IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1339	A	2	H	4	22	25

Sediment/Rock Name	QUARTZ-FELDSPAR MICA SCHIST	Observer	IWR

Thin Section	Coarse Fraction	Grain Mount
X		

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
X	Quartz
	Feldspar
X	K-feldspar (Orthoclase, Microcline...)
X	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
X	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
X	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

(2)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1339	B	5	H	5	115	116

Sediment/Rock Name	dolostone, (diatom-silt)	Observer	Okura

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay
0	7	93

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
3	Quartz
2	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
80	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
15	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

(3)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1339	C	18	H	1	0	2

Sediment/Rock Name	meta-graywacke	Observer	Akira

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay
					90	10	

Comments: polycrystalline/allotriomorphic quartz, - plagioclase, rock fragments

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
50	Quartz ✓ polycrystalline
10	Feldspar ✓
	K-feldspar (Orthoclase, Microcline...) ✓
	Plagioclase ✓
40	Rock fragments ✓ made up fine grained material
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1339	B	17	H	7	17	21

Sediment/Rock Name	DOLOMITIZED DIATOM CLAY	Observer	INA

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: LARGE DOLOSTONE CONCRETION. MAINLY MICROCRYSTALLINE DOLOMITE REPLACING ORIGINAL SEDIMENT FABRIC: DIATOMS & CLAY & FORAMS. SECONDARY POROSITY DUE TO FRACTURES AND TEST DISSOLUTION. PLANOLITES BURROWS

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
<1	x Quartz
<1	x Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
20	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
50	x Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
x	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
5	Centric
10	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

(5)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1340	A	44	X	CC	20	22

Sediment/Rock Name	Volcanic Arenites	Observer	akers

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay
100		

Comments: matrix < 15%

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
20	K-feldspar (Orthoclase, Microcline...)
20	Plagioclase ✓
	Rock fragments ✓
	Sedimentary
	Igneous Intrusive
60	Igneous Volcanic ✓ basaltic?
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others


>15%

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1340	A	44	X	CC	25-27	cm

Sediment/Rock Name	DOLOMITIZED DIATOM SILT	Observer	LWG

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: DROPSTONE (?)

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
10%	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
90%	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
10%	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

(7)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1340	A	47	X	1	2	3

Sediment/Rock Name	Lithic gray wacke (Calcithite)	Observer	Abra

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay
					40		

Comments: matrix 60% poly crystalline quartz feldspar

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar ✓ 16
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary 60
	Igneous Intrusive
	Igneous Volcanic 36
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

X

(8)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1340	A	64	H	4	34	36

Sediment/Rock Name	Observer
Sponge spicule-rich sand.	Abers

Thin Section	Coarse Fraction	Grain Mount
		X

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay
90	10	

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
5	Quartz
	Feldspar
10	K-feldspar (Orthoclase, Microcline...)
4	Plagioclase
25	Rock fragments
	Sedimentary 15
	Igneous Intrusive
	Igneous Volcanic 10
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
5	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
10	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
35	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
5	Others

X

(9)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1340	A	64	H	5	42-48	

Sediment/Rock Name	SPONGE SPICULE BEARING DIATOM OOZE	Observer	KWA

Thin Section	Coarse Fraction	Grain Mount
		X

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
7%	2 Quartz
10%	3 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
3%	1 Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
17	5 Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

20

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
51%	Diatoms
17	5 Centric
34	10 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
10%	3 Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

(10)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1340	A	64	H	6	18	23

Sediment/Rock Name	sponge spicule-rich sand	Observer	QBerti

Thin Section	Coarse Fraction	Grain Mount
		✓

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
	Feldspar
15	K-feldspar (Orthoclase, Microcline...)
5	Plagioclase
	Rock fragments 20 ✓
5	Sedimentary ✓
	Igneous Intrusive ✓
10	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
1	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
1	Fe-oxide ✓
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
5	Crystal grain ✓
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
10	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
35	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
3	Others

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	B	55	H	CC	0	

Sediment/Rock Name	DOLOMITED DIATOM OOZE	Observer	LWA

Thin Section	Coarse Fraction	Grain Mount
X		

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: MICROCRYSTALLINE DOLOMITE REPLACES THE ORIGINAL FABRIC MAINLY COMPOSED OF DIATOM FRUSTULES AND RARE FELDSPARS. RELATIVELY HIGH SECONDARY POROSITY (DIATOM FRUSTULES)

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

IODP Expedition 323
THIN SECTION WORKSHEET

(12)

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	B	57	X	1	0	2

Sediment/Rock Name	dolomitized diatom ooze.	Observer	Adèna

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay
✓							

Comments: diatom frustule is almost dessolved, or filled by dolomite mineral

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
1/2	Quartz ✓
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
90	Dolomite ✓

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
10	Diatoms ✓
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

(13)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	17	H	1	130	171

Sediment/Rock Name	PORPHYRITIC BASALT	Observer	LUNA

Thin Section	Coarse Fraction	Grain Mount
~~X~~		X

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: PORPHYRITIC BASALT CLASTS. LARGE PORPHYRIES ARE COMPOSED OF TWINNED PLAGIOCLASE AND ORTHOPYROXENES. SMALLER PORPHYRIES ARE MAINLY PLAGIOCLASE

