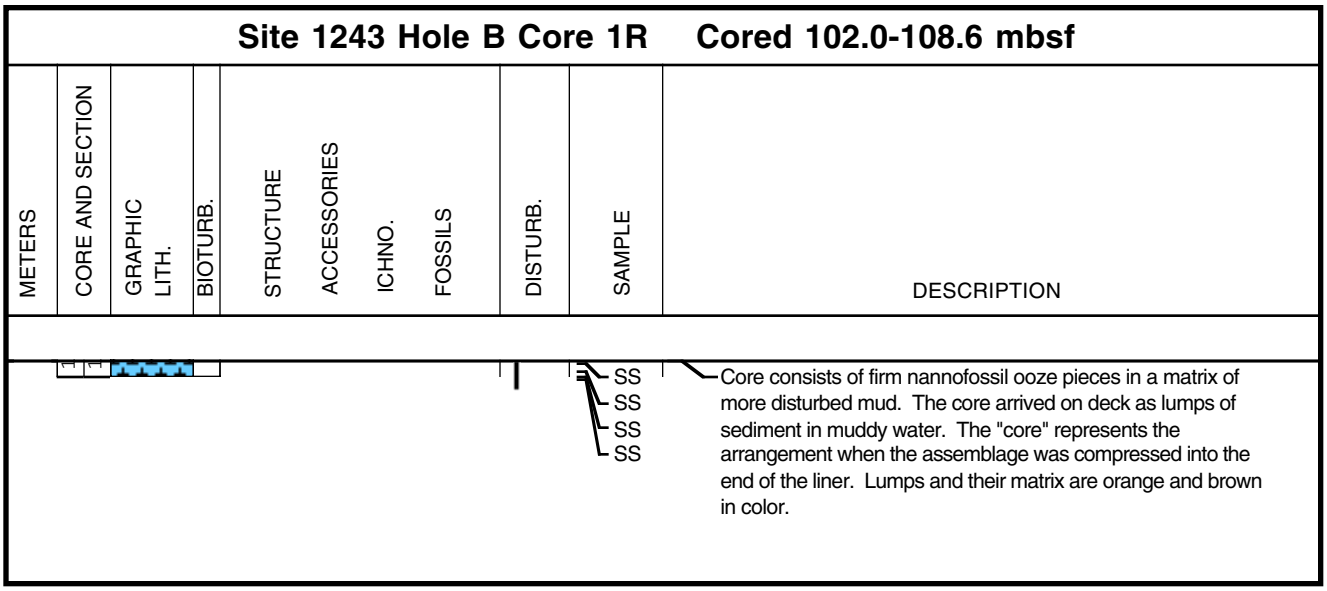
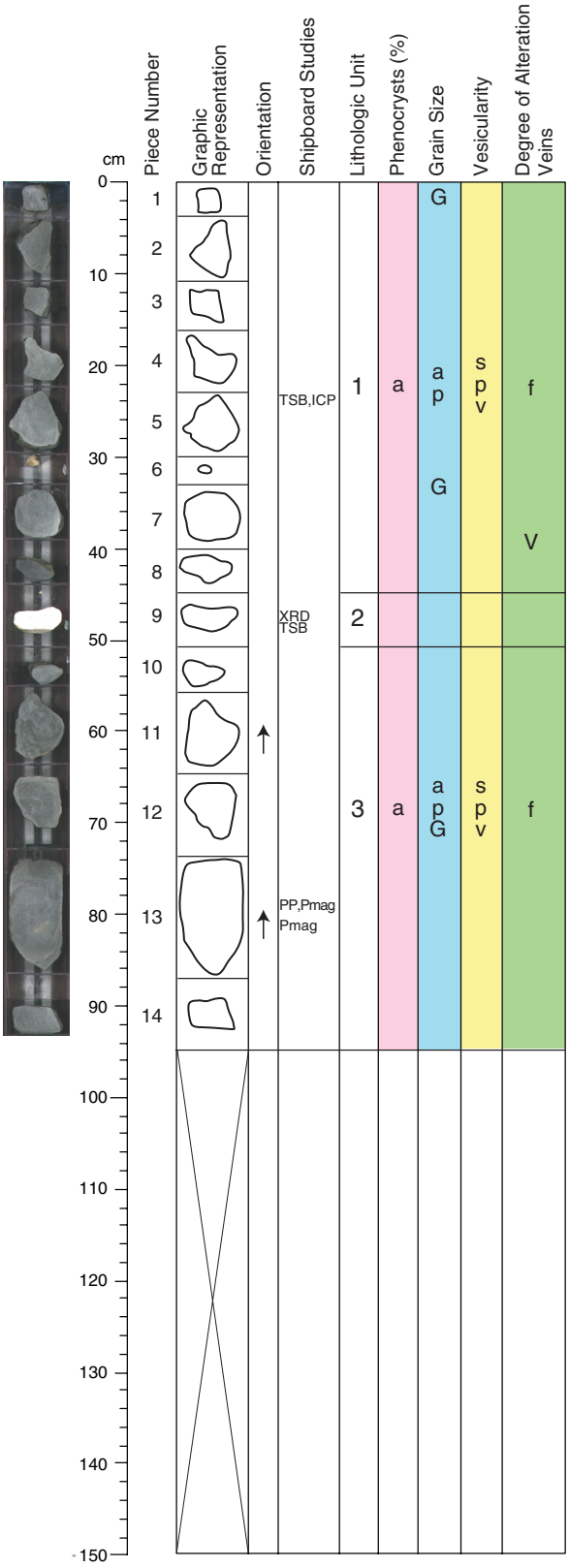
Core Photo

1243 Hole A No Recovery



Core Photo



203-1243B-2R-1 (Section top: 108.6 mbsf)

UNIT 1: Aphyric Basalt

Pieces: 1-8

CONTACTS: The contact between Units 1 and 2 is inferred to be between Pieces 8 and 9.

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, holocrystalline. No apparent changes in groundmass. The groundmass consist of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or zeolite.

COLOR: Medium light gray (N6)

STRUCTURE: Sequence of pillow basalts. Glass is present in Pieces 1 and 5.

ALTERATION: Mostly unaltered basalts with some vesicles filled with Ca-carbonate and light brown (5YR 5/6) halos around vesicles. The groundmass is slightly altered to a light brown (5YR 5/6) secondary mineral.

VEINS/FRACTURES: Single vein found in Piece 7. Filled with greenish secondary mineral (clays?).

UNIT 2: Limestone

Pieces: 9

CONTACTS: The contact between Units 1 and 2 is inferred to be between Pieces 8 and 9. The contact between Units 2 and 3 is between Pieces 9 and 10.

COMPOSITION: Palagonite- and peloid-bearing foraminiferal limestone with manganese oxide sporadically distributed throughout the rock.

TEXTURE: Sparse foraminiferal pelbiomicrite, formerly wackestone.

COLOR: White (N9) with Black (N1) minerals up to 5 mm across.

ADDITIONAL COMMENTS For further description, see "SEDIMENTOLOGY" in the "Site 1243" chapter.

UNIT 3: Aphyric Basalt

Pieces: 10-14

CONTACTS: The contact between Units 2 and 3 is inferred to be between Pieces 9 and 10.

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consist of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide and/or zeolite.

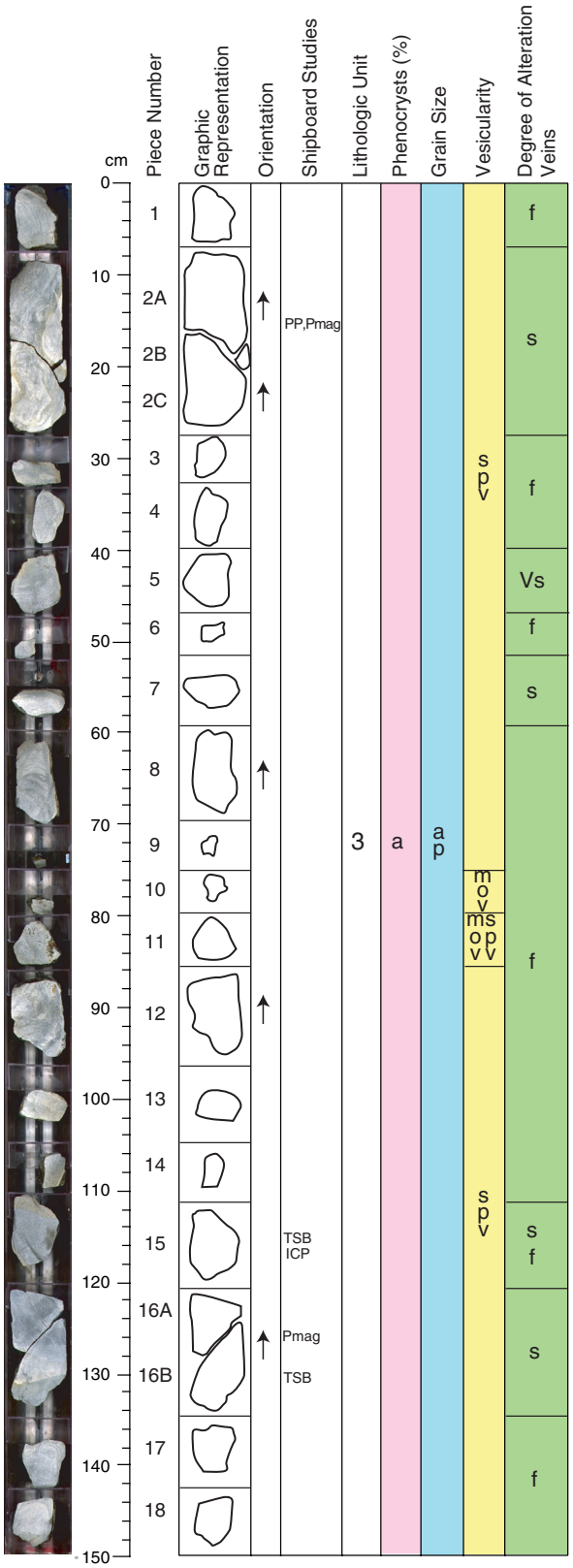
COLOR: Medium light gray (N6).

STRUCTURE: Sequence of pillow basalts. Glass is present in Piece 13.

ALTERATION: Mostly unaltered basalts with some vesicles filled with Ca-carbonate and orange/reddish halos around vesicles.

VEINS/FRACTURES: None

Core Photo



203-1243B-3R-1 (Section top: 113.2 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-18

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide and/or clay minerals. Piece 10 is moderately vesicular with larger vesicles (up to 2 mm in diameter). Piece 11 is moderately vesicular at the top and sparsely vesicular at the bottom.

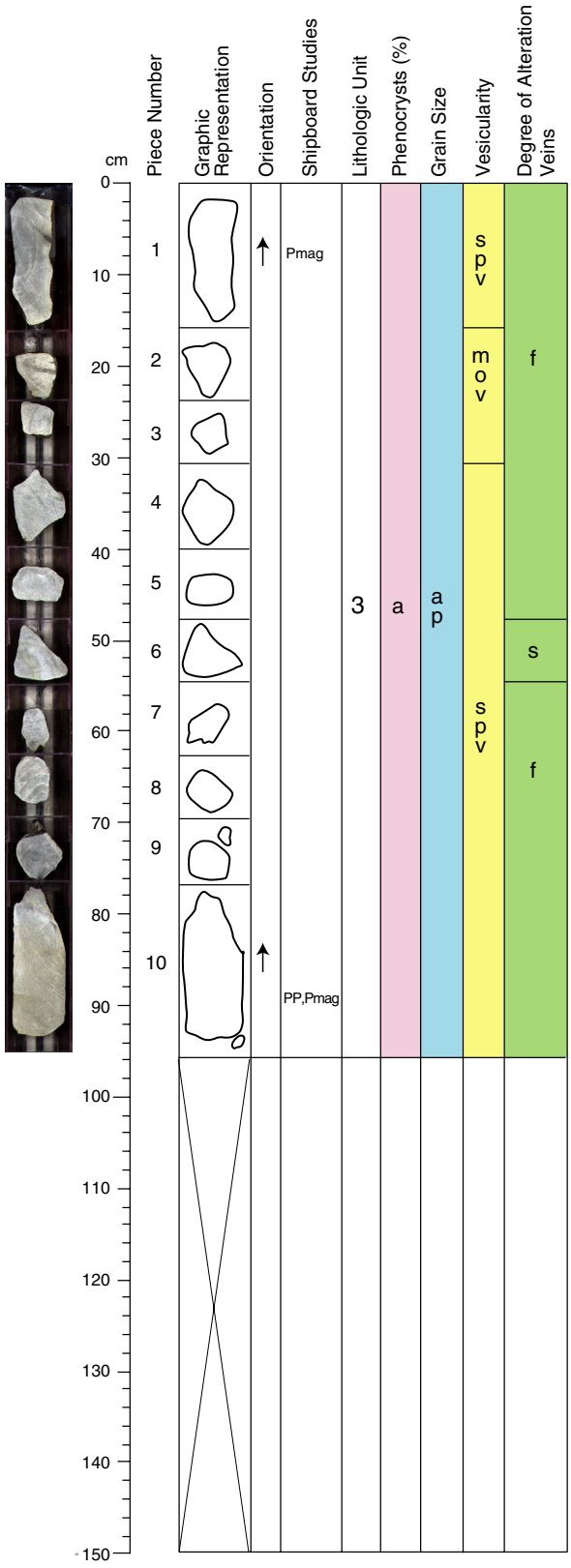
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Mostly unaltered basalts with some vesicles filled by Ca-carbonate and/or lined by light brown (5YR 5/6) to moderate reddish brown (10R 4/6) halos (Fe-oxyhydroxide and/or clay minerals). Pieces 2, 5, 7, and 16A and B are slightly altered. Pieces 2 and 16 have light brown to moderate reddish brown (10R 4/6) alteration halos. Piece 15 is slightly altered at the top with most vesicles lined by moderate reddish brown (10R 4/6) halos.

VEINS/FRACTURES: Piece 5 has a single small vein filled by Ca-carbonate

Core Photo



203-1243B-3R-2 (Section top: 114.7 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-10

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide. Pieces 2 and 3 are moderately vesicular.

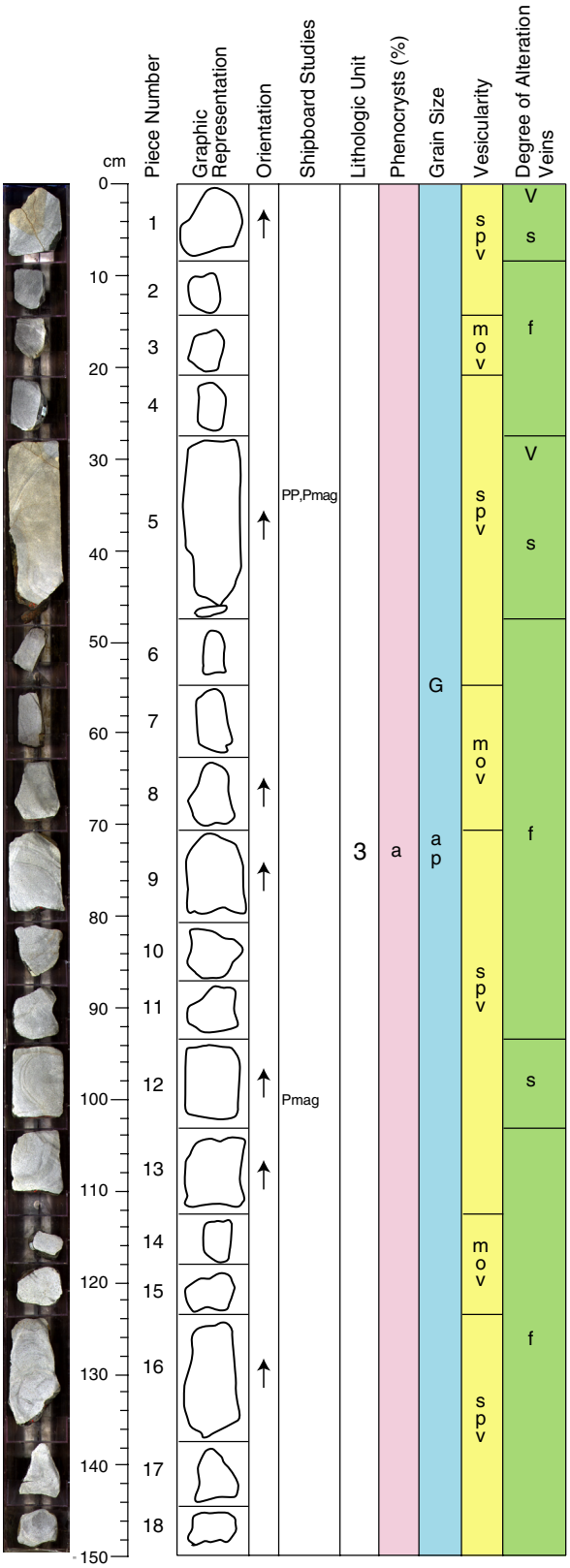
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Mostly unaltered basalts with some vesicles filled by Ca-carbonate and/or lined by light brown (5YR 5/6) to moderate reddish brown (10R 4/6) halos (Fe-oxyhydroxide and/or clay minerals). Piece 6 is slightly altered with a moderate reddish brown (10R 4/6) alteration halo.

VEINS/FRACTURES: None

Core Photo



203-1243B-4R-1 (Section top: 118.2 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-18

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Mostly sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide. Pieces 3, 7, 8, 14 and 15 are moderately vesicular.

