGY: plagioclase phyric dolerite sill GROUNDMASS: fine-grained, felty GRAIN SIZE DISTRIBUTION: Bimodal TEXTURE: porphyritic PHENOCRYSTS: 3% plagioclase, 1% clinopyroxene VESICLES: sparsely vesicular ALTERATION: highly altered VEINS: absent



Igneous Petrology

Lithology: plagioclase phyric basalt sill **Groundmass grain size (avg.):** fine-grained [NMJ05]
Texture: porphyritic **Grain size distribution:** Bimodal

Phenocrysts	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	3	3	0.5	1	5	euhedral	elongate	
Clinopyroxene	1	1	0.5	0.1	0.3	subhedral	elongate	

Groundmass	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	50	25	25	0.1	0.3	euhedral	elongate	
Clinopyroxene	45	15	30	0.1	0.2	subhedral		

Vesicle	Original (%)	Empty (%)	Filled (%)	Size min. (mm)	Size max. (mm)	Shape	Density	Comments
						rounded		

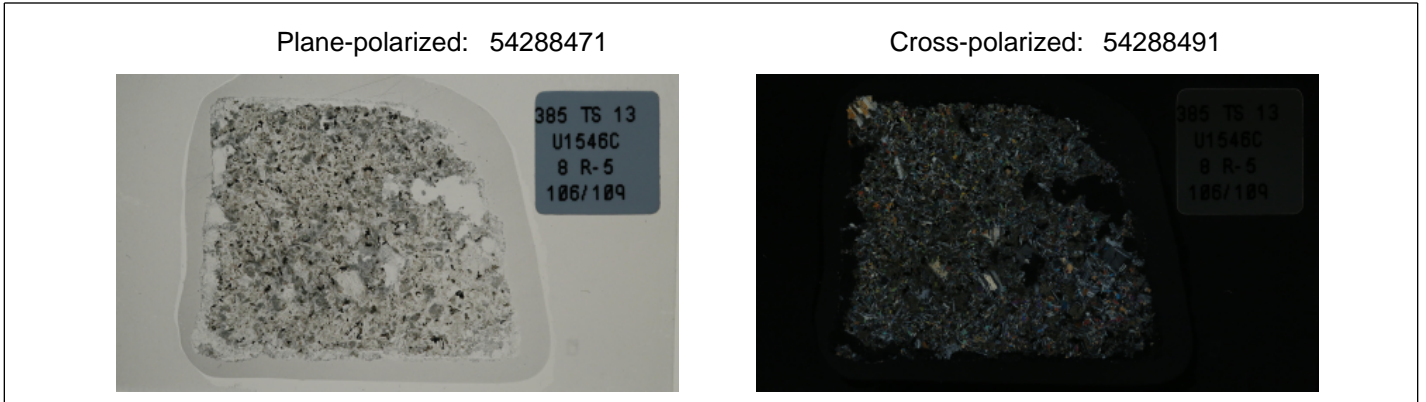
Alteration

Alteration intensity: highly altered **Texture of Alteration:** recrystallized **Recrystallization extent:** strong [recryst]

Vesicle abundance (%): **Vesicle shape:** rounded **Vesicle distribution:**

Vesicle min. size (mm): **Vesicle max. size (mm):** **Vesicle mode size (mm):**

THIN SECTION LABEL ID: **385-U1546C-8R-5-W 106/109-TSB-TS 13** Thin section no.: 13
 Observer: Wei Xie
 Thin section summary: LITHOLOGY: plagioclase phyric dolerite sill GROUNDMASS: fine-grained, felty GRAIN SIZE DISTRIBUTION: Bimodal TEXTURE: porphyritic PHENOCRYSTS: 3% plagioclase VESICLES: none ALTERATION: slightly altered VEINS: absent



Igneous Petrology

Lithology: plagioclase phyric dolerite sill **Groundmass grain size (avg.):** fine-grained [NMJ05]
Texture: porphyritic **Grain size distribution:** Bimodal

Phenocrysts	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	3	3	0	1	3	euhedral	stubby	

Groundmass	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	60	55	5	0.5	1	euhedral	elongate	
Clinopyroxene	40	20	20	0.5	1	subhedral	subequant	

Alteration

Alteration intensity: slightly altered **Texture of Alteration** patchy **Recrystallization extent:** weak [recryst]