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
X	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
X	Clinopyroxenes
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

14

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1342	A	9	X	1	40-42	

Sediment/Rock Name	PORPHYRITIC BASALT	Observer	IMA

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: TWO MAIN TYPES OF PORPHYRIES : TWINNED PLAGIOCLASES + CLINOPYROXENES

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	A	6	H	4	16	16

(15)

Sediment/Rock Name	Glauconite-rich sand	Observer	Akira

Thin Section	Coarse Fraction	Grain Mount
		✓

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: Immature mineral. angular

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
40	Framework minerals
	Quartz 15 polycrystalline
	Feldspar 25
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase 20
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
45	Glauconite pellet.
	Chert
	Zircon
2	Ferromagnesium minerals ✓
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
5	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
8	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

U1342A

6H-4
14-16 cm

X10
PPL

x

(16)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1352	A	6	H	6	60	61

Sediment/Rock Name	sand (lithic and volcaniclastic)	Observer	Oliveira

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay
		✓					

Comments: Sub-rounded to sub-angular minerals chert, glauconite

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
17	2 Quartz ✓
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
33	16 Plagioclase ✓
	Rock fragments
	Sedimentary
	Igneous Intrusive
7	2 Igneous Volcanic ✓
10	3 Metamorphic ✓
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
10	3 Glauconite ✓ pellet
7	2 Chert ✓
	Zircon
27	8 Ferromagnesium minerals ✓
	Pyroxene (olivin?)
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

piece 16

(17)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	8	X	1	96	99

Sediment/Rock Name	volcanic gray wacke.	Observer	Anita

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture: Sand	Silt	Clay

Comments: acicular cement fills space between vitric grains and minerals.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
10	x Plagioclase 10.
	Rock fragments
	Sedimentary
	Igneous Intrusive
20	x Igneous Volcanic 20
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
10	Calcite 10
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
60	Vitric grain (Glass, pumice) 60
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

2 Lithologies

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1342	D	8	X	2	35-50 cm	

Sediment/Rock Name 1) VOLCANIC GRAYWACKE (TOP)

Observer | I WA

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: 2) VOLCANIC CONGLOMERATE (BOTTOM)

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
X	K-feldspar (Orthoclase, Microcline...)
X	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
X	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
X	Vitric grain (Glass, pumice) - MATRIX
X	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

X

T519

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	C	4	H	4	56	60

Sediment/Rock Name	Porphyritic dacite (?)	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount
✓		

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: See back.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
?	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
✓	Plagioclase with epidote
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
✓	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Porphyritic volcanic rock with plagioclase phenocrysts up to 2mm (10%) in a v. fine-gr felty groundmass of plag, alt. glass + poss. quartz. Plag phenocrysts have epidote alteration. Poorly defined foliation in g'mass.

X

20

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1342	D	10	X	2	15	20

Sediment/Rock Name	volcanic graywacke.	Observer	Akira

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay

Comments: matrix 50% subangular basalt grain

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
10	Plagioclase ✓
	Rock fragments
	Sedimentary
	Igneous Intrusive
40	Igneous Volcanic ✓ basalt
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

T521

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) PCH Top	Bottom
323	1342	D	10	X	3	36	41

Sediment/Rock Name	Volcaniclastic breccia	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: See back

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Polymictic breccia with basaltic clasts in a glassy matrix.

Clasts are mostly porphyritic with plag phenocrysts but there are also fine and even-gr clasts. Rare cpx and altered olivine phenocrysts in some clasts.

Larger clasts are vesicular + porphyritic flow-aligned basalt.

Clast edges are sharp + vary from angular to rounded.

Rare clasts are opaque due to Fe-ox in clast matrix = reddish to black clasts seen in hand specimen.

Alteration of clasts on edges.

X

TS22

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	10	X	3	1	7

Pc 4

Sediment/Rock Name	Volcaniclastic breccia	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: See back.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic - basalt
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Breccia with both angular + fluidal-shaped basalt clasts in a glassy matrix. Clasts are mostly flow aligned porphyritic + vesicular basalt. Minor amounts of cpx in some clasts. All other phenocrysts are plag. Some plag wrap around the edges of clasts whereas others have the flow-alignment truncated at edges. Clasts vary from scoriaceous to slightly vesicular. Although clasts vary slightly, they are mostly very similar.

X

13 23

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	9	X	1	0	2 PC 1

Sediment/Rock Name	Volcaniclastic breccia	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay

Comments: See back

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Polymictic breccia with a variety of porphyritic basalt clasts. Mostly vesicular + flow-aligned. A range of oxidised + fresher clasts – some red, black etc.

Clasts are mostly irregular + fluidal in shape. Some are very close packed + other areas have ↑ matrix between the clasts. Matrix is glassy.

Mostly plag phenos but also cpx.