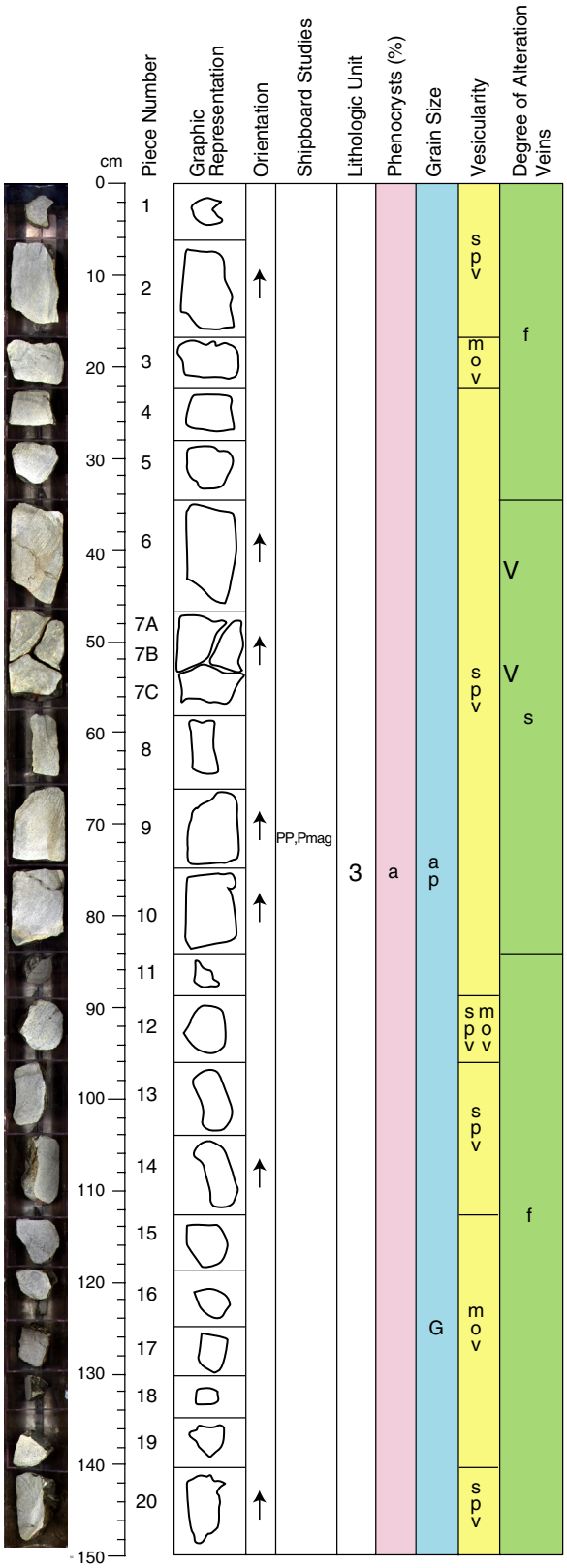
COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Mostly unaltered basalts. Pieces 1, 5, and 12 are slightly altered. Vesicles are lined by light brown (5YR 5/6) to moderate brown (5YR 4/4) secondary minerals.

VEINS/FRACTURES: Pieces 1 and 5 have veins filled with moderate brown (5YR 4/4) secondary minerals (Fe-oxyhydroxide).

Core Photo



203-1243B-4R-2 (Section top: 119.7 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-20

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Mostly sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide. Pieces 3 and 15 to 19 are moderately vesicular. Piece 12 is slightly to moderately vesicular

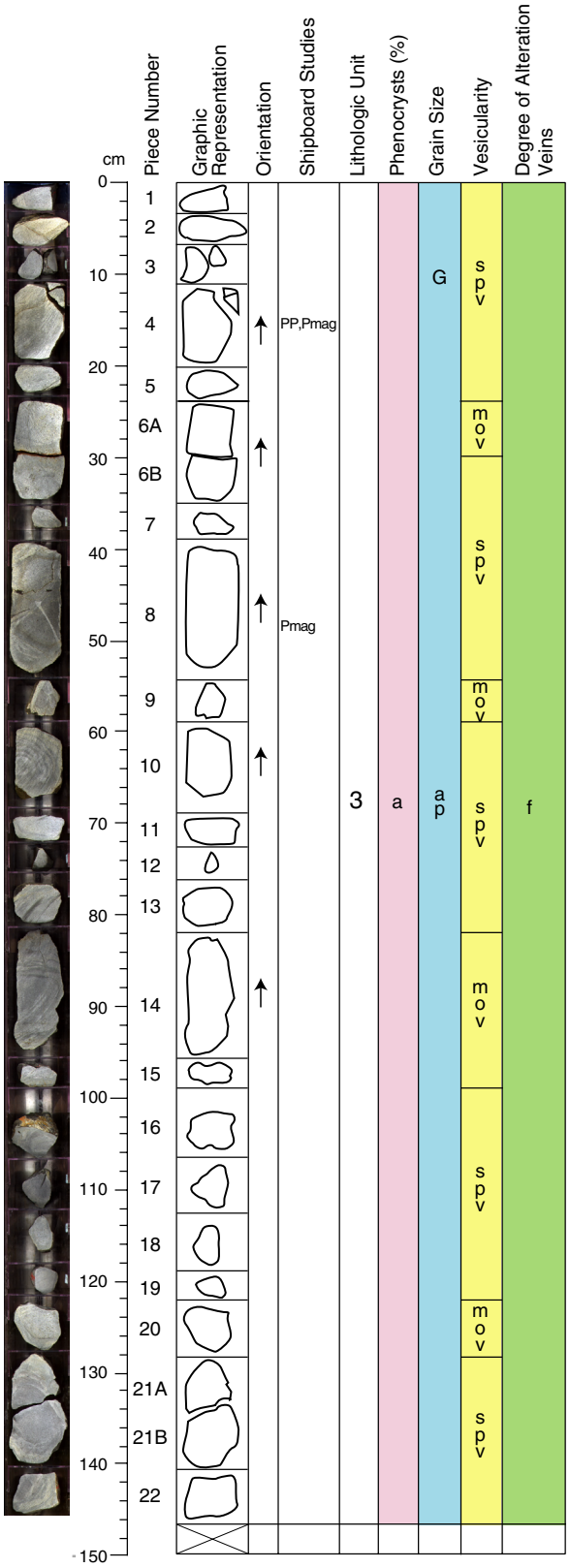
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Mostly unaltered basalts. Pieces 6, 7A to 7C, 9, and 10 are slightly altered. Vesicles are lined by light brown (5YR 5/6) to moderate brown (5YR 4/4) secondary minerals.

VEINS/FRACTURES: Pieces 6 and 7A have veins filled with moderate brown (5YR 4/4) secondary minerals (Fe-oxyhydroxide).

Core Photo



203-1243B-5R-1 (Section top: 122.7 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-22

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely to moderately vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

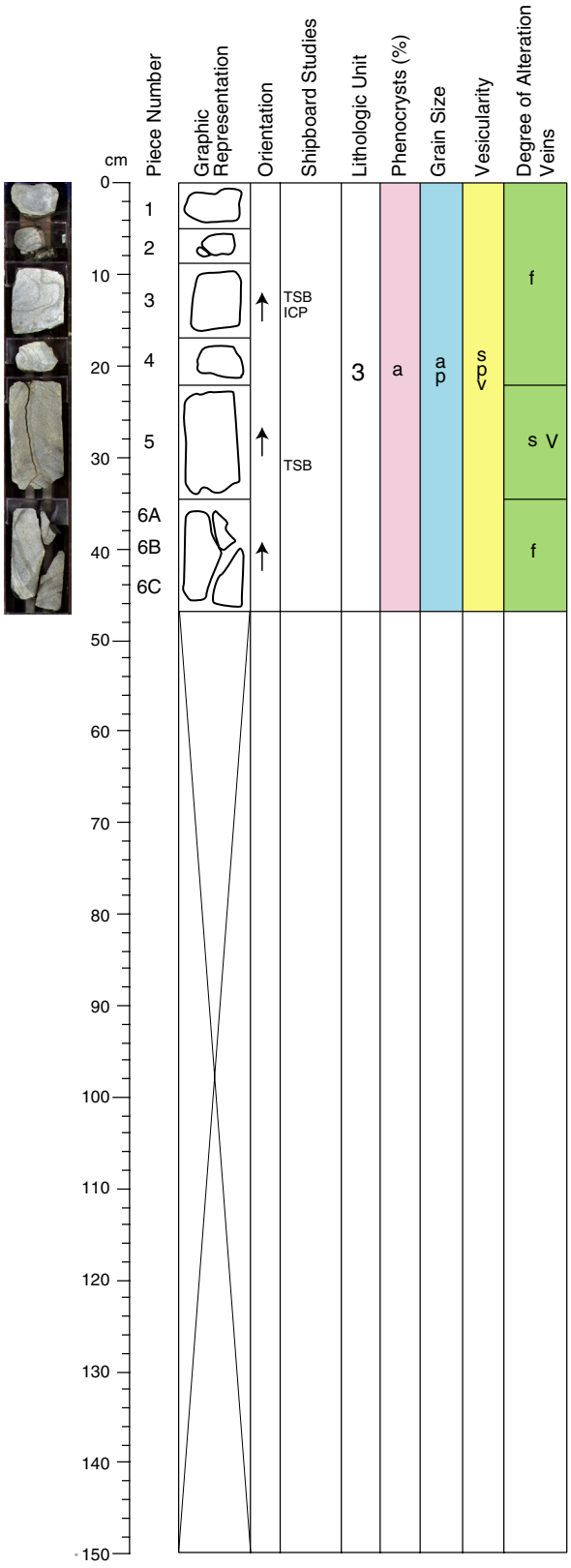
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered to slightly altered. Diffuse light brown (5YR 5/6) alteration halos (Fe-oxyhydroxide). Pieces 2, 4 and 8 have veins filled with moderate brown (5YR 4/4) secondary minerals. Vesicles are lined and/or filled with Ca-carbonate.

VEINS/FRACTURES: Sparsely veined. Veins are thin and randomly oriented. They are filled with moderate brown (5YR 4/4) to light brown (5YR 5/6) secondary minerals.

Core Photo



203-1243B-5R-2 (Section top: 124.17 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-6C

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

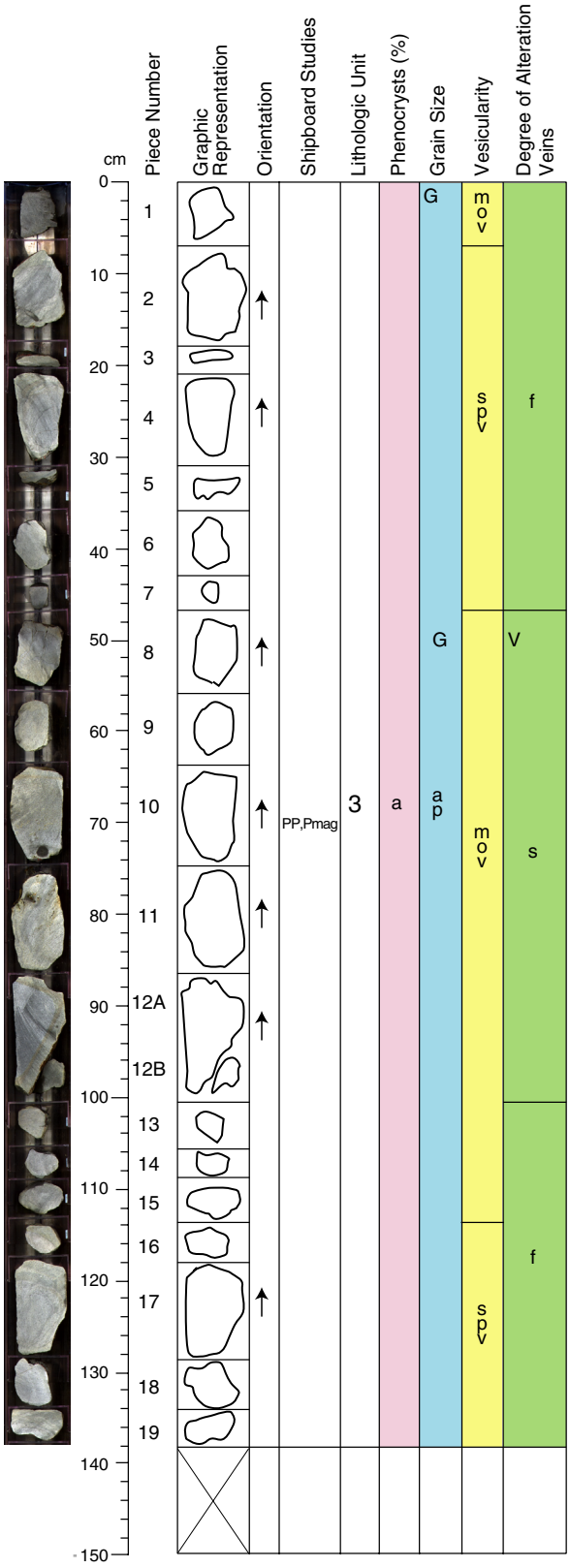
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Mostly unaltered basalts. Pieces 5 is slightly altered.

VEINS/FRACTURES: Piece 5 has a single 2 mm thick vein filled with light brown (5YR 5/6) to moderate yellowish brown (10YR 5/4) Fe-oxyhydroxide and greenish black (5G 2/1) material. Piece 6 contains 2 fractures.

Core Photo



203-1243B-6R-1 (Section top: 127.7 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-19

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Moderately to sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide. Piece 11 contains larger vesicles, up to 2mm, filled with zeolite.

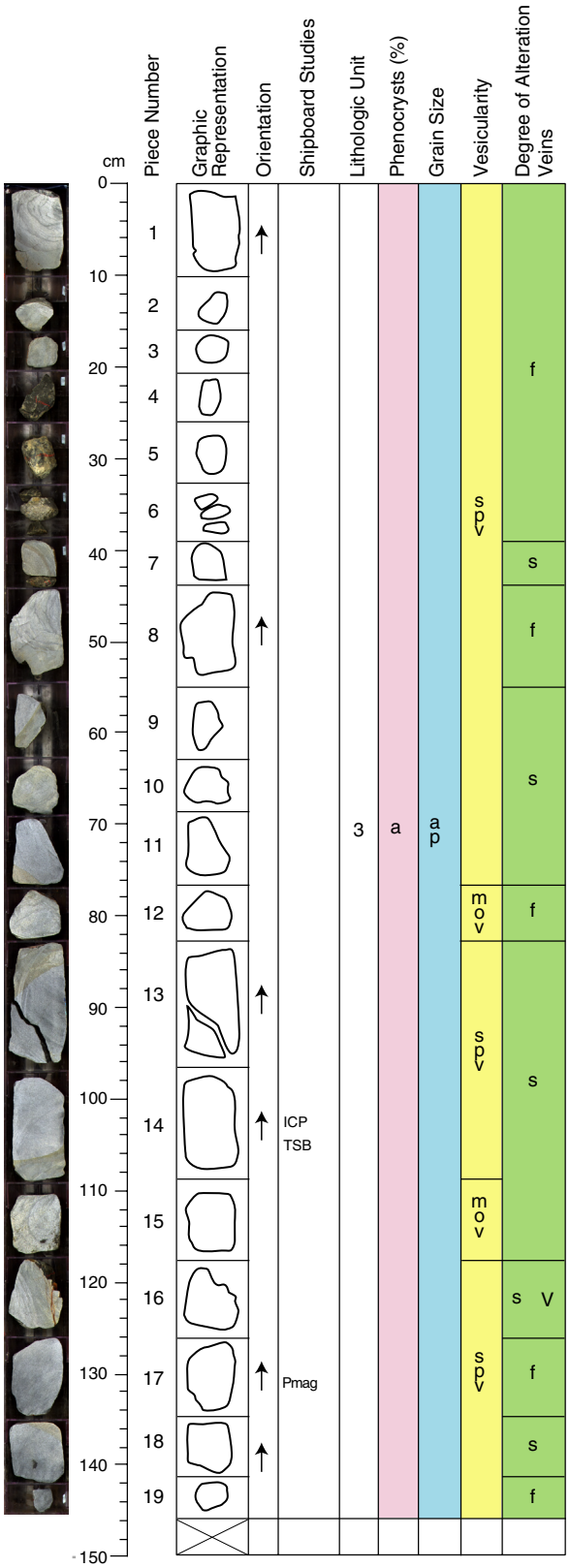
COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered and slightly altered basalts. Some alteration halos of light brown (5YR 5/6) Fe-oxyhydroxide are present.

VEINS/FRACTURES: Piece 8 contains several fractures and a vein partially filled with dark yellowish orange (10YR 6/6) secondary material.

Core Photo



203-1243B-6R-2 (Section top: 129.08 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-19

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Moderately to sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide. Pieces 12 and 15 are moderately vesicular with larger vesicles up to 1 mm in diameter.

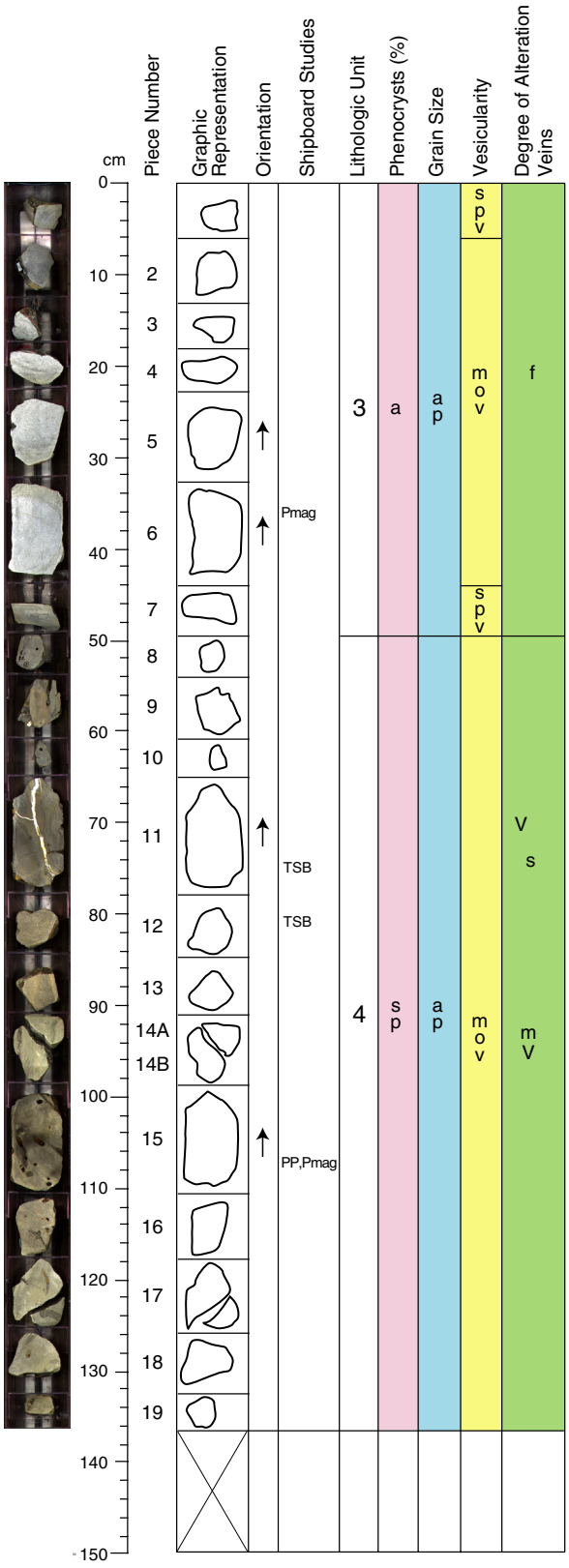
COLOR: Light gray (N7) to Medium light gray (N6).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered and slightly altered basalts.