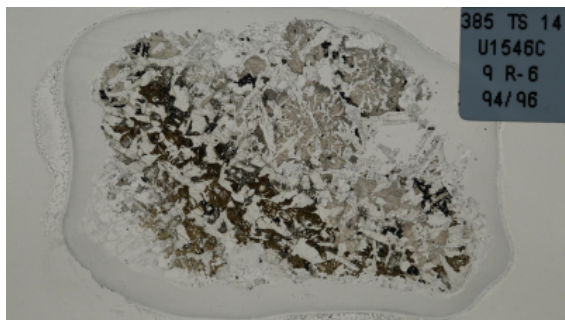
THIN SECTION LABEL ID: **385-U1546C-9R-6-W 94/96-TSB-TS 14**

Thin section no.: 14

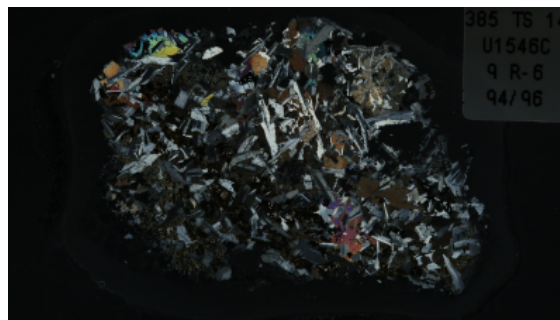
Observer: Wei Xie

Thin section summary: LITHOLOGY: gabbro sill GROUNDMASS: medium-grained GRAIN SIZE DISTRIBUTION: inequigranular TEXTURE: ophitic MINERALS: 60% plagioclase, 40% clinopyroxene VESICLES: none ALTERATION: slightly altered VEINS: absent

Plane-polarized: 54310481



Cross-polarized: 54310501

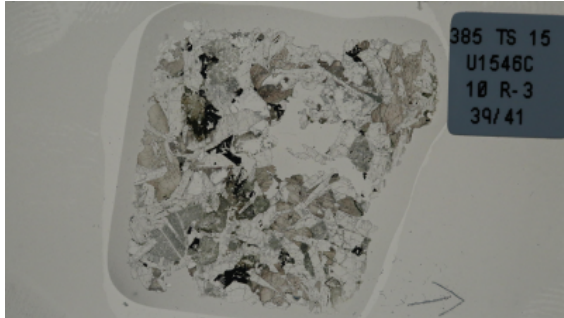


Alteration

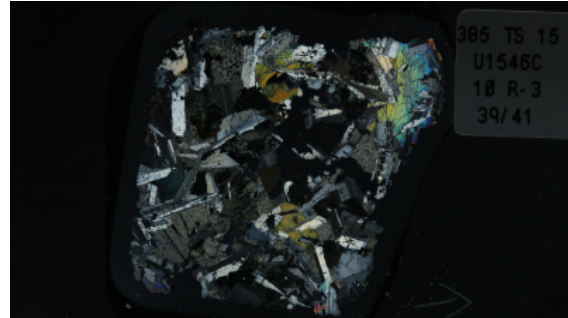
Alteration intensity: slightly altered **Texture of Alteration** patchy **Recrystallization extent:** weak [recryst]

THIN SECTION LABEL ID: **385-U1546C-10R-3-W 39/41-TSB-TS 15** Thin section no.: 15
 Observer: Wei Xie
 Thin section summary: LITHOLOGY: gabbro sill GROUNDMASS: coarse-grained GRAIN SIZE DISTRIBUTION: equigranular TEXTURE: ophitic MINERALS: 60% plagioclase, 40% clinopyroxene VESICLES: none ALTERATION: slightly altered VEINS: absent