X

T524

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	9	X	1	3-5cm	PC 1

Sediment/Rock Name	Fine-grained polymictic volc. breccia	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay
✓							

Comments: See over

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
✓	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
✓	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
✓	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Volcaniclastic breccia similar to TS 23 but finer-grained. Large sieve-textured + rimmed (zoned plag) plag phenocrysts. Also cpx. Both occur within clasts, with thin magmatic basalt rims and as single grains in the matrix. Matrix is glassy with chlorite and zeolite alteration and smaller lithic clasts.

Clast are irregular to rounded in shape. Moderately close packed.

TS 25

X

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	9	X	2	3-4cm	Pc 2

Sediment/Rock Name	Volcaniclastic sandstone	Observer	

Thin Section	Coarse Fraction	Grain Mount
✓		

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

See back.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
✓	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
✓	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
✓	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Volcaniclastic sandstone with similar basaltic lithic clasts as TS 23 and 24. More abundant single xtal grains of plag and cpx. Some glassy fragments.

Grains are irregular to angular/in shape, mod-well sorted. to rounded

Some alteration of grains to Fe-oxides and blue-green pumpellyite (?).

TS26

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	9	X	3	15-18	PC 1

Sediment/Rock Name		Observer	

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: Sandstone + granule conglomerate beds. – see TS 23, 24, 25 for composition

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
✓	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
✓	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
✓	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

TS 27

X

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	11	X	1	2-5	PC 1

Sediment/Rock Name	Poorly sorted monomict breccia	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: Volcaniclastic – porphyritic + amygdaloidal basalt frags with a flow-aligned texture in a matrix of glass + smaller clasts.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
✓	Vitric grain (Glass, pumice) – matrix
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

TS 28

X

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	11	X	2	2-5	PC 2

Sediment/Rock Name	Vesicular porphyritic basalt.	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay
✓							

Comments: See over

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
✓	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
✓	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Flow-aligned plag phenocrysts up to 0.1mm (30-40%) + altered ferromag phenos < 0.1mm (~5%) in a slightly altered glassy g'mass with plag microlites.

Ovoid vesicles up to 2mm (~10%). Plag laths wrap around vesicles.

X

TS 29

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	13	X	1	0-3	Pc 7

Sediment/Rock Name	Porphyritic basalt	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount
✓		

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: Plag and cpx phenocrysts in a v. fn-gr g'mass of plag, cpx, opaques and glass. Numerous irregular-shaped vesicles. G'mass varies in colour.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
✓	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
✓	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

TS 30

X

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	14	X	1	10-13	PC 2

Sediment/Rock Name	Volcaniclastic sandstone	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount
✓		

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: Moderately well sorted lithic + crystal-rich sandstone. Little matrix. See over

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
100	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Clasts are angular to irregular in shape. Some are single grains of plag or cpx but most are rock fragments of basalt. Different textures of basalt.

Many clasts are red/black due to Fe-oxides.

Grains up to 1mm.

X

(31)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1342	D	14	X	3	2-6 cm	

Sediment/Rock Name	PORPHYRITIC BASALT	Observer	LWS

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: THE PORPHYRICS ARE MAINLY PLAGIOCLASES AND SECONDARILY K-FELDSPARS AND PYROXENES. THE ROCK IS WEATHERED

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
X	Feldspar
	K-feldspar (Orthoclase, Microcline...)
XX	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
X	PYROXENE
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

X

32

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	343	E	36	H	CC	41	47

Sediment/Rock Name	BASALT	Observer	JWA

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
X	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	CLINOPYROXENE
	ORTHOPYROXENE
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

33

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1344	A	69	X	CC	35-43	

Sediment/Rock Name	DIABASE

Observer	IWA

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
X	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	X OLIVINE
X	HORNBLENDE
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

TS 35

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	17	x	4	4-8	PC 1

Sediment/Rock Name	Volcaniclastic bx and s/s with large clast	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount
✓		

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: Clast is a flow-aligned porphyritic basalt with plag and cpx phenocrysts in a felty groundmass of plag, cpx, opaques + glass. See over

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic Basalt
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
✓	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Hornblende phenocrysts <1% have thick, black reaction rims.

Irregular glassy patches throughout; largely parallel to the flow alignment of plag laths.

TS 36

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1342	D	17	X	4	37-41?	

Sediment/Rock Name		Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: Made to look a rounded pebble - see over

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic basalt
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Rounded clast of porphyritic basalt with plag, cpx and altered olivine phenocrysts in a felty g'mass of similar composition with interstitial glass altered to black material — opaques? Olivine is ~1–2%

Pebble edges are clear and sharp + much less irregular than for other basalt clasts.

(37)

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1362	D	17	X	4	95-97	

Sediment/Rock Name	PORPHYRITIC BASALT	Observer	LWH

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments: BOTH PLAGIOCLASE & CLINOPYROXENE PORPHYRIES

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
X	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	CLINOPYROXENE
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

TS 38

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	D	17	X	4	125-129	Pc 4

Sediment/Rock Name	Volcaniclastic breccia	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount
✓		

Dominant Lithology	Minor Lithology