VEINS/FRACTURES: Piece 16 contains a 2-3 mm thick vein filled with red brown Fe-oxyhydroxide.

Core Photo



203-1243B-7R-1 (Section top: 137.40 mbsf)

UNIT 3: Aphyric Basalt

Pieces: 1-7

CONTACTS: The contact between Units 3 and 4 is inferred to be between Pieces 7 and 8.

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely to moderately vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered basalts.

VEINS/FRACTURES: None

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 8-19

CONTACTS: The contact between Units 3 and 4 is inferred to be between Pieces 7 and 8.

PHENOCRYSTS:

Plagioclase -	1%	<2 mm
Olivine -	1%	≤1 mm

GROUNDMASS: Aphanitic, hypocrystalline. No apparent changes in groundmass. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate, Fe-oxyhydroxide, clay minerals and/or zeolite. Pieces 8 to 10 and 15 to 16 have larger equant to elongated vesicles.

COLOR: Light gray (N7) to Medium gray (N5).

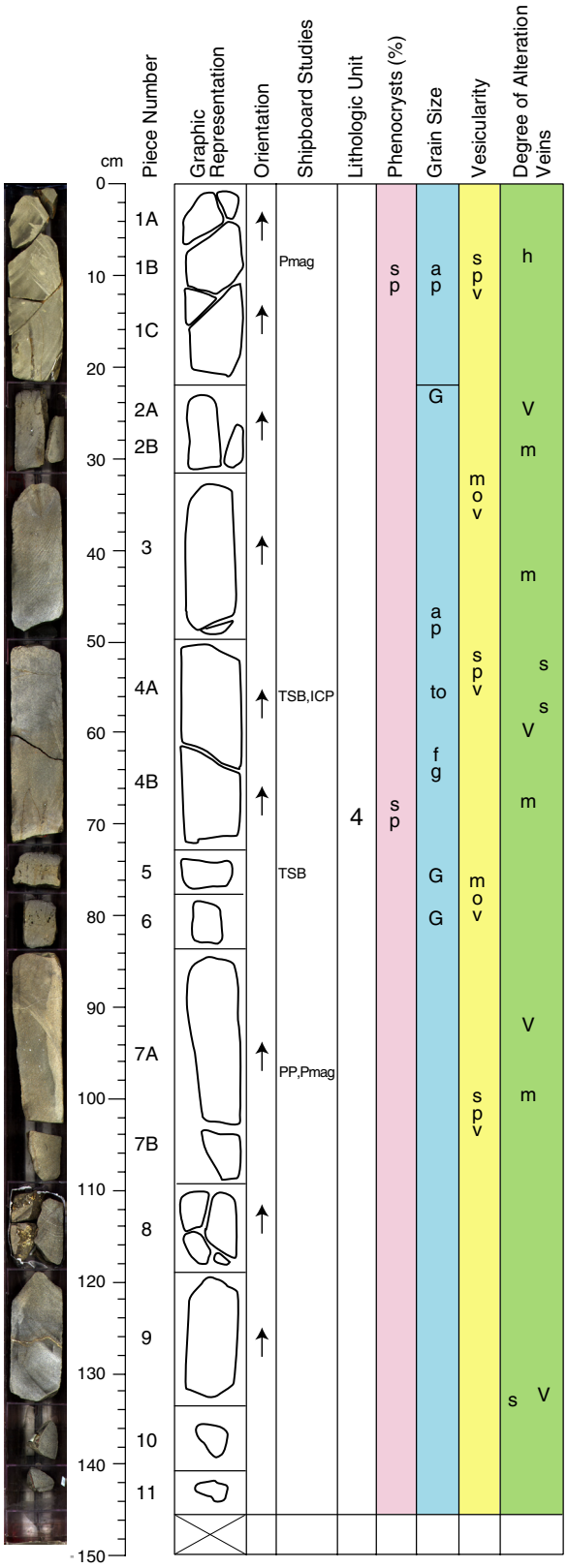
STRUCTURE: Sequence of pillow basalts.

ALTERATION: Moderately to slightly altered basalt. The groundmass is replaced by moderate yellow (5YR 7/6) or light brown (5YR 5/6) to dark yellowish orange (10YR 6/6) Fe oxyhydroxide.

VEINS/FRACTURES: Piece 11 contains a Ca-carbonate vein up to 4-5 mm thick. Pale yellowish orange (10YR 8/6) to dark yellowish orange (10YR 6/6) Fe-oxyhydroxide is also present in the vein. Piece 14B contains a 1mm thick Ca-carbonate vein.

ADDITIONAL COMMENTS Pieces 9, 14A, and 15 to 17 contain vesicle-like structures filled with medium dark gray (N4) highly vesicular basaltic material.

Core Photo



203-1243B-7R-2 (Section top: 138.77 mbsf)

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1A-11

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	1%-2%	<2 mm
Olivine -	1%	≤1 mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals. Pieces 2A, 5 and 6 display evident textural gradation from a glassy rim with plagioclase microphenocrysts to a sparsely phyric vesicular and fine grained interior (vesicles up to 2 mm in diameter).

VESICLES: Sparsely to moderately vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate, Fe-oxyhydroxide, clay minerals and/or zeolite.

COLOR: Medium light gray (N6) to Medium gray (N5). Some pieces show a pale yellowish brown (10YR 6/2) coloration. Pieces 1A to1C display a light olive gray (5Y 5/2) coloration.

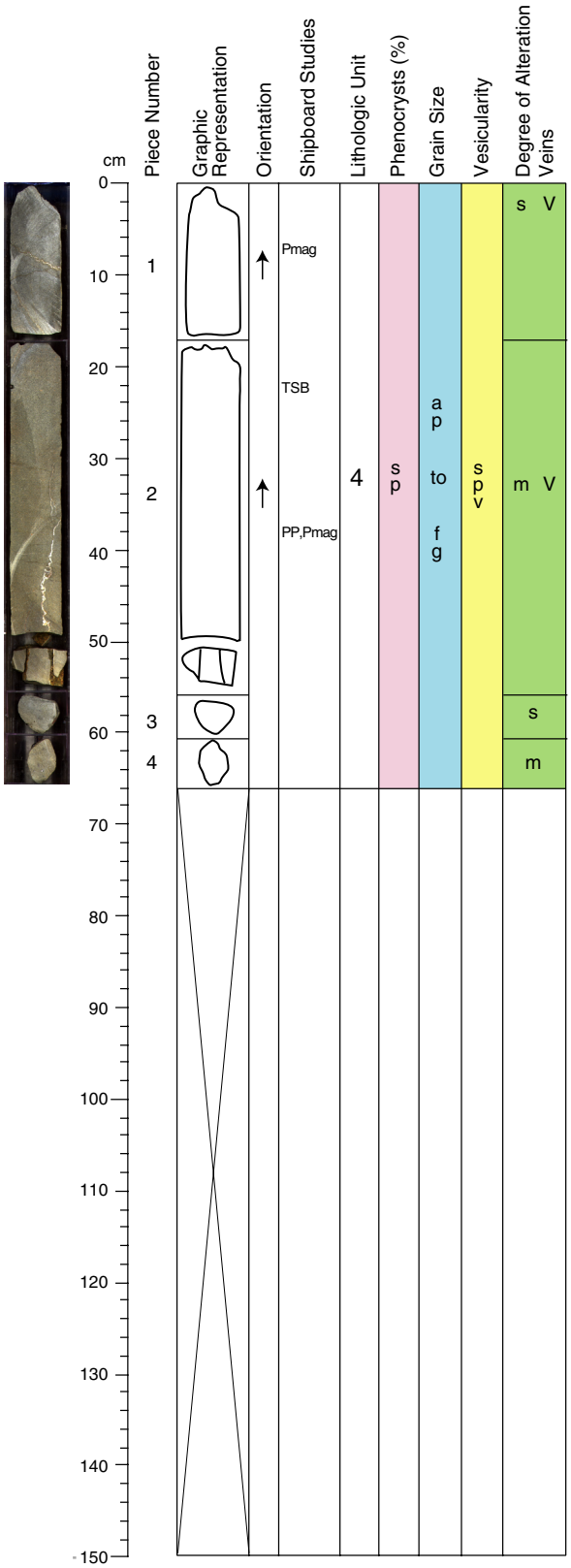
STRUCTURE: Sequence of pillow basalts.

ALTERATION: Moderately to slightly altered basalt. The groundmass is replaced by pale yellowish orange (10YR 8/6) to dark yellowish orange (10YR 6/6) Fe-oxyhydroxide and/or Ca-carbonate.

VEINS/FRACTURES: Piece 9 contains a Ca-carbonate vein up to 2 mm thick. Pale yellowish orange (10YR 8/6) to dark yellowish orange (10YR 6/6) Fe-oxyhydroxide is also present in the vein.

ADDITIONAL COMMENTS Piece 1C contains a vesicle-like structure filled with medium dark gray (N4) highly vesicular basaltic material.

Core Photo



203-1243B-7R-3 (Section top: 140.22 mbsf)

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-4

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	7%	<1 mm
Olivine -	1%	<1 mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

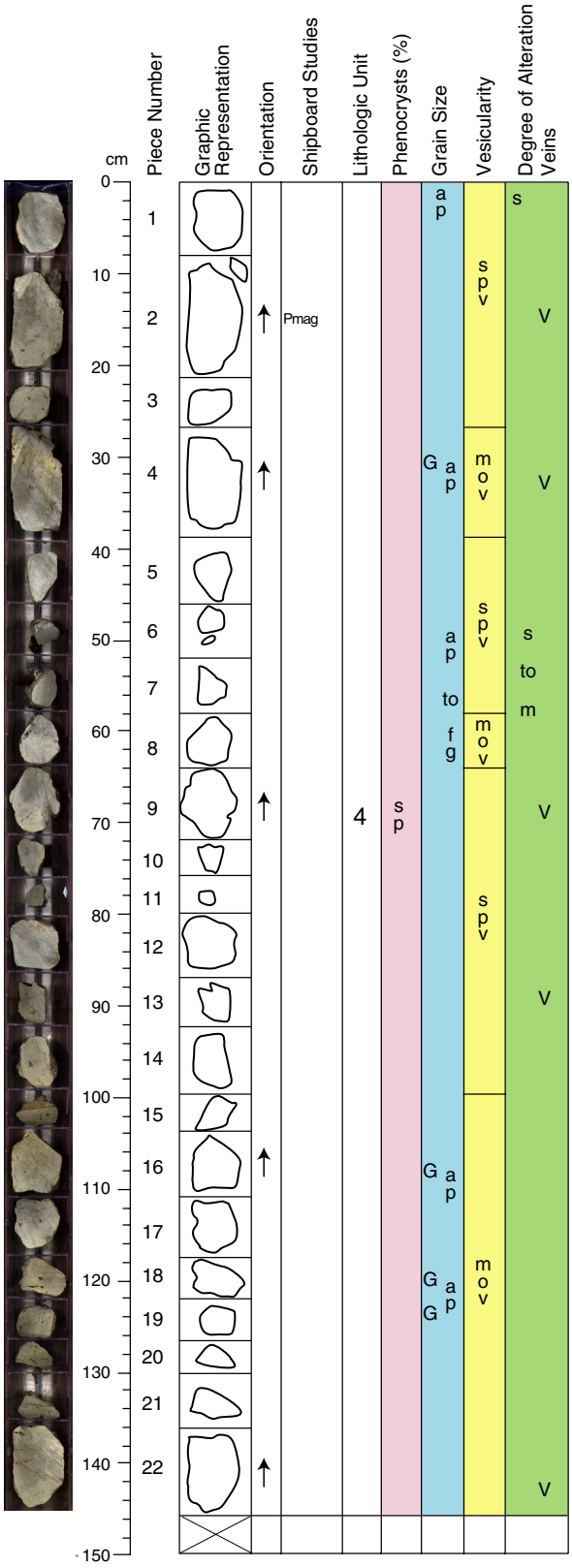
COLOR: Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly to moderately altered. The groundmass is replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide). Plagioclase phenocrysts are slightly altered.

VEINS/FRACTURES: Pieces 1 and 2 contain Ca-carbonate veins up to 3 mm thick. Some veins are surrounded by light brown (5YR 5,6) Fe-oxyhydroxide halos.

Core Photo



203-1243B-8R-1 (Section top: 142.0 mbsf)

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-22

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	1%-2%	<1 mm
Olivine -	1%	<1 mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals. Pieces 4 and 18-20 display evident textural gradation from a glassy rim with plagioclase microphenocrysts to a sparsely plagioclase phyric vesicular and fine grained interior (vesicles up to 2 mm in diameter).

VESICLES: Moderately to sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or zeolite and/or Fe-oxyhydroxide. Several pieces (Pieces 4, 8, 18 to 20) have larger vesicles up to 4 mm in diameter.

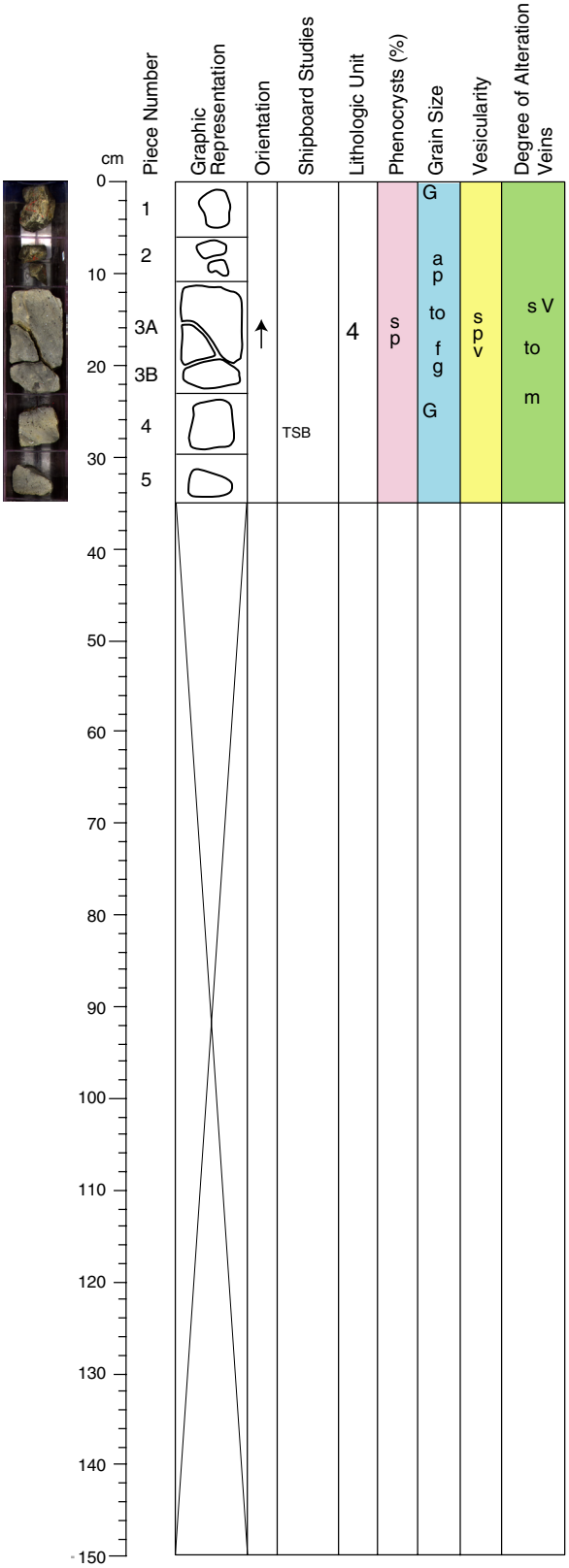
COLOR: Light gray (N7) to Medium gray (N5). Some pieces are slightly colored in pale yellowish brown (10YR 6/2).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly to moderately altered. The groundmass is partially replaced by orange and light brown secondary minerals (Fe-oxyhydroxide). Some plagioclase phenocrysts are partly altered to orange/brown secondary minerals.

VEINS/FRACTURES: Pieces 14 and 16 have several aligned hairline microfractures filled mainly by Fe-oxyhydroxide.

Core Photo



203-1243B-8R-2 (Section top: 143.45 mbsf)

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-5

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	2%-3%	<1 mm
Olivine -	2%	<1 mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals. Pieces 1 and 4 display evident textural gradation from a glassy rim with plagioclase microphenocrysts to a sparsely plagioclase phyric vesicular and fine grained interior (vesicles up to 2 mm in diameter)

VESICLES: Moderately to sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Fe-oxyhydroxide.

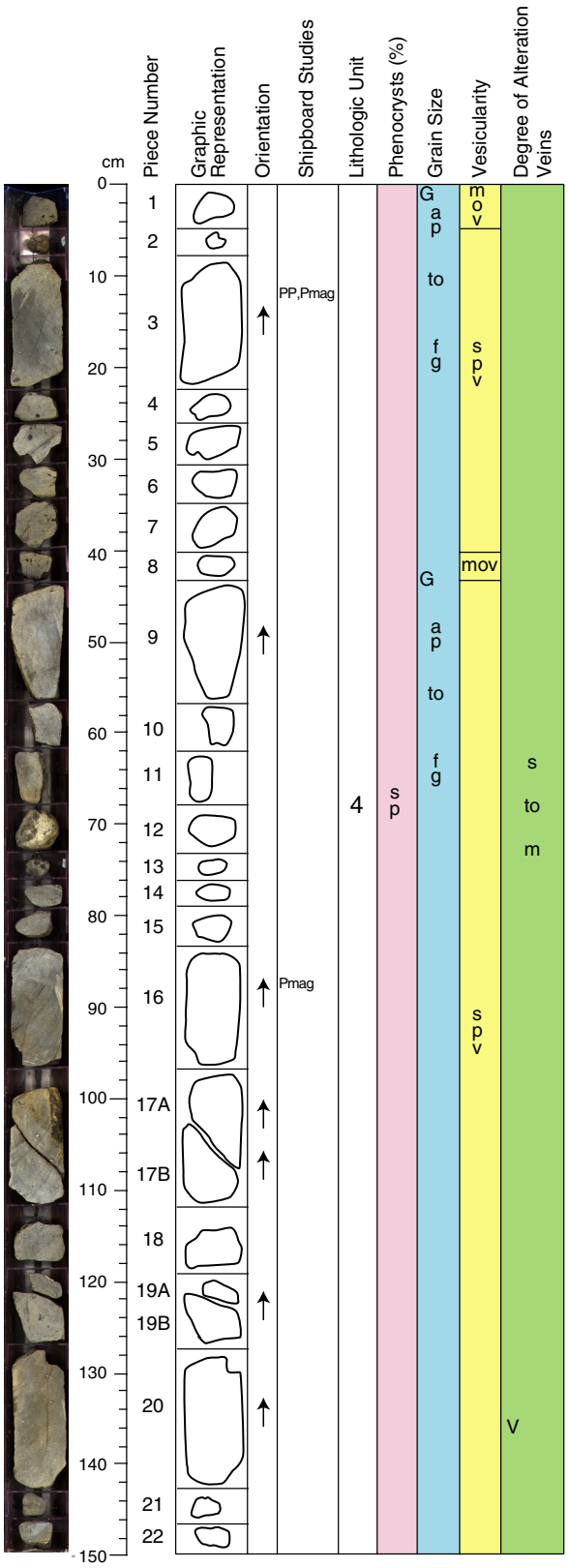
COLOR: Light gray (N7) to Medium gray (N5). Some pieces are slightly colored in pale yellowish brown (10YR 6/2).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly to moderately altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to moderate yellow brown (10YR 5/4) secondary minerals (Fe oxyhydroxide). Some plagioclase phenocrysts are partly altered to orange/brown secondary minerals.