Plane-polarized: 54311471



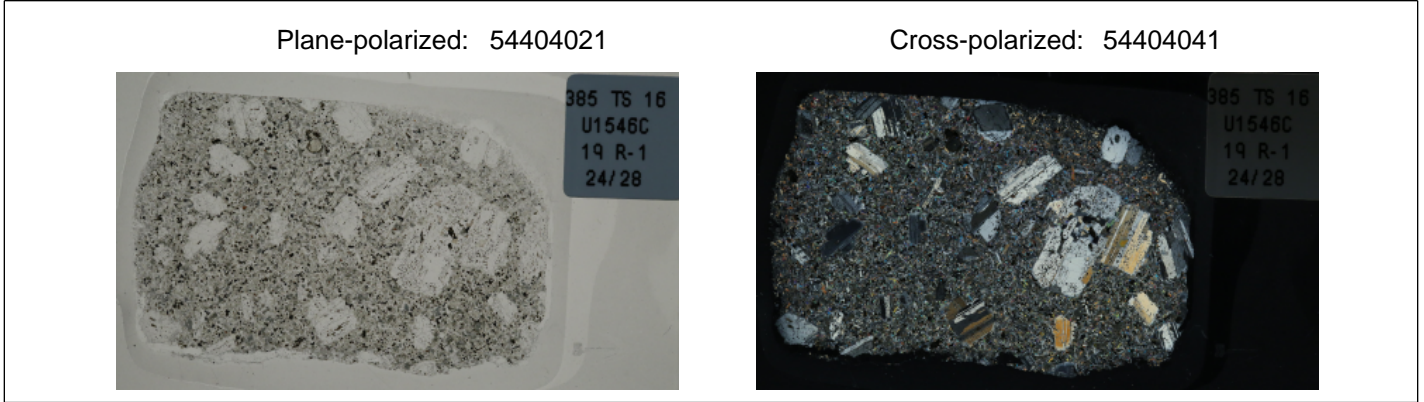
Cross-polarized: 54311491



Alteration

Alteration intensity: slightly altered **Texture of Alteration** patchy **Recrystallization extent:** weak [recryst]

THIN SECTION LABEL ID: **385-U1546C-19R-1-W 24/28-TSB_ICP-TS 16** Thin section no.: 16
 Observer: Wei Xie
 Thin section summary: LITHOLOGY: plagioclase phyric dolerite sill GROUNDMASS: fine-grained, felty GRAIN SIZE DISTRIBUTION: Bimodal TEXTURE: porphyritic PHENOCRYSTS: 20% plagioclase, 2% clinopyroxene VESICLES: none ALTERATION: slightly altered VEINS: absent



Igneous Petrology

Lithology: plagioclase clinopyroxene phyric dolerite sill **Groundmass grain size (avg.):** fine-grained [NMJ05]

Texture: porphyritic **Grain size distribution:** Bimodal

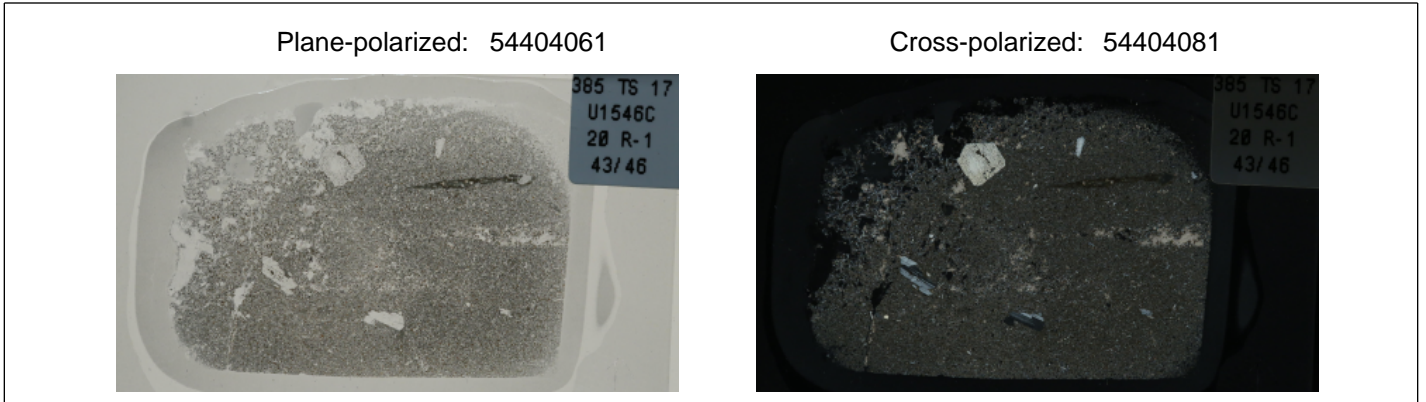
Phenocrysts	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	20	20	0	2	10	euhedral	equant	
Clinopyroxene	2	0	2	1	2	euhedral	equant	

Groundmass	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	40	35	5	0.2	1	euhedral	elongate	
Clinopyroxene	35	20	15	0.1	0.5	subhedral	elongate	
Fe-Ti oxide	5	5		0.1	0.3	subhedral	equant	

Alteration

Alteration intensity: slightly altered **Texture of Alteration:** patchy **Recrystallization extent:** weak [recryst]

THIN SECTION LABEL ID: **385-U1546C-20R-1-W 43/46-TSB_ICP-TS 17** Thin section no.: 17
 Observer: Wei Xie
 Thin section summary: LITHOLOGY: plagioclase phyric dolerite sill GROUNDMASS: fine-grained, felty GRAIN SIZE DISTRIBUTION: Bimodal TEXTURE: porphyritic PHENOCRYSTS: 2% plagioclase VESICLES: sparsely vesicular ALTERATION: highly altered VEINS: absent