VEINS/FRACTURES: None

Core Photo



203-1243B-9R-1 (Section top: 147.00 mbsf)

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-22

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	3%	<1 mm
Olivine -	1%-2%	<1mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals. Pieces 1 and 8 display evident textural gradation from a glassy rim with plagioclase microphenocrysts to a sparsely plagioclase phyric vesicular and fine grained interior (vesicles up to 2 mm in diameter)

VESICLES: Moderately to sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or zeolite and/or Fe oxyhydroxide.

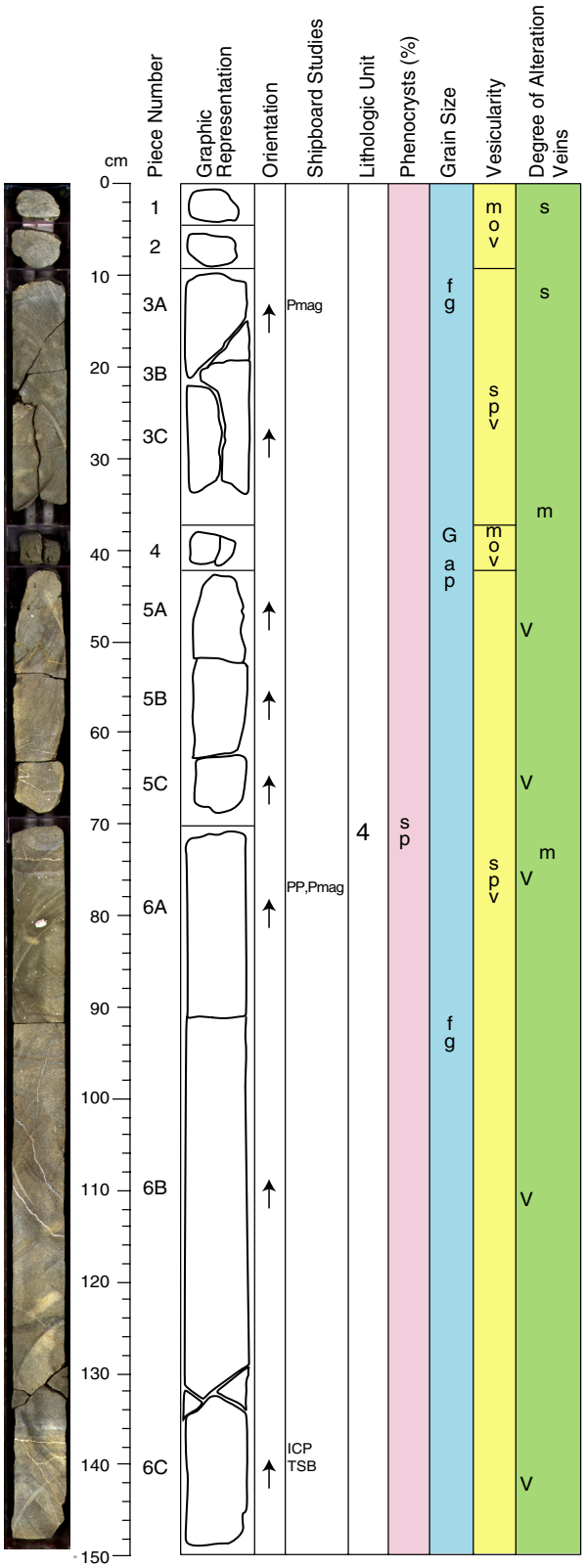
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly to moderately altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to moderate yellow brown (10YR 5/4) secondary minerals (Fe oxyhydroxide). Some plagioclase phenocrysts are partly altered to orange/brown secondary minerals.

VEINS/FRACTURES: Piece 20 has a vein 1 mm in diameter filled by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

Core Photo



203-1243B-9R-2 (Section top: 148.50 mbsf)

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-6C

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	5%	<1 mm
Olivine -	3%	<1 mm

GROUNDMASS: Fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals. Piece 4 displays evident textural gradation from a glassy rim with plagioclase microphenocrysts to a sparsely plagioclase phyric vesicular and fine grained interior (vesicles elongated, up to 6 mm in length).

VESICLES: Moderately to sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide. Piece 6A has a slightly elongated vesicle 13 mm in length filled by Ca-carbonate and Fe oxyhydroxide. Several larger vesicles are randomly distributed and filled by Ca-carbonate and/or zeolite.

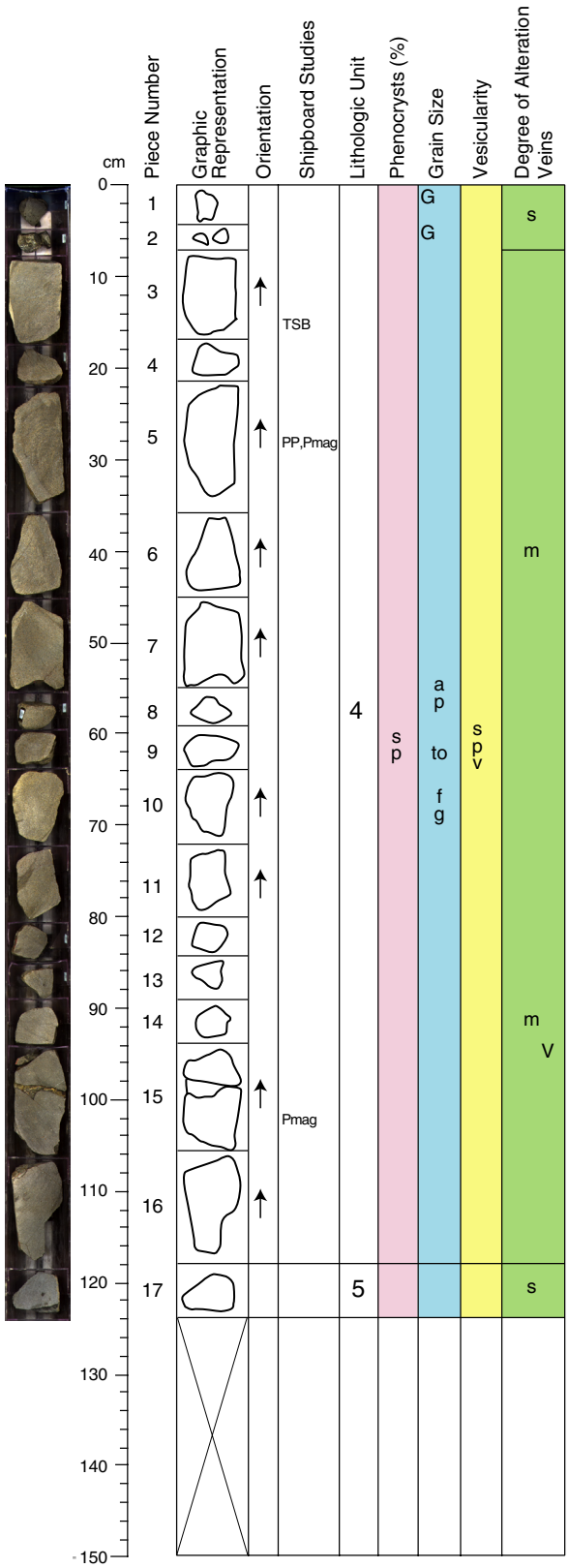
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly to moderately altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to moderate yellow brown (10YR 5/4) secondary minerals (Fe oxyhydroxide). Some plagioclase phenocrysts are partly altered to orange/brown secondary minerals.

VEINS/FRACTURES: Veins are up to 2 mm thick and filled by Ca-carbonate and/or dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) Fe-oxyhydroxide.

Core Photo



203-1243B-10R-1 (Section top: 151.50 mbsf)

UNIT 4: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-16

CONTACTS: The contact between Units 4 and 5 is inferred to be between Pieces 16 and 17.

PHENOCRYSTS:

Plagioclase -	1%	<1 mm
Olivine -	<1%	<1 mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals. Piece 1 displays evident textural gradation from a glassy rim with plagioclase microphenocrysts to a sparsely plagioclase phyric vesicular and fine grained interior (vesicles elongated, up to 2 mm in length).

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Moderately altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide). Some plagioclase phenocrysts are partly altered to orange/brown secondary minerals.

VEINS/FRACTURES: Small veinlets up to 1 mm thick filled by Ca-carbonate and/or dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) Fe-oxyhydroxide are present.

UNIT 5: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 17

CONTACTS: The contact between Units 4 and 5 is inferred to be between Pieces 16 and 17.

PHENOCRYSTS:

Plagioclase -	1%	<1 mm
Olivine -	<1%	<1 mm

GROUNDMASS: Fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

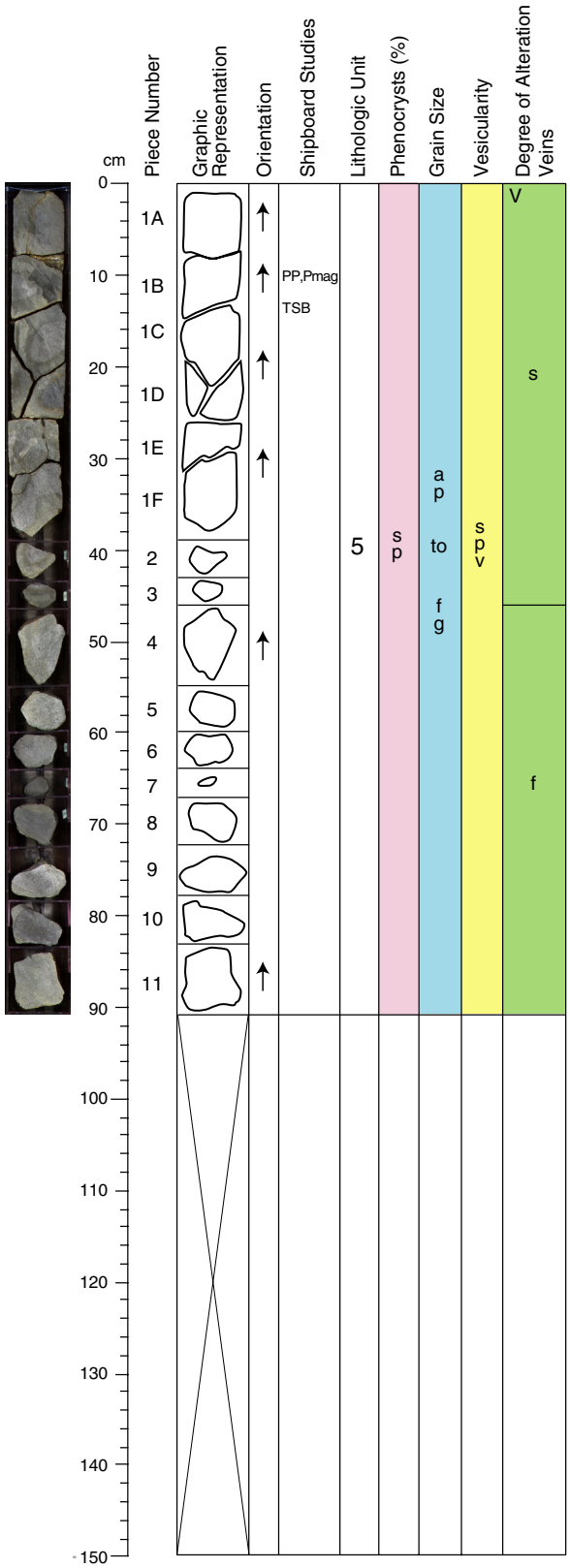
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide). Some plagioclase phenocrysts are partly altered to orange/brown secondary minerals.

VEINS/FRACTURES: None

Core Photo



203-1243B-10R-2 (Section top: 152.74 mbsf)

UNIT 5: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1A-11

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	1%-2%	<1 mm
Olivine -	1%	<1 mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by zeolite and/or Fe-oxyhydroxide.

COLOR: Medium light gray (N6) to Medium dark gray (N4).

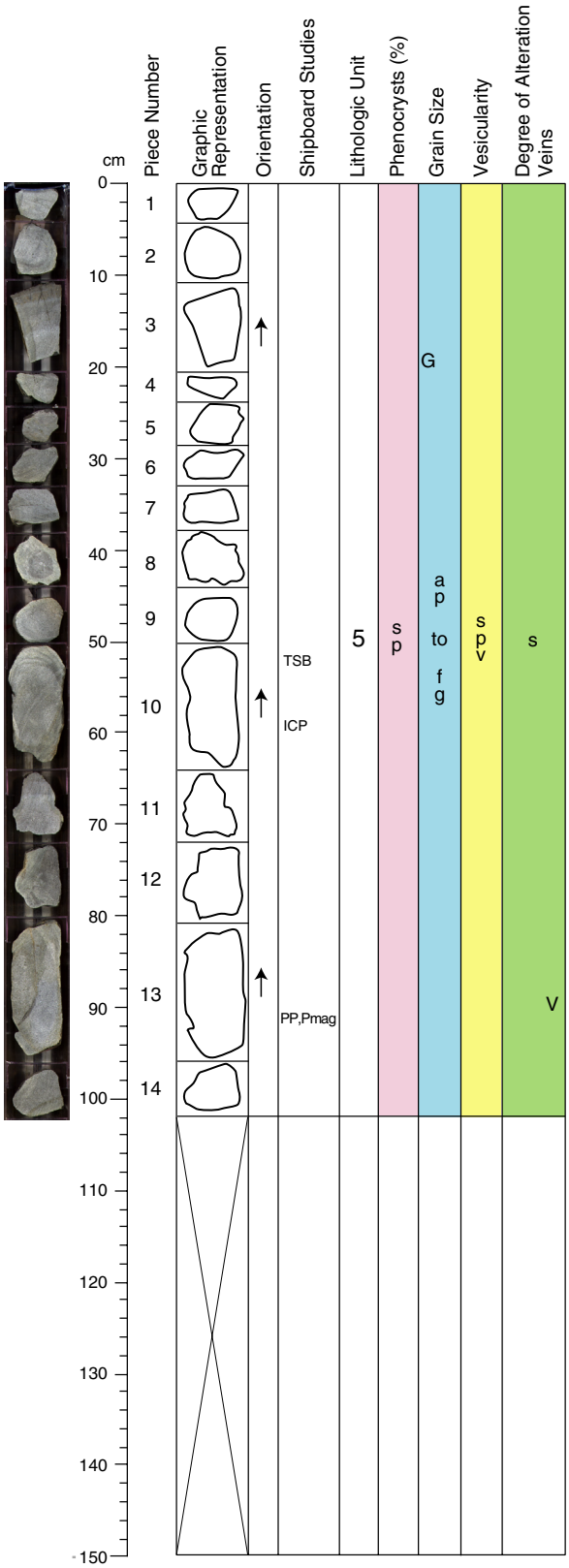
STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered to slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe oxyhydroxide).

VEINS/FRACTURES: Small veinlets up to 1 mm thick filled by Ca-carbonate and/or dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) Fe-oxyhydroxide are present.

ADDITIONAL COMMENTS Limestone similar to that of Core 2R-1, Piece 9 is on the glassy rind of Piece 8. This limestone could represents a remnant of recrystallized interpillow material.

Core Photo



203-1243B-11R-1 (Section top: 156.50 mbsf)

UNIT 5: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-14

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	1%	≤1 mm
Olivine -	1%	<1 mm

GROUNDMASS: Mostly fine-grained, hypocrystalline. Glass is present in Piece 2 and the groundmass is aphanitic next to the glassy margin. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or clay minerals and/or Fe-oxyhydroxide.

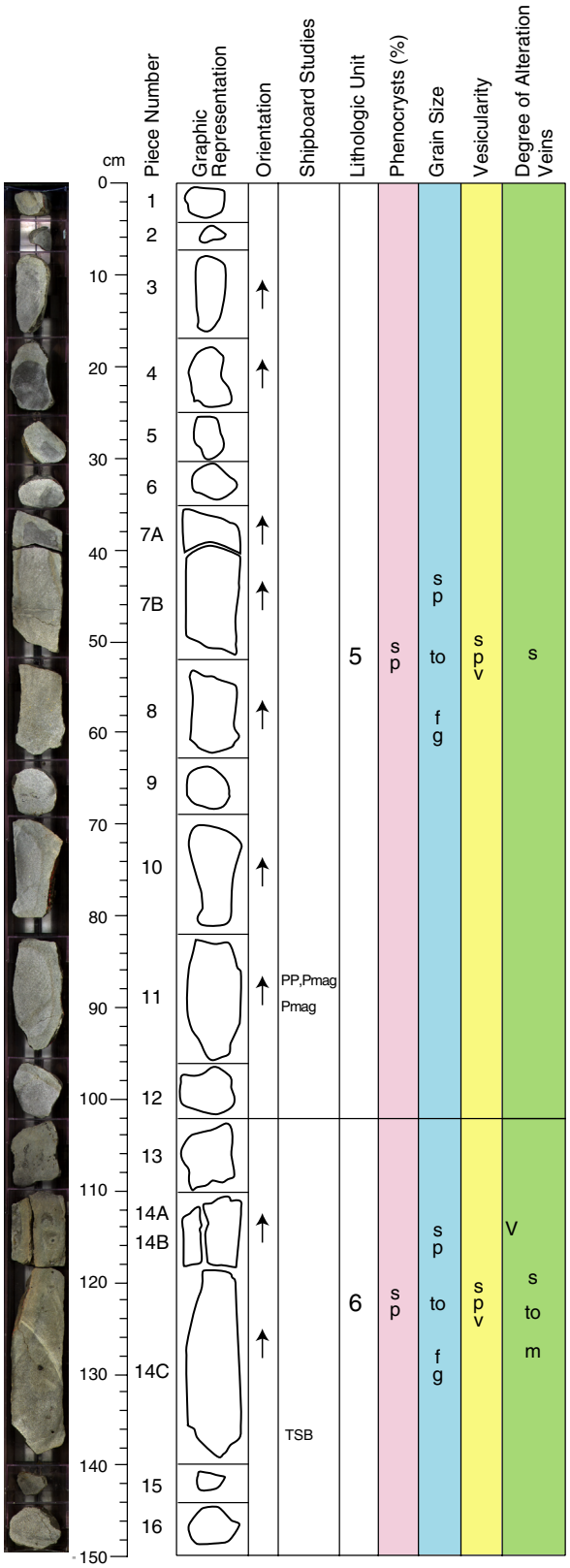
COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: A 1 mm thick vein is present in Piece 13, filled by Ca-carbonate and/or dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) Fe-oxyhydroxide are present. Small fractures present in Pieces 3 and 7.

Core Photo



203-1243B-12R-1 (Section top: 159.60 mbsf)

UNIT 5: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-12

CONTACTS: The contact between Units 5 and 6 is inferred to be between Pieces 12 and 13.

PHENOCRYSTS:

Plagioclase -	2%	<1 mm
Olivine -	1%	<1mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: None

UNIT 6: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 13-16

CONTACTS: The contact between Units 5 and 6 is inferred to be between Pieces 12 and 13.

PHENOCRYSTS:

Plagioclase -	2%	<1 mm
Olivine -	1%	<1mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

COLOR: Light gray (N7) to Medium gray (N5).

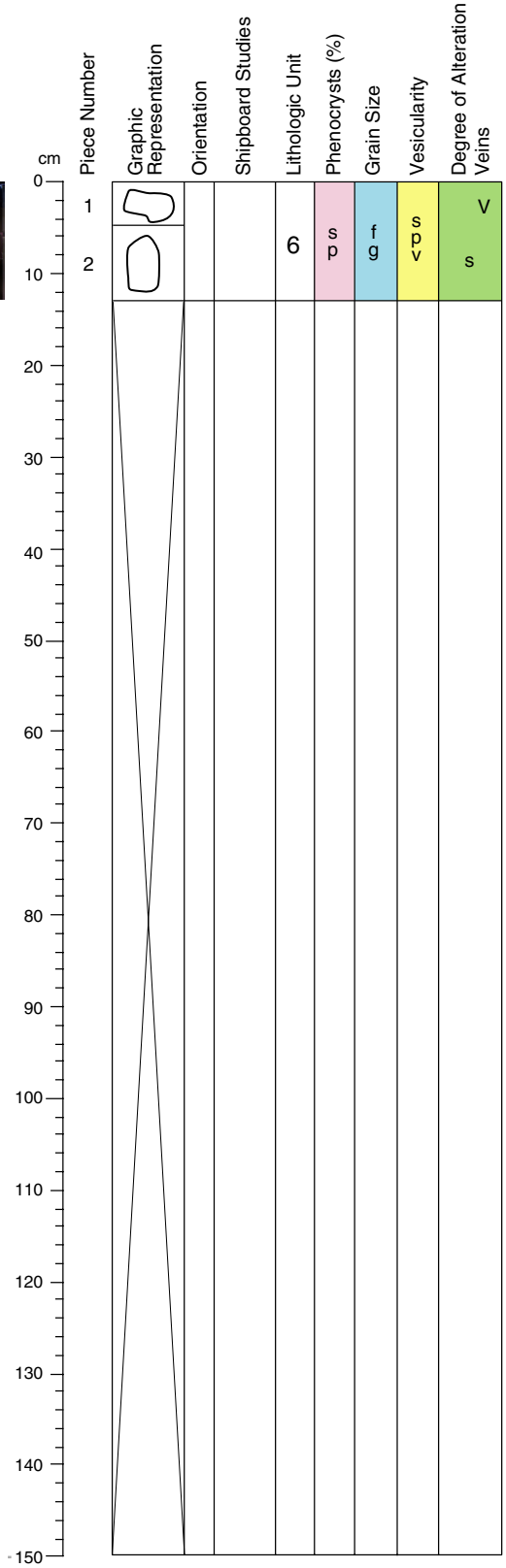
STRUCTURE: Sequence of pillow basalts.

ALTERATION: This unit is slightly more altered than Unit 5. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: A 1 mm thick vein is present in Piece 14C, filled by Ca-carbonate and Fe-oxyhydroxide.

ADDITIONAL COMMENTS: The boundary between Units 5 and 6 was determined mainly on geochemical and petrographical analyses.

Core Photo



203-1243B-12R-2 (Section top: 161.10 mbsf)

UNIT 6: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-2

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	1%-2%	<1 mm
Olivine -	1%	<1mm

GROUNDMASS: Fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

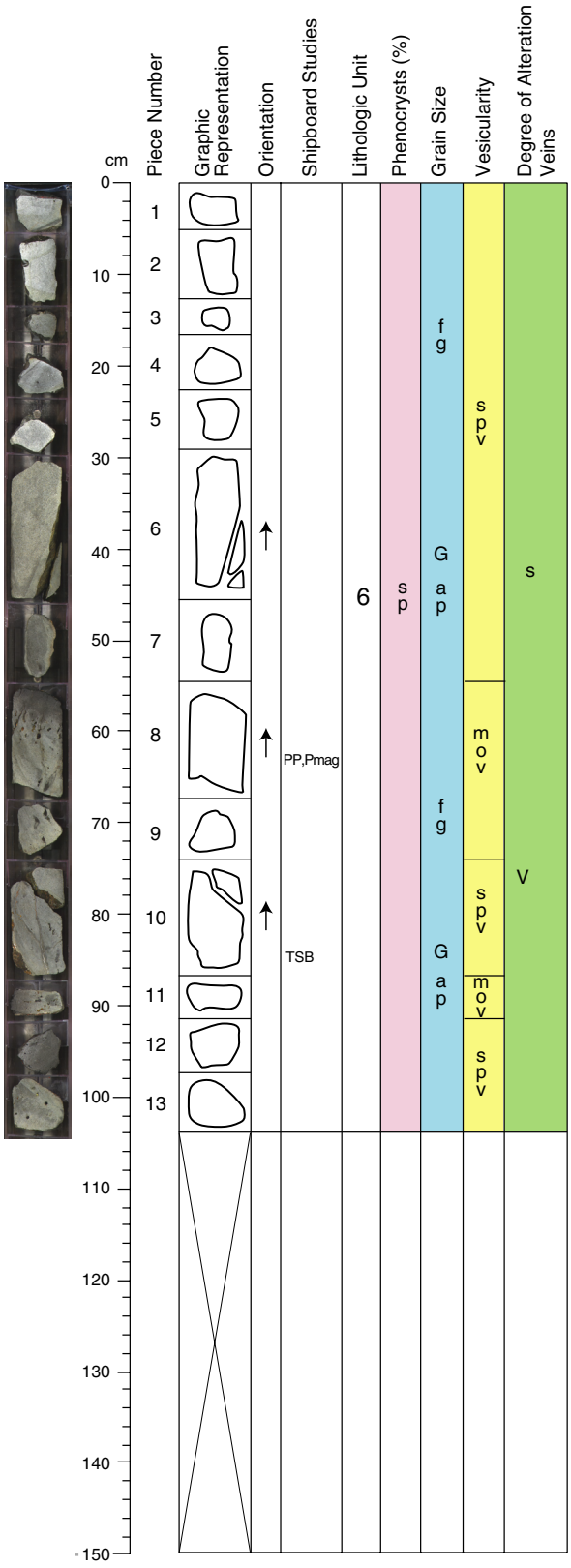
COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: Piece 1 has a 1 mm vein filled with Ca-carbonate and orange/brown secondary minerals (Fe-oxyhydroxide).

Core Photo



203-1243B-13R-1 (Section top: 166.10 mbsf)

UNIT 6: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-13

CONTACTS: None

PHENOCRYSTS:

Plagioclase - 2% <1 mm
Olivine - 1% <1mm

GROUNDMASS: Aphanitic to fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, olivine, glass, and opaque minerals. Glass is present in Pieces 8 and 11.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide. Pipe vesicles are present adjacent to the glassy margin of Piece 8.

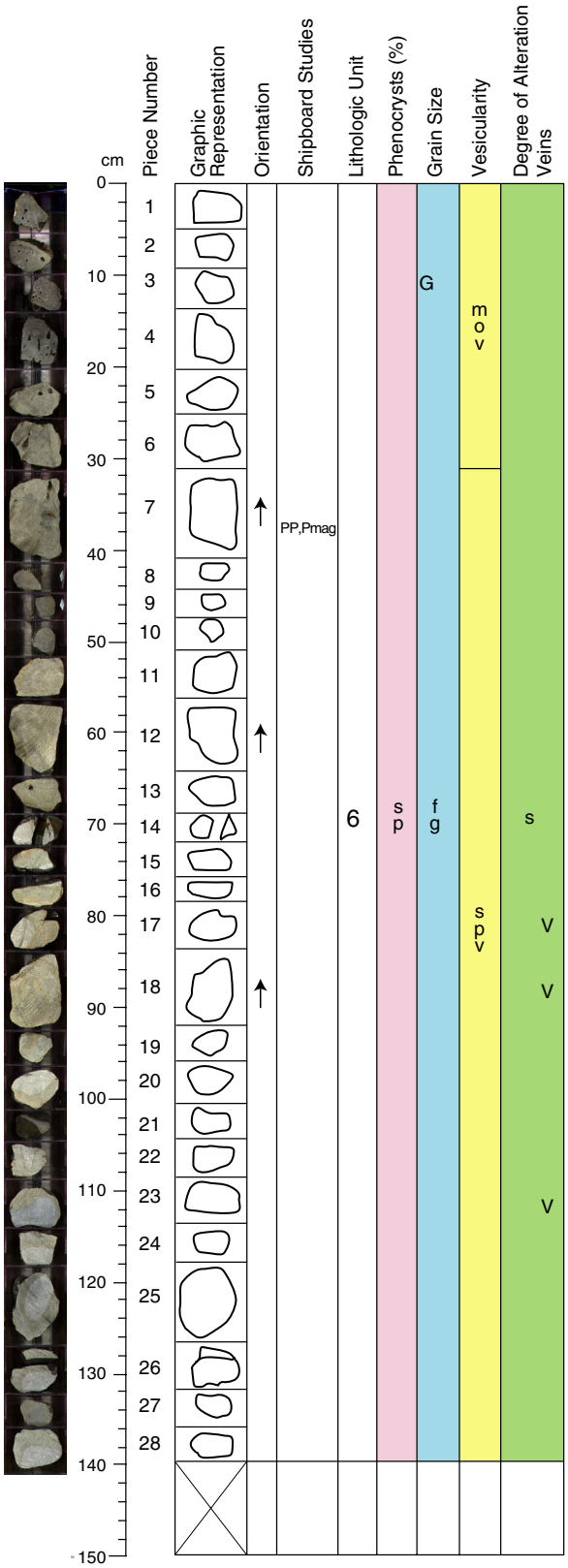
COLOR: Light gray (N7) to Medium gray (N5). Grayish black (N2) in the glassy margin.

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: Piece 10 has a 2 mm vein filled with zeolite and orange/brown secondary minerals (Fe-oxyhydroxide).

Core Photo



203-1243B-14R-1 (Section top: 170.80 mbsf)

UNIT 6: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-28

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	1%	<2 mm
Olivine -	1%	<1 mm

GROUNDMASS: Fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals. Glass is present in Piece 3.

VESICLES: Pieces 1 to 6 are moderately vesicular with pipe vesicles up to 10 mm in width. Pipe vesicles are lined by reddish orange secondary minerals (Fe-oxyhydroxide). Pieces 7 to 28 are sparsely vesicular with rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or to a lesser extent Fe-oxyhydroxide.

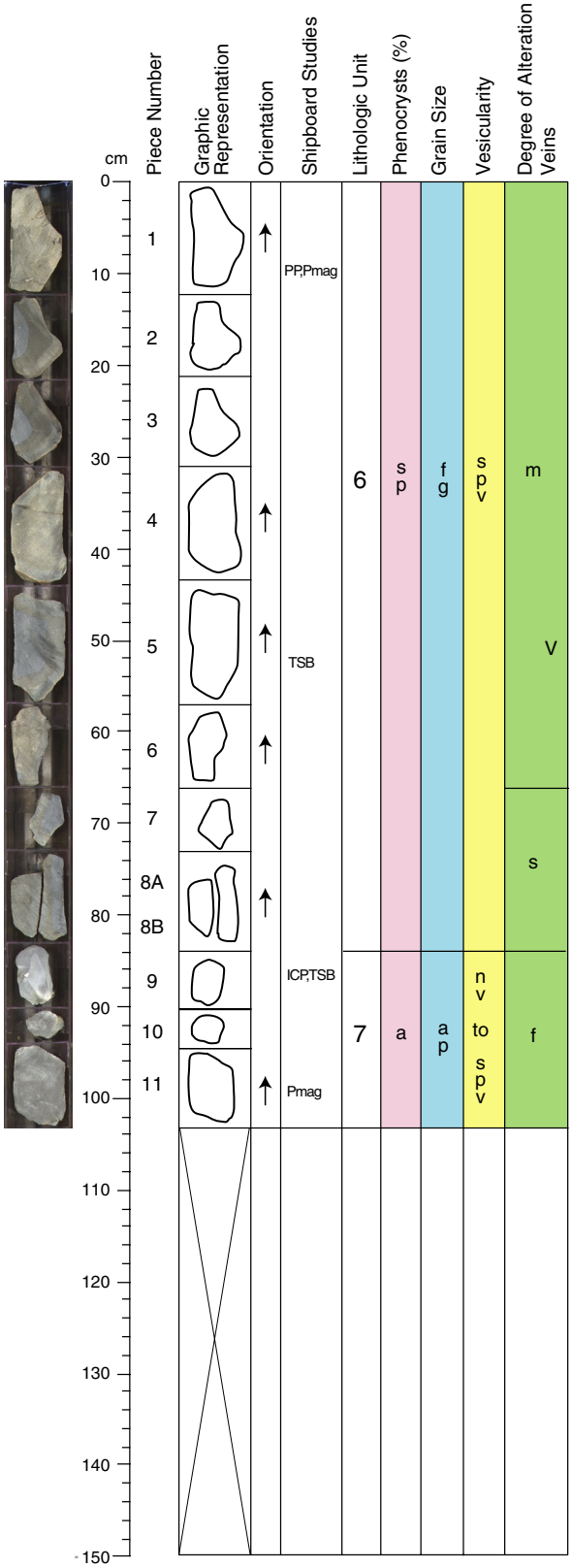
COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: Pieces 17 to19 have fractures up to 1 mm in diameter partially filled by Fe-oxyhydroxide. Piece 17 has a 0.5 mm Ca-carbonate filled vein.

Core Photo



203-1243B-15R-1 (Section top: 175.90 mbsf)

UNIT 6: Sparsely Plagioclase and Olivine Phyric Basalt

Pieces: 1-8B

CONTACTS: The contact between Units 6 and 7 is inferred to be between Pieces 8B and 9.

PHENOCRYSTS:

Plagioclase -	1%	<2 mm
Olivine -	<1%	<1mm

GROUNDMASS: Fine-grained, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals.

VESICLES: Sparsely vesicular, rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate and/or Fe-oxyhydroxide.

COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Moderately to slightly altered. The groundmass is partially replaced by dark yellowish orange (10YR 6/6) to light brown (5YR 5/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: Piece 5 has a 1 mm vein filled with orange/brown secondary minerals (Fe-oxyhydroxide). Pieces 1 and 4 have fractures partially filled by secondary minerals.

UNIT 7: Aphyric Basalt

Pieces: 9-11

CONTACTS: The contact between Units 6 and 7 is inferred to be between Pieces 8B and 9.

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, hypocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals. Very light gray (N8) zones are rich in plagioclase.

VESICLES: Non-vesicular to slightly vesicular. Vesicles are small (<0.5 mm), equant, and empty.

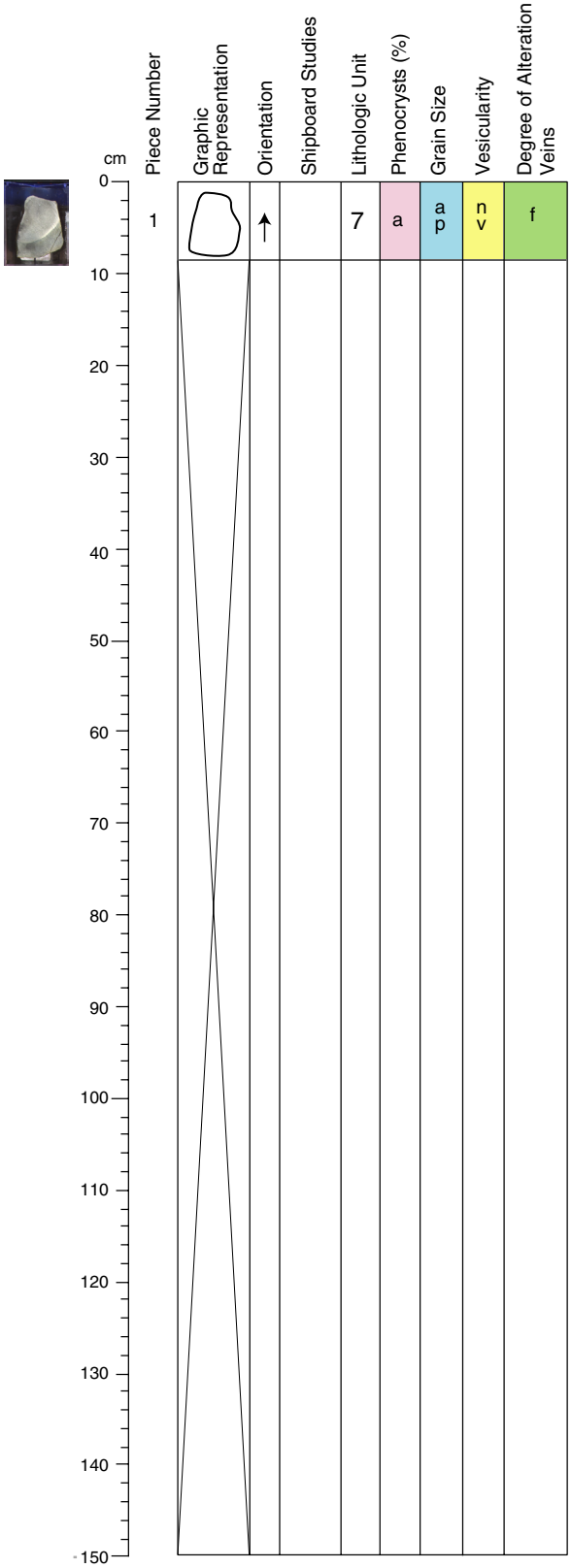
COLOR: Medium light gray (N6) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered basalts.