Igneous Petrology

Lithology: plagioclase phyric basalt sill **Groundmass grain size (avg.):** fine-grained [NMJ05]
Texture: porphyritic **Grain size distribution:** Bimodal

Phenocrysts	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	2	2	0	2	6	euhedral	elongate	

Groundmass	Original (%)	Present (%)	Replaced (%)	Size min. (mm)	Size max. (mm)	Shape	Habit	Comments
Plagioclase	50	40	10	0.1	0.5	euhedral	elongate	
Clinopyroxene	40	15	25	0.1	0.2	subhedral	elongate	

Vesicle	Original (%)	Empty (%)	Filled (%)	Size min. (mm)	Size max. (mm)	Shape	Density	Comments
						subangular		

Alteration

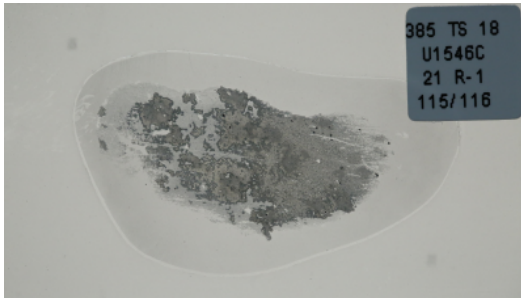
Alteration intensity: highly altered **Texture of Alteration** patchy **Recrystallization extent:** strong [recryst]

THIN SECTION LABEL ID: **385-U1546C-21R-1-W 115/116-TSB-TS 18**

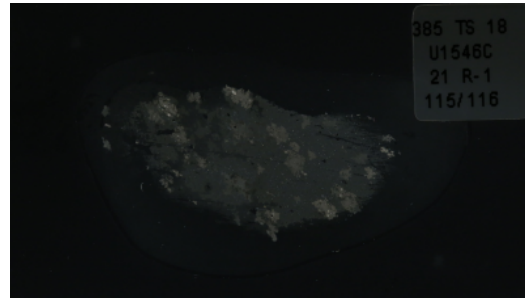
Thin section no.: 18

Observer: km

Plane-polarized: 54412661



Cross-polarized: 54412681



Sediments and Sedimentary Rock

Lithology: ash(tuff)

TEXTURE	Percent	CONSTITUENT	Percent
Sand		Siliciclastic Grains/Mineral	49
Silt		Authigenic Minerals	1
Clay		Biogenic Grains	
Total Texture		Total Constituent	100

Framework grain abundance

Component	%	Component	%	Component	%
Quartz		Ferromagnesium minerals		Vitric Grains	50
Feldspar		Opaque Minerals		Foraminifera	
Plagioclase		Zeolite	1	Radiolarians	
Rock Fragments		Pyrite		Diatoms	
Igneous Volcanic Fragments		Quartz (Authigenic)		Organic Debris	
Sedimentary Fragments		Calcite		Plant Debris	
Matrix (Silt and Clay)	49	Dolomite		Fish Remains	
Biotite		Porosity		Other	
Clay Minerals					

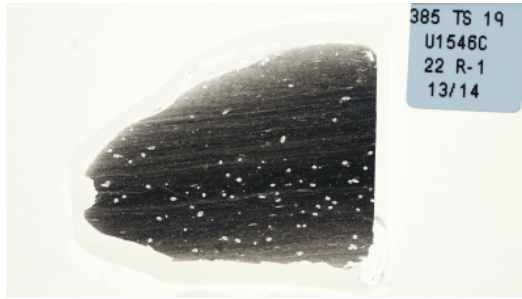
THIN SECTION LABEL ID: **385-U1546C-22R-1-W 13/14-TSB-TS 19**

Thin section no.: 19

Observer: km

Plane-polarized: 54404101

Cross-polarized: 54404121



Sediments and Sedimentary Rock

Lithology: siliceous claystone

TEXTURE	Percent	CONSTITUENT	Percent
Sand		Siliciclastic Grains/Mineral	59
Silt		Authigenic Minerals	30
Clay		Biogenic Grains	11
Total Texture		Total Constituent	100

Framework grain abundance

Component	%	Component	%	Component	%
Quartz	3	Ferromagnesium minerals		Vitric Grains	
Feldspar	2	Opaque Minerals		Foraminifera	10
Plagioclase		Zeolite		Radiolarians	
Rock Fragments		Pyrite		Diatoms	
Igneous Volcanic Fragments		Quartz (Authigenic)	30	Organic Debris	
Sedimentary Fragments		Calcite		Plant Debris	
Matrix (Silt and Clay)	54	Dolomite		Fish Remains	1
Biotite		Porosity		Other	
Clay Minerals					