VEINS/FRACTURES: None

Core Photo



203-1243B-16R-1 (Section top: 180.40 mbsf)

UNIT 7: Aphyric Basalt

Pieces: 1

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, holocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals. Plagioclase is abundant in the medium light gray (N6) portions of the groundmass.

VESICLES: Non-vesicular.

COLOR: Medium light gray (N6) to Medium gray (N5).

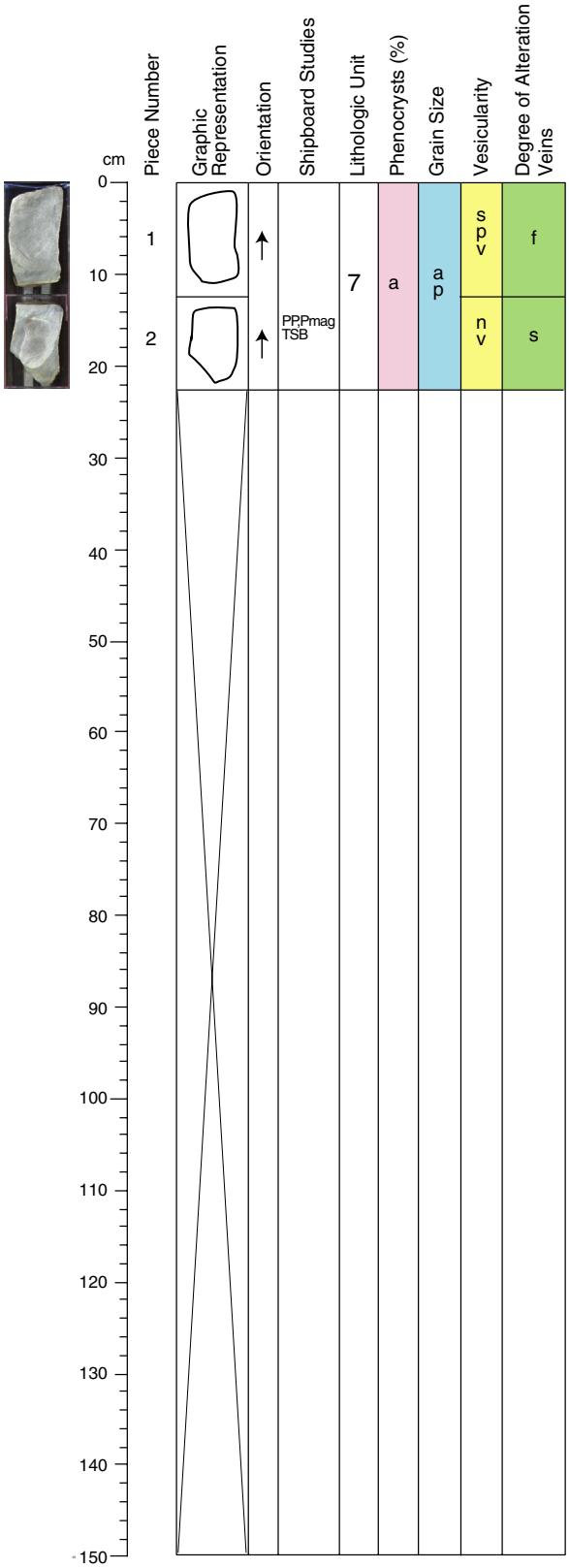
STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered basalts.

VEINS/FRACTURES: None

ADDITIONAL COMMENTS Two 1 mm aggregates of plagioclase microphenocrysts are present.

Core Photo



203-1243B-17R-1 (Section top: 185.40 mbsf)

UNIT 7: Aphyric Basalt

Pieces: 1-2

CONTACTS: None

PHENOCRYSTS: None

GROUNDMASS: Aphanitic, holocrystalline. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals. Several <1 mm aggregates of plagioclase microphenocrysts are present.

VESICLES: Non-vesicular to slightly vesicular. Vesicles are rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Ca-carbonate.

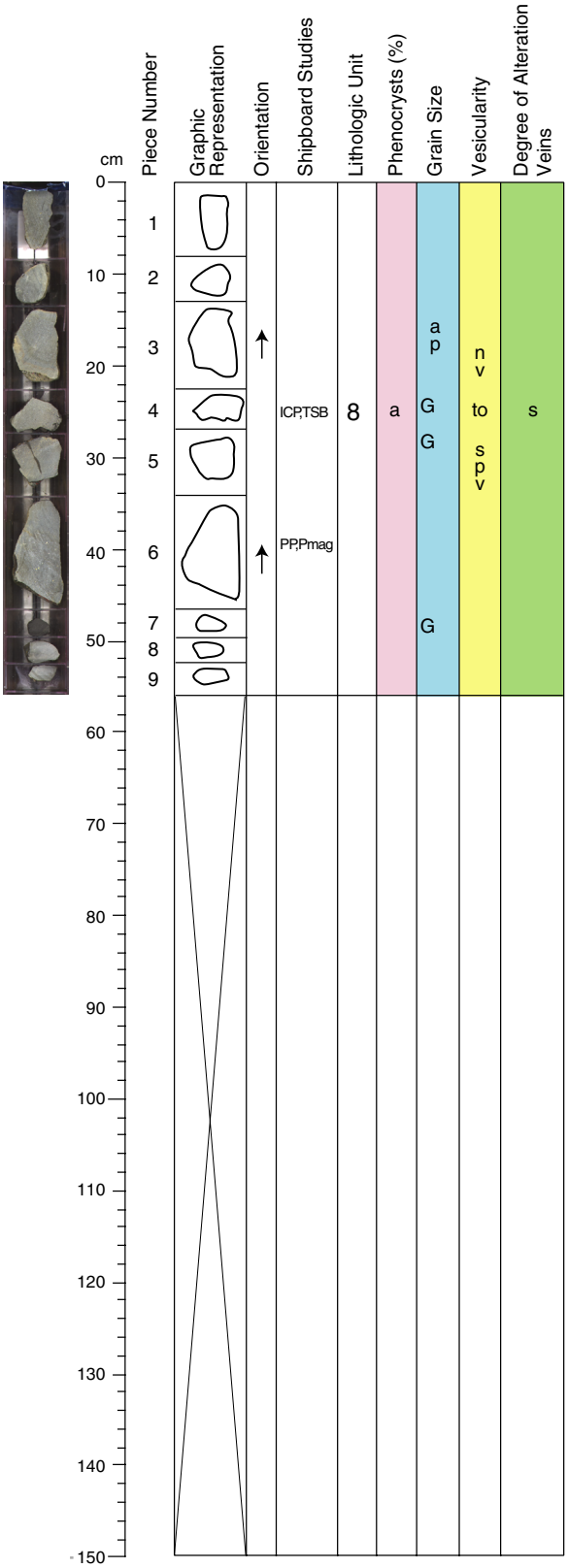
COLOR: Light gray (N7) to Medium gray (N5).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered to slightly altered basalts. Plagioclase in the groundmass is partially replaced by dark yellowish orange (10YR 6/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: None

Core Photo



203-1243B-18R-1 (Section top: 190.20 mbsf)

UNIT 8: Moderately Plagioclase and Olivine Phyric Basalt

Pieces: 1-9

CONTACTS: None

PHENOCRYSTS:

Plagioclase -	10%	<1mm
Olivine -	2%-3%	<1mm

GROUNDMASS: Aphanitic, hypohyalline, variolitic. The groundmass consists of plagioclase, pyroxene, glass, and opaque minerals. Several <1 mm aggregates of plagioclase microphenocrysts are present. Pieces 4, 5, and 7 display textural gradation from a glassy rim to a vesicular interior (vesicles up to 1 mm in diameter).

VESICLES: Non-vesicular to slightly vesicular. Vesicles are rounded, randomly distributed filled and empty vesicles. Some vesicles are filled and/or lined by Fe-oxyhydroxide.

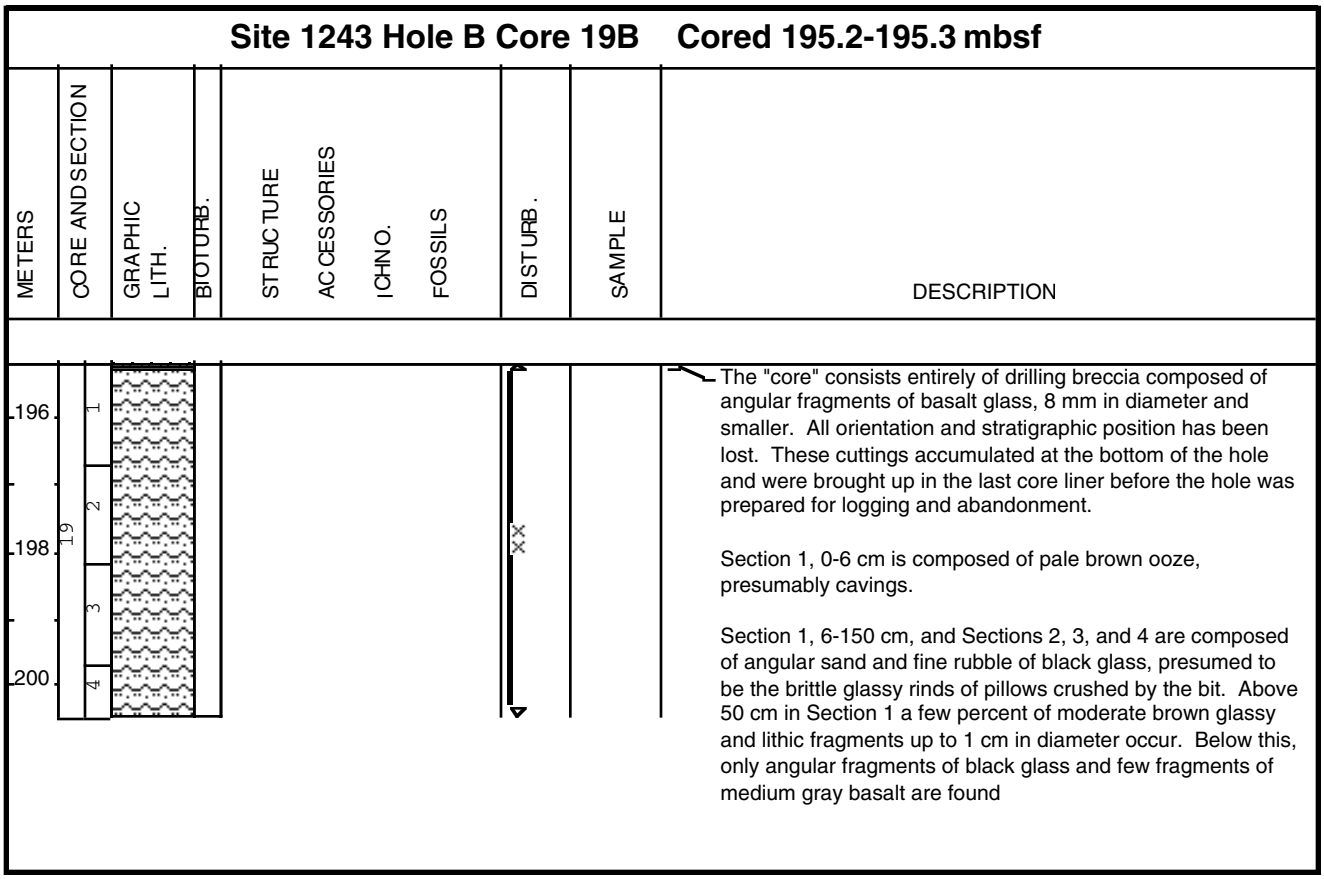
COLOR: Medium light gray (N6) to Medium gray (N5). Piece 5 is medium dark gray (N4) and Piece 7 is dark gray (N3).

STRUCTURE: Sequence of pillow basalts.

ALTERATION: Unaltered to slightly altered basalts. Plagioclase in the groundmass is partially replaced by dark yellowish orange (10YR 6/6) secondary minerals (Fe-oxyhydroxide).

VEINS/FRACTURES: Pieces 4 to 6 have 1 mm thick fractures.

Core Photo


Site 1243 Hole B Core 19B Cored 195.2-195.3 mbsf
METERS
CORE AND SECTION
GRAPHIC LITH.
BIOTURB.
STRUCTURE
ACCESSORIES
ICHNO.
FOSSILS
DISTURB.
SAMPLE
DESCRIPTION
196
198
200
19
1
2
3
4
The "core" consists entirely of drilling breccia composed of angular fragments of basalt glass, 8 mm in diameter and smaller. All orientation and stratigraphic position has been lost. These cuttings accumulated at the bottom of the hole and were brought up in the last core liner before the hole was prepared for logging and abandonment.
Section 1, 0-6 cm is composed of pale brown ooze, presumably cavings.
Section 1, 6-150 cm, and Sections 2, 3, and 4 are composed of angular sand and fine rubble of black glass, presumed to be the brittle glassy rinds of pillows crushed by the bit. Above 50 cm in Section 1 a few percent of moderate brown glassy and lithic fragments up to 1 cm in diameter occur. Below this, only angular fragments of black glass and few fragments of medium gray basalt are found

Site 1243

Sample						Texture			Mineral					Biogenic						
Core	Core Type	Section	Top (cm)	Depth (mbsf)	Lithology	Sand	Silt	Clay	Fe Oxide (68)	Feldspar (71)	Opaques (140)	Quartz (172)	Volcanic Glass (81)	Coccolith (51)	Discoaster (61)	Fish Remains (74)	Planktonic Forams (160)	Radiolarians (173)	Siliceous Sponge Spicules (185)	Comments
Hole B																				
1	R	1	5	102.05	M		10	90	6				1	84	2		3	2	2	Nannofossil ooze. This sample is moderately metalliferous.
1	R	1	15	102.15	M		10	90	8	*			3	82	2		*	3	2	Nannofossil ooze. This sample is moderately metalliferous. Whole and fragments of foraminifers; etched fragments of radiolarians.
1	R	1	21	102.21	M		5	95			1		2	92	1	*	2	1	1	Nannofossil ooze. Volcanic glass mainly light and brown.
1	R	1	24	102.24	M		10	90	2		*	*		93	*		4		1	Nannofossil ooze. Opaque mineral: one angular 30 micrometer grain.
2	R	1	Pc 6		M		5	95			*		*	93	2	*	5		*	Nannofossil ooze. This cm-sized piece probably fell into the hole from above.

THIN SECTION: 1243B-2R-1, 47-49 cm **Piece 9** **TS No. 2.** **Unit 2** **OBSERVER: RM**

ROCK NAME: Limestone: Palagonite- and pelloid-bearing foraminiferal biomicrite.

Sample					Texture			Mineral				Biogenic		Rock						
Core	Core Type	Section	Top (cm)	Depth (mbsf)	Sand	Silt	Clay	Carbonate	Opaques	Plagioclase	Volcanic Glass	Foraminifers	Nannofossils	Bioclasts	Cement spar	Micrite	Opaques	Peloids	Rock Fragment	Comments
2	R	1	47	109.07	15*	10	75	95	5	*	*	20	80	17	11	52	5	15	*	Formerly a wackestone. Probably a pelloid- and foraminifer-bearing nannofossil ooze deposited between eruptions. *Texture before diagenesis. Pelloids are bimodal at about 0.4 and 0.05 mm. Cotains a few grains of palagonitized plagioclase-bearing glass.

THIN SECTION:	**203-1243B-2R1-23-25**		**Piece No.: 5**	**Unit: 1**		**ODP TS#: 1**	**OBSERVER: CB, SR, KH, KA**
ROCK NAME:	**Aphyric Basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Holocrystalline (euhedral granular)**						

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
GROUNDMASS							
Plagioclase	61	62			up to 0.5	Euhedral lath-shaped crystals	Composititon An48-50. Optic axial angle determination.
Clinopyroxene	26	27			<0.5	Subhedral, prismatic crystals	Augite: Optical angle determination.
Glass	1	1				Interstitial. Brown to black in color	
Opaque Minerals	5	5			<20µ microns	Euhedral to subhedral	Magnetite and Ilmenite. Including blobs of primary sulfides.

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Calcite	2				Filling vesicles	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Ocellar	2	Randomly distributed			1-2	Ilmenite(?) glass/clay minerals and plagioclase	Primary texture (?) Spherical glassy patches. Glass replaced by secondary minerals (clay minerals (?)).
Vesicles	3	Randomly distributed			0.5-1	Spherical. Filled by calcite	60% of the vesicles are filled.

COMMENTS :	Fresh sample.	**Chapter 3, Figure F12B and 12C.** **Photomicrograph 1243_04.**

THIN SECTION:	**203-1243B-3R1-114-117**		**Piece No.: 15**		**Unit: 3**	**ODP TS#: 3**	**OBSERVER: KH, CB, SR, KA**
ROCK NAME:	**Aphyric Basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Hypocrystalline (euhedral granular)**						

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Olivine	0	1			<1	Euhedral	Microphenocryst. Removed, or totally replaced by iddingsite.
GROUNDMASS							
Plagioclase	50	50			<0.5	Euhedral	Tabular, lath and sparrow tail structure.
Clinopyroxene	29	29				Subhedral	
Glass	10	15				Interstitial	Reddish brown alteration around glass (?) Likely altered glass with Fe Oxides, does not go completely extinct under XPL.
Opaque Minerals	5	5				Euhedral to subhedral	Euhedral (square) Opaque Minerals (magnetite(?)).

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Palagonite	5			<0.5	Replacing glass	
Iddingsite	1				Replacing olivine	
Fe Oxides	<1				Filling vesicles	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	<1	Randomly distributed				Clay minerals and Fe Oxides	No calcite visible. 20% empty.

COMMENTS :	Fresh basalt.	**Photomicrograph 1243_07.** **Photomicrograph 1243_08.**

THIN SECTION:	**203-1243B-3R1-130-134**		**Piece No.: 16B**		**Unit: 3**	**ODP TS#: 4**	**OBSERVER: KH, SR, CB**
ROCK NAME:	**Aphyric Basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Hypocrystalline**						

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
GROUNDMASS							
Plagioclase	60	62			0.5	Euhedral	Tabular, lath, and sparrow tail structures.
Clinopyroxene	5	8			0.1	Subhedral	
Glass	5	20				Interstitial	
Opaque Minerals	10	10			0.01	Subhedral	Magnetite (?).

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Analcite	1			0.2	Filling vesicles	
Yellow/orange clay mineral (nontronite?)	19			0.2	Filling vesicles and interstitial	Altered glass and Fe Oxides (?).

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	<1					Filled by analcite	Possible analcite lining around some vesicles.

COMMENTS : Two different portions in the thin section based on colour and presence of Fe Oxides. Lighter gray section of mostly plag and cpx. Yellow/brown section contains more Fe Oxides alteration mineral and possibly altered glass.

Photomicrograph 1243_09.
Photomicrograph 1243_10.

THIN SECTION:	**203-1243B-5R2-29-32**		**Piece No.: 5**		**Unit: 3**	**ODP TS#: 5**	**OBSERVER: KA, SR, KH**
ROCK NAME:	**Aphyric basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Hypocrystalline**						

PRIMARY	**PERCENT**	**PERCENT**	**SIZE (mm)**				
MINERALOGY	**PRESENT**	**ORIGINAL**	**min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
GROUNDMASS							
Plagioclase	30	30	0.2	0.6	0.5	Euhedral to subhedral	Tabular, lath, needle-like. Radial structures.
Clinopyroxene	30	30	0.1	0.4	0.2	Subhedral to anhedral, equant	
Glass	5	28				Interstitial	
Magnetite	7	7	0.1	0.2	0.1	Euhedral	Partially altered to maghemite.

SECONDARY		**SIZE (mm)**				
MINERALOGY	**PERCENT**	**min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Nontronite	15				Replacing glass. In vein.	Brown clay mineral.
Fe Oxides	11				Replacing glass. In vein and vesicles.	
Zeolite	2				Inclusion in vein.	Cryptocrystalline, phillipsite (?).

VESICLES/			**SIZE (mm)**				
CAVITIES	**PERCENT**	**LOCATION**	**min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	5	Randomly distributed	0.1	0.8	0.5	Filled and/or lined by Fe Oxides and/or brown clay mineral	
Veins						Filled with brown color clay minerals (nontronite (80%), Fe Oxides (18%), and zeolite (2%))	

COMMENTS :

Chapter 3, Figure F13B and F13C.
Chapter 3, Figure F24A and F24B.

THIN SECTION:	**203-1243B-5R2-11-14**		**Piece No.: 3**		**Unit: 3**	**ODP TS#: 6**	**OBSERVER: KA, SR, KH**
ROCK NAME:	**Aphyric Basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Hypocrystalline (subhedral granular)**						

PRIMARY	**PERCENT**	**PERCENT**	**SIZE (mm)**				
MINERALOGY	**PRESENT**	**ORIGINAL**	**min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
GROUNDMASS							
Plagioclase	44	44	0.10	0.50	0.35	Euhedral to subhedral	Tabular, lath, needle, radial.
Clinopyroxene	40	41	0.05	0.20	0.15	Euhedral to subhedral	Equant to slightly elongated.
Magnetite	10	10	0.01	0.05	0.03	Euhedral	Equant.
Glass	2	5	0.02	0.05	0.03	Interstitial	

SECONDARY		**SIZE (mm)**				
MINERALOGY	**PERCENT**	**min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
FeOx	3	0.01	0.04	0.03	Replacing glass and cpx	
Zeolite	<1				Lining vesicles	Cryptocrystalline.

VESICLES/			**SIZE (mm)**				
CAVITIES	**PERCENT**	**LOCATION**	**min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	<1	Randomly distributed				Spherical, filled by zeolite	

COMMENTS :	**Photomicrograph 1243_01.**

THIN SECTION:	**203-1243B-6R2-105-109**		**Piece No.: 14**		**Unit: 3**	**ODP TS#: 7**	**OBSERVER: KH, CB, SR**
ROCK NAME:	**Aphyric Basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Hypocrystalline**						

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
GROUNDMASS							
Plagioclase	61	61	0.1	2	1	Sparrow tail and needle like euhedral crystals	
Clinopyroxene	15	15	0.1	0.6	0.5	Subhedral	
Opaque	7	7			0.1	Euhedral	magnetite (?).
Glass	1	13				Interstitial	Pale yellow to brown in color.

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Fe Oxides	5				Replacing glass in the altered portion of the sample	Could be palagonite and or Fe Oxides (?).
Saponite	2				Filling vesicles in the altered portion of the sample	
Nontronite	1				Groundmass alteration	
Palagonite	4				Replacing glass	
Calcite	<1				Filling vesicles	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	1	Randomly distributed in more Fe Oxides altered regions	0.2		1	Filled by saponite	Green clay mineral filling vesicles.
Vesicles	1	Randomly distributed in less Fe Oxides altered regions				Empty	
Vesicles	<1					Filled by calcite	

COMMENTS : Two general portions in the thin section. One is more altered with Fe Oxides and vesicles filled by saponite. The other is an unaltered portion of the pillow and contains mostly empty vesicles. The contact between the two is “sharp”. No evident gradation is observed.

Chapter 3, Figure F24C.
Photomicrograph 1243_20.
Photomicrograph 1243_21.

THIN SECTION:	**203-1243B-7R1-75-78**	**Piece No.: 11**	**Unit: 4**	**ODP TS#: 8**	**OBSERVER: KA, SR, CB**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Pillow interior**				
GRAIN SIZE:	**Microcrystalline**				
TEXTURE:	**Hypocrystalline**				

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	<1	1			0.6	Euhedral	Several microphenocrysts up to 0.6 mm (prismatic to tabular), zoned.
GROUNDMASS							
Plagioclase	34	35	0.1	0.6	0.2	Euhedral to subhedral, tabular, lath-shaped	
Clinopyroxene	20	22	0.1	0.2	0.1	Subhedral to anhedral, equant	
Glass	5	32	-	-	-	Interstitial	
Magnetite	5	5	0.1	0.1	0.1	Euhedral	

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Calcite	10				Filling vesicles, in vein	
Fe Oxides	15				Filling and/or lining vesicles, in vein	
Clay minerals	3				Lining vesicles, replacing glass	Brown clay mineral.
Palagonite	<2				Replacing glass	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	5	Randomly distributed	0.1	1.2	0.6	Equant to elongated.	Mostly filled and/or lined by Fe Oxides and/or calcite.
Vein					5	Filled by calcite and Fe Oxides (60%-40%)	

COMMENTS : Two different portions based on alteration. Glass in unaltered portion is replaced by yellow clay minerals. In the altered portion, glass is totally replaced by dark clay minerals. The contact between portions is sharp. Contains vein filled by calcite and Fe Oxides.

Chapter 3, Figure F25C.
Photomicrograph 1243_29.
Photomicrograph 1243_30.

THIN SECTION:	**203-1243B-7R1-81-84**	**Piece No.: 12**	**Unit: 4**	**ODP TS#: 9**	**OBSERVER: KA, SR, CB**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Pillow Interior**				
GRAIN SIZE:	**Microcrystalline**				
TEXTURE:	**Hypocrystalline (subhedral granular)**				

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
Plagioclase	1	1			2	Euhedral, tabular	
GROUNDMASS							
Plagioclase	55	59			0.1	Euhedral, tabular to lath-shaped	
Clinopyroxene	10	10			0.05	Subhedral	
Glass	9	15			-	Interstitial	
Ilmenite					0.1	Skeletal	
Magnetite	5	5			0.1	Euhedral	

SECONDARY MINERALOGY	PERCENT	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	REPLACING / FILLING	COMMENTS
Fe Oxides	3			0.3	Replacing glass, plagioclase	Orange/brown color.
Calcite	2			0.3	Lining rock margin and filling vesicles	
Zeolite	1	-	0.1	-	Lining vesicles	Cryptocrystalline.
Palagonite	2				Replacing glass	
Sericite	2				Replacing plagioclase	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	FILLING / MORPHOLOGY	COMMENTS
Vesicles	10	Randomly distributed			0.8	Filled by zeolite and/or calcite, equant to elongated	

COMMENTS :

Photomicrograph 1243_22.
Photomicrograph 1243_23.

THIN SECTION:	**203-1243B-7R2-55-57**		**Piece No.: 4A**		**Unit: 4**	**ODP TS#: 10**	**OBSERVER: CB, KA, SR, KH**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Fine-grained**						
TEXTURE:	**Hypocrystalline**						

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	1	1	1	2	1.8	Euhedral, tabular	Partly corroded and mainly associated to olivine.
Olivine	1	1	0.9	1.1	1	Euhedral -subhedral	Mostly fresh.
GROUNDMASS							
Plagioclase	60	63	0.1	1	0.8	Euhedral to subhedral, tabular, lath, and sparrow tail structures. Some skeletal.	
Clinopyroxene	15	15	0.3	0.8	0.5	Subhedral to anhedral	
Glass	3	15	0.3	1	0.6	Interstitial	Almost totally recrystallized with clay minerals.
Opaque	5	5	0.02	0.05	0.03	Euhedral	Magnetite (?) Concentrated in altered glass.

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Fe Oxides	12	0.1	0.5	0.3	Replacing olivine and clinopyroxene. Replacing glass	Red orange/brown color.

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	3	Randomly distributed	0.2	0.7	0.5	Equant to slightly elongated	Empty.

COMMENTS : Slightly altered basalt. Olivine microphenocrysts occur with plagioclase microphenocrysts.

Photomicrograph 1243_17.
Photomicrograph 1243_18.

THIN SECTION:	**203-1243B-7R2-74-77**		**Piece No.: 5**		**Unit:4**	**ODP TS#: 11**	**OBSERVER: CB, SR, KH**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**						
WHERE SAMPLED:	**Pillow Margin**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Hypocrystalline**						

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	2	2			2	Euhedral, tabular	Microphenocrysts. An 48-50. Optic axial angle determination. Sparrow tail structure.
Olivine	1	1			1	Euhedral	Microphenocrysts. Most grains are unaltered. A few are partially replaced with iddingsite.
GROUNDMASS							
Plagioclase	58	58			up to 0.5	Euhedral, lath-shaped	
Clinopyroxene	5	5			<0.5		
Glass	20	30					Pale yellow to brown in color.
Opaque	4	4			<20 microns		

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Palagonite	10				Replacing glass	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	Rare	Randomly distributed			0.2		Empty.

COMMENTS :	Fresh basalt.	**Chapter 3, Figure F14B and F14C.**

THIN SECTION:	**203-1243B-7R3 20-23**	**Piece No.: 2**	**Unit: 4**	**ODP TS#: 12**	**OBSERVER: KH, SR**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Pillow interior**				
GRAIN SIZE:	**Fine-grained**				
TEXTURE:	**Hypocrystalline**				

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	7	7		0.8	0.6	Tabular to lath shaped, euhedral to anhedral	Microphenocrysts
Olivine	1	1		0.6	0.6		Microphenocrysts
GROUNDMASS							
Plagioclase	60	62			0.3	Euhedral to anhedral, tabular to lath shaped	
Clinopyroxene	12	13	0.05	0.4	0.2	Subhedral	Very weakly pleochroic, brown mineral. Inclined extinction. Some crystals appear to have a fibrous, radiating habit, others are very clean and euhedral. Possibly Ti-augite clinopyroxene.
Glass	2	12				Interstitial	
Opaque Minerals	5	5			0.05	Euhedral	Ilmenite is skeletal

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Fe Oxides	5			0.2	Replacing glass	
Brown Clays	10				Replacing glass and groundmass	
Zeolite	1			0.1	Replacing glass and groundmass	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Veins	3					Filled by calcite, Fe Oxides, and brown clays (nontronite (?)) 30%-60%	

COMMENTS :	Fresh, fine-grained sample. The plagioclase from the groundmass have grown to about the same size as the microphenocrysts. There is a 5 mm alteration halo of Fe Oxides around veins. Outside of alteration halo, little to no is Fe Oxides present.	**Chapter 3, Figure F25B. Photomicrograph 1243_25.**

THIN SECTION:	**203-1243B-8R2-25-29**	**Piece No.: 4**	**Unit: 4**	**ODP TS#: 13**	**OBSERVER: KH, SR**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Pillow margin**				
GRAIN SIZE:	**Microcrystalline to glassy**				
TEXTURE:	**Holocrystalline to hypocrystalline toward the margin**				

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	5	5			0.8	Euhedral lath to tabular	Microphenocryst.
Olivine	2	2			0.8	Euhedral	Microphenocryst.
GROUNDMASS							
Plagioclase	35	35		0.5	0.3	Euhedral	Sparrow tail, needle like.
Glass	25	45				Interstitial	Interstitial.
Opaque Minerals	11	11				Anhedral	Fe Oxides minerals.
Spinel	<1	<1			0.2	Anhedral	Bright red in PPL, extinct under XPL.
Clinopyroxene	<1	<1			0.1	Subhedral	

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Fe Oxides	5				Replacing glass	Interstitial.
Palagonite	15				Replacing glass	
Nontronite	1				Replacing glass and groundmass	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	1	Random			0.15	Empty	Lined with Fe Oxides.

COMMENTS : Texture is almost variolitic next to the glassy margin.

Chapter 3, Figure F25A.
Photomicrograph 1243_16.

THIN SECTION:	**203-1243B-9R2 138-141 #6C**	**Piece No.: 6C**	**Unit: 4**	**ODP TS#: 14**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**			
WHERE SAMPLED:	**Pillow interior**			
GRAIN SIZE:	**Fine-grained**			
TEXTURE:	**Hypocrystalline**			

OBSERVER: KH, CB, SR

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
Plagioclase	5	5		1	0.7	Tabular, lath, and elongate needles. Euhedral to subhedral	Microphenocryst. Contains inclusions of magnetite. Partially replaced by iddingsite. Most are fresh.
Olivine	3	3		1.5	1	Euhedral to subhedral. Elongate.	Microphenocryst. Contains inclusions of magnetite. Partially replaced by iddingsite. Most are fresh.
GROUNDMASS							
Plagioclase	36	36			0.3	Needle like, euhedral to subhedral"	
Clinopyroxene	34	34			0.2	Euhedral to subhedral	Brown in PPL, possibly due to enrichment of Ti (?). Inclusions of magnetite.
Olivine	1	5			0.1	Euhedral	Some olivine crystals are very altered to iddingsite, others are very fresh.
Opaque Minerals	5	5			0.01	Euhedral	Likely magnetite.
Glass	2	11				Interstitial	
Spinel	<1	1			0.1	Subhedral	Bright red in PPL (may be Fe Oxides (?)).

SECONDARY MINERALOGY	PERCENT	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	REPLACING / FILLING	COMMENTS
Calcite	2			0.1	Vein	
Analcite	1			0.05	Vein	Euhedral. Some crystals have a radiating habit. Clear in PPL, gray in XPL. Found with calcite in vein.
Nontronite	3			0.2	Replacing glass, filling vesicles	
Iddingsite	2			0.1	Olivine	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	FILLING / MORPHOLOGY	COMMENTS
Vesicles	1	Randomly distributed			0.3	Empty, lined with orange/yellow Fe Oxides alteration minerals and nontronite	
Vesicles	1	Randomly distributed		2	0.3	Zeolite	Clear to pale gray in PPL, dark gray to extinct in XPL. Fibrous (phillipsite (?)).
Veins	3				4	Calcite	

COMMENTS : Crosscutting veins of calcite.

Chapter 3, Figure F14D.
Chapter 3, Figure F25C.
Photomicrograph 1243_36.

THIN SECTION:	**203-1243B-10R1-16-17**	**Piece No.: 12**	**Unit 4**	**ODP TS#: 15**	**OBSERVER: CB, SR**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Pillow Interior**				
GRAIN SIZE:	**Microcrystalline**				
TEXTURE:	**Hypocrystalline**				

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm) min.	max.	av.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
Plagioclase	1	1			0.5	Euhedral, tabular shaped	
Olivine	<1	<1			0.2	Euhedral	Partially replaced by iddingsite.
GROUNDMASS							
Olivine	3	3			<0.1	Euhedral	Partially replaced by iddingstie.
Plagioclase	50	50			<0.1	Subhedral	Lath - neddle texture, sometimes radial geometry aggregates
Clinopyroxene	30	30			<0.1	Subhedral to anhedral	Dark pink to brown in color often associted with microlites of magnetite.
Glass	10	10				Interstitial	
Magnetite	3	3			<0.01	Euhedral	Concentrate in altered glass.
Ilmenite	2	2			<0.01	Euhdral to subhedral	Concentrate or included in clinopyroxene aggregate.

SECONDARY MINERALOGY	PERCENT	SIZE (mm) min.	max.	av.	REPLACING / FILLING	COMMENTS
Fe Oxides	<1				Replacing olivine and glass	
Clay minerals	<1				Replace glass	
Iddingsite	<1				Replacing olivine	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm) min.	max.	av.	FILLING / MORPHOLOGY	COMMENTS

COMMENTS :	Slightly altered.	**Photomicrograph 1243_50.** **Photomicrograph 1243_51.**

THIN SECTION:	**203-1243B-10R2-12-15**	**Piece No.: 18**	**Unit: 5**	**ODP TS#: 16**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**			
WHERE SAMPLED:	**Pillow Interior**			
GRAIN SIZE:	**Microcrystalline**			
TEXTURE:	**Hypocrystalline**			

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm) min.	max.	av.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
Olivine	1	2	0.3	0.8	0.7	Euhedral to subhedral	Microphenocrysts. Some are rimmed by iddingsite? And/or replaced by clay minerals
Plagioclase	1	1	0.3	0.6	5	Euhedral, lath shaped	Microphenocrysts.
GROUNDMASS							
Plagioclase	38	38	0.1	1	0.5	Euhedral to subhedral	Lath, tabular, radial. Mostly needle-like with sparrow tail structure.
Clinopyroxene	8	10	0.1	0.3	0.2	Subhedral to anhedral	Equant.
Glass	5	40	0.1	0.5	0.4	Interstitial	Altered.
Magnetite	7	7	0.1	0.3	0.2	Euhedral	

SECONDARY MINERALOGY	PERCENT	SIZE (mm) min.	max.	av.	REPLACING / FILLING	COMMENTS
Palagonite	20				Replacing glass	Orange brown to brown color.
Fe Oxides	14				Replacing glass	Pale red orange/brown.
Zeolite	<1	-	0.3	0.2	Lining/filling vesicles	Some zeolites are cryptocrystalline.
Clay minerals	8				Replacing olivine	Green/brown clay.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm) min.	max.	av.	FILLING / MORPHOLOGY	COMMENTS
Vesicles	<2	Randomly distributed	0.3	0.8	0.5	Lined by altered glass or zeolite. Equant, spherical	Most vesicles empty.

COMMENTS : **Chapter 3, Figure F15D and F15E.**

THIN SECTION:	**203-1243B-11R1-51-53**		**Piece No.: 10**		**Unit: 5**	**ODP TS#: 17**	**OBSERVER: KA, SR**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**						
WHERE SAMPLED:	**Pillow interior**						
GRAIN SIZE:	**Fine-grained**						
TEXTURE:	**Hypocrystalline**						

PRIMARY	**PERCENT**	**PERCENT**	**SIZE (mm)**				
MINERALOGY	**PRESENT**	**ORIGINAL**	**min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	1	1	1.0	1.2	1.0	Subhedral, lath shaped	
Olivine	<1	1	0.5	0.7	0.6	Subhedral, equant	Fractured, rims altered.
GROUNDMASS							
Plagioclase	40	40	0.2	1.0	0.6	Euhedral to subhedral	Needle-like, lath, tabular.
Clinopyroxene	12	15	0.1	0.6	0.3	Subhedral to anhedral	Equant.
Opaque Minerals	10	10	0.1	0.3	0.2	Euhedral to subhedral, skeletal	Magnetite and ilmenite.
Glass	10	30	0.2	0.6	0.3	Interstitial	

SECONDARY		**SIZE (mm)**				
MINERALOGY	**PERCENT**	**min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Clay minerals	8	0.1	0.6	0.4	Filling vesicles, replacing glass	Green/brown clay.
Fe Oxides	12	0.1	0.4	0.3	Replacing glass	

VESICLES/			**SIZE (mm)**				
CAVITIES	**PERCENT**	**LOCATION**	**min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	3	Randomly distributed	0.4	0.6	0.5	Filled by Fe-oxides or by clays	

COMMENTS :	**Chapter 3, Figure F15B and F15C.**

THIN SECTION:	**203-1243B-12R1-136-140**	**Piece No.: 14C**	**Unit:6**	**ODP TS#: 19**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**			
WHERE SAMPLED:	**Pillow interior**			
GRAIN SIZE:	**Microcrystalline**			
TEXTURE:	**Hypocrystalline**			

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	<1	1		2	2	Subhedral	Microphenocryst.
Olivine	<1	1			1	Euhedral to subhedral	Microphenocryst.
GROUNDMASS							
Plagioclase	40	40		2	0.8	Subhedral	Swallow tail, elongate, and tabular.
Clinopyroxene	23	30		0.6	0.3	Subhedral	Brown in PPL.
Glass	1	18				Interstitial	
Opaque Minerals	2	2			0.1	Subhedral	Square to elongate needles (magnetite and ilmenite(?)).

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Fe Oxides	2				Glass	In vesicles with brown clay mineral.
Nontronite	25				Glass	Interstitial and filling vessicles.

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	3				0.8	Empty	
Vesicles	2				0.8	Lined with nontronite and/or Fe Oxides mineral	

COMMENTS : Two portions, a fresh portion containing empty vesicles and little to no Fe Oxides minerals, and an altered portion containing Fe Oxides and nontronite. **Chapter 3, Figure F16D.**

THIN SECTION:	**203-1243B-13R1-84-87**	**Piece No.: 10**	**Unit: 6**	**ODP TS#: 18**	**OBSERVER: CB, SR**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Pillow Interior**				
GRAIN SIZE:	**Microcrystalline**				
TEXTURE:	**Hypocrystalline**				

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
Olivine	1	2			0.5	Euhedral	Microphenocrysts partially or totally replaced by iddingsite
Plagioclase	2	2			0.5	Euhedral, tabular	Microphenocrysts
GROUNDMASS							
Plagioclase	50	50			<0.2	Subhedral, lath shaped	Common sparrow tail texture.
Glass	20	20				Interstitial	Brown to black in color- partially alterated recrystallized with clay minerals.
Clinopyroxene	<3	<3			<0.1	Subhedral	
Magnetite	5	5				Euhedral	
Ilmenite	1	1				Dendritic	Clusters in recrystallized glassy patches.

SECONDARY MINERALOGY	PERCENT	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	REPLACING / FILLING	COMMENTS
Iddingsite	1				Replacing olivine	
Zeolite					Filling veins and vesicles	
Fe Oxides					Filling veins and vesicles	

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	FILLING / MORPHOLOGY	COMMENTS
Veins					1	Zeolites, Fe Oxides	70% empty.
Vesicles		Close to veins			<20	Zeolites, Fe Oxides	70% empty.

COMMENTS : **Chapter 3, Figure F16B and F16C.**

THIN SECTION:	**203-1243B-15R1-84-87**		**Piece No.: 9**		**Unit: 7**	**ODP TS#: 20**	**OBSERVER: CB, SR**
ROCK NAME:	**Aphyric Basalt**						
WHERE SAMPLED:	**Pillow Interior**						
GRAIN SIZE:	**Microcrystalline**						
TEXTURE:	**Hypocrystalline**						

PRIMARY	**PERCENT**	**PERCENT**	**SIZE (mm)**				
MINERALOGY	**PRESENT**	**ORIGINAL**	**min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	<1				0.5	Euhedral, tabular	Microphenocryst.
Olivine	<1				0.5	Subhedral	Microphenocryst. Only few grains show replacement by iddingisite.
GROUNDMASS							
Plagioclase	75				0.05	Subhedral	Lath and needle shaped. Partially alterated in calcite+clay minerals.
Glass	10					Interstitial	Largely replaced by clay minerals.
Clinopyroxene	3				0.01	Subhedral	
Magnetite	5				0.1	Euhedral	

SECONDARY		**SIZE (mm)**				
MINERALOGY	**PERCENT**	**min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Calcite					Plagioclase	
Iddingsite					Olivine	
Clay minerals					Replacing glass and pyroxene	Small amount of saponite.

VESICLES/			**SIZE (mm)**				
CAVITIES	**PERCENT**	**LOCATION**	**min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
"Primary vein"??	Rare				0.5		Glassy vein brown-dark in color; partially recrystallyzed with abundant plagioclase and magnetite (in the dark side of the sample). They may represent a cooling joint.

COMMENTS:	"Composed sample"- dark side: glass and plagioclase are more extensively altered in dark clay minerals; light side: glass and plagioclase are replaced by calcite and yellow clay minerals. In light side presence of equant aggregates (up to 1 mm) constituted by plagioclase+magnetite.	**Chapter 3, Figure F17C.**

THIN SECTION:	**203-1243B-15R1-50-53**	**Piece No.: 5**	**Unit: 6**	**ODP TS#: 21**	**OBSERVER: KA, SR**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Near pillow margin**				
GRAIN SIZE:	**Microcrystalline to fine-grained**				
TEXTURE:	**Hypocrystalline**				

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
Plagioclase	<2	<2	0.6	1.2	0.7	Subhedral, tabular, lath-shaped	Some are zoned. Some occur in aggregates of microphenocrysts.
GROUNDMASS							
Plagioclase	42	42	0.3	1.1	0.8	Euhedral to subhedral, needle to lath-shaped	
Clinopyroxene	35	35	0.1	0.5	0.3	Subhedral to anhedral	
Glass	<5	13				Interstitial	
Ilmenite	2	2	0.1	0.2	0.2	Euhedral to subhedral	
Magnetite	3	3	0.1	0.2	0.1	Euhedral	

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Fe Oxides	3				Lining vesicles, replacing glass	
Palagonite	1				Replacing glass	
Clay minerals	3				Filling vesicles	

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	3	Randomly distributed	0.3	2	0.9	Equant to elongated, filled and/or lined by Fe Oxides and/or clay minerals	Mostly empty.

COMMENTS :

Photomicrograph 1243_52.
Photomicrograph 1243_53.

THIN SECTION:	**203-1243B-17R1-17-19**	**Piece No.: 2**	**Unit: 7**	**ODP TS#: 22**	**OBSERVER: KH, SR**
ROCK NAME:	**Aphyric Basalt**				
WHERE SAMPLED:	**Pillow interior**				
GRAIN SIZE:	**Microcrystalline**				
TEXTURE:	**Holocrystalline**				

PRIMARY MINERALOGY	**PERCENT PRESENT**	**PERCENT ORIGINAL**	**SIZE (mm) min.**	**max.**	**av.**	**MORPHOLOGY**	**COMMENTS**
PHENOCRYSTS							
GROUNDMASS							
Plagioclase	50	50		0.3	0.1	Subhedral to euhedral	Radial, needle-like, few skeletal, equant plagioclase crystals.
Clinopyroxene	40	40			0.05	Subhedral	
Glass	-	5				Interstitial	Altered to yellow clay mineral (nontronite).
Opaque Minerals	5	5			0.05	Euhedral	Cubic- magnetite (?).

SECONDARY MINERALOGY	**PERCENT**	**SIZE (mm) min.**	**max.**	**av.**	**REPLACING / FILLING**	**COMMENTS**
Zeolite	1				Vein	0.1 mm thick vein filled with clear, pale gray microcrystalline zeolite.
Nontronite	3				Glass	Yellow in PPL, dark in and crystalline in XPL.

VESICLES/ CAVITIES	**PERCENT**	**LOCATION**	**SIZE (mm) min.**	**max.**	**av.**	**FILLING / MORPHOLOGY**	**COMMENTS**
Vesicles	1	Randomly distributed			0.1	Zeolite	
Veins					0.1	Zeolite	

COMMENTS : Possibly some minor sericite alteration around plagioclases. Very fresh sample. **Chapter 3, Figure F17B.**

THIN SECTION:	**203-1243B-18R1-23-26**	**Piece No.: 4**	**Unit: 8**	**ODP TS#: 23**	**OBSERVER: KH, SR, CB**
ROCK NAME:	**Sparsely Plagioclase and Olivine Phyric Basalt**				
WHERE SAMPLED:	**Pillow Margin**				
GRAIN SIZE:	**Microcrystalline**				
TEXTURE:	**Hypohyalline, variolitic**				

PRIMARY MINERALOGY	PERCENT PRESENT	PERCENT ORIGINAL	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	MORPHOLOGY	COMMENTS
PHENOCRYSTS							
Plagioclase	10	10		0.7	0.6	Skeletal	Very few euhedral crystals, mostly skeletal quenched crystals. Microphenocryst.
Olivine	2	2-3			0.3	Euhedral	Very fresh. Microphenocryst.
GROUNDMASS							
Plagioclase	10	10			0.2	Anhedral to euhedral	swallow tail, skeletal and radial quenched crystals.
Clinopyroxene	1	1		0.3	0.1	Subhedral to anhedral	
Glass	1	78				Interstitial	

SECONDARY MINERALOGY	PERCENT	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	REPLACING / FILLING	COMMENTS
Zeolite	1				Filling vein	Small microveinlet approximately 0.1 mm thick, filled with zeolite. Microcrystalline.
Palagonite + Fe Oxides	72				Replacing glass	Very dark in PPL, extinct in XPL. Fe Oxides and/or clay minerals.
Sericite	1				Replacing plagioclase	Microcrystalline. Pale yellow in PPL.

VESICLES/ CAVITIES	PERCENT	LOCATION	SIZE (mm) min.	SIZE (mm) max.	SIZE (mm) av.	FILLING / MORPHOLOGY	COMMENTS
Vesicles	1	Random distributed			0.15	Zeolite	Clear to pale gray in PPL, extinct in XPL.
Vesicles	1	Random distributed			0.15	Empty	

COMMENTS : **Chapter 3, Figure F18B, F18C, and F18D. Photomicrograph 1243_31.**

Leg 203 Alteration Log 1243B

Unit	Core	Section	Section top (mbsf)	Alteration degree	Fe-Ox	$CaCO_3$	Brown clay	Saponite	Pyrite	Celadonite	Zeolite	Vesicularity	$CaCO_3$	Fe-Ox	Brown clay	Green clay	Pyrite	Dark green clay	Zeolite
3	4R	1	118.20	0-1	x							1	x	x					
3	4R	2	119.70	0-1	x							1-2	x	x					
3	5R	1	122.70	0-1	x							1-2	x	x					
3	5R	2	124.17	0-1	x							1	x	x					
3	6R	1	127.70	0-1	x							1-2	x	x					x
3	6R	2	129.08	0-1	x							1-2	x	x					
3	7R	1	137.40	0-2	x	x						1-2	x	x	x				x
4	7R	2	138.77	1-2	x							1-2	x	x					
4	7R	3	140.22	1-2	x							1-2	x	x					
4	8R	1	142.00	1-2	x							1-2	x	x					
4	8R	2	143.45	1-2	x	x						1-2	x	x					
4	9R	1	147.00	1-2	x	x						1-2	x	x					
4	9R	2	148.50	1-2	x	x						1-2	x	x					
4	10R	1	151.50	2	x	x						1	x	x					
4	10R	2	152.74	0-1	x	x						1	x	x					
4	11R	1	156.50	1	x	x						1	x	x					
4	12R	1	159.60	1-2	x	x						1	x	x					
4	12R	2	161.10	1	x	x						1	x	x					
4	13R	1	166.10	1	x	x						1	x	x					x
4	14R	1	170.80	1	x	x						1-2		x					x
4	15R	1	175.90	2	x	x						1	x	x					
5	15R	1	175.90	0	x							0-1	x						
5	16R	1	180.40	0								0							
5	17R	1	185.40	0-1	x	x						0-1	x						
5	18R	1	190.20	1	x	x						0-1	x	x					

Leg 203 Vein Logs 1243B

Identifiers				Position	Vein							Halo			
Unit	Core	Section	Piece #	Top Depth (mbsf)	Top (cm)	Bottom (cm)	Width (mm)	App. Orient.	Mineralogy	Proportions (%)	Color	Width (mm)	Mineralogy	Proportions (%)	Comments
3	4R	1	1	118.20	3	8	1-2	sV	FeOx	100	light brown	-	-	-	
3	4R	1	1	118.20	1	7	1	V	FeOx	100	light brown	-	-	-	
3	4R	1	5	118.20	29	32	1	I	FeOx	100	light brown	-	-	-	
3	4R	1	5	118.20	29	31	1	I	FeOx	100	light brown	-	-	-	
3	4R	2	6	119.70	40	44	1-2	sH	FeOx	100	light brown	-	-	-	
3	4R	2	7A	119.70	47	50	1	V	FeOx	100	light brown	-	-	-	
3	5R	1	2	122.70	4	6	1	I	FeOx	100	med. brown	-	-	-	
3	5R	1	6A-6B	122.70	30	30	-	H	FeOx	100	med. brown	-	-	-	
3	5R	2	5	124.17	22	34	2-3	V	FeOx	100	orange brown	-	-	-	Possible halo
3	5R	2	6B	124.17	38	39	1	I	FeOx	100	green-d brown	-	-	-	
3	6R	1	8	127.70	49	52	1	V	FeOx	100	dark brown	-	-	-	Fracture? Very little material
3	6R	2	16	129.08	121	125	3	V	FeOx	100	red brown	-	-	-	
3	7R	1	11	137.40	66	78	4	V	CaCO3 + FeOx	70/30	light brown	-	-	-	
4	7R	2	1	138.77	7	10	2	I	CaCO3 + FeOx	90/10	light brown	2	FeOx	100	
4	7R	2	1	138.77	10	17	-	sV	CaCO3 + FeOx	50/50	light brown	-	-	-	Broken pieces
4	7R	2	9	138.77	127	128	3	H	CaCO3 + FeOx	80/20	light brown	5	FeOx	100	
4	7R	3	1	140.22	11	17	1	I	CaCO3 + FeOx	90/10	light brown	-	-	-	
4	7R	3	2	140.22	32	50	5	V	CaCO3 + FeOx	90/10	light brown	-	-	-	
4	8R	1	2	142.00	12	18	2	sV	CaCO3 + FeOx	60/40	light brown	-	-	-	
4	8R	1	22	142.00	139	143	1	H	CaCO3	100	light brown	3	FeOx	100	
4	8R	1	22	142.00	140	143	1	sH	CaCO3	100	light brown	3	FeOx	100	
4	9R	1	3	147.00	11	20	1	sH	FeOx	100	light brown	-	-	-	
4	9R	1	20	147.00	130	142	1	V	CaCO3 + FeOx	30/70	light brown	-	-	-	
4	9R	2	5A	148.50	50	54	3	sH	CaCO3 + FeOx	80/20	light brown	5	FeOx	100	
4	9R	2	5B	148.50	62	64	1	sH	CaCO3	100	light brown	-	-	-	
4	9R	2	5C	148.50	66	68	1	sH	CaCO3	100	light brown	-	-	-	
4	9R	2	6A	148.50	73	74	3	H	CaCO3 + FeOx	80/20	light brown	-	-	-	
4	9R	2	6B	148.50	95	96	2	H	FeOx	100	light brown	-	-	-	
4	9R	2	6B	148.50	92	110	3	I	CaCO3 + FeOx	80/20	light brown	-	-	-	
4	9R	2	6B	148.50	109	115	4	I	CaCO3	100	light brown	10	FeOx	100	Dark brown
4	9R	2	6B	148.50	122	128	2	I	CaCO3 + FeOx	70/30	light brown	-	-	-	
4	9R	2	6C	148.50	139	141	3	I	CaCO3 + FeOx	70/30	light brown	-	-	-	
4	10R	1	15	151.50	97	98	-	sH	CaCO3 + FeOx	50/50	light brown	-	-	-	Broken pieces
4	10R	2	1	152.74	-	-	-	-	CaCO3 + FeOx	-	light brown	-	-	-	Fractured piece
4	11R	1	13	156.50	81	92	1	sV	CaCO3 + FeOx	10/90	light brown	-	-	-	
4	12R	1	14A-14C	159.60	111	129	1	sV	CaCO3 + FeOx	10/90	light brown	-	-	-	Broken pieces
4	12R	2	1	161.10	1	4	0.5	sH-sV	CaCO3 + FeOx	50/50	light brown	-	-	-	Veinlets
4	13R	1	10	166.10	78	87	1	sV	CaCO3 + FeOx	60/40	light brown	-	-	-	
4	13R	1	10	166.10	78	87	1	sH	CaCO3 + FeOx	70/30	white	-	-	-	
4	14R	1	17	170.80	81	81	1	H	CaCO3 + FeOx	90/10	white	-	-	-	
4	14R	1	17	170.80	81	83	1	i	CaCO3 + FeOx	90/10	light brown	4	FeOx	100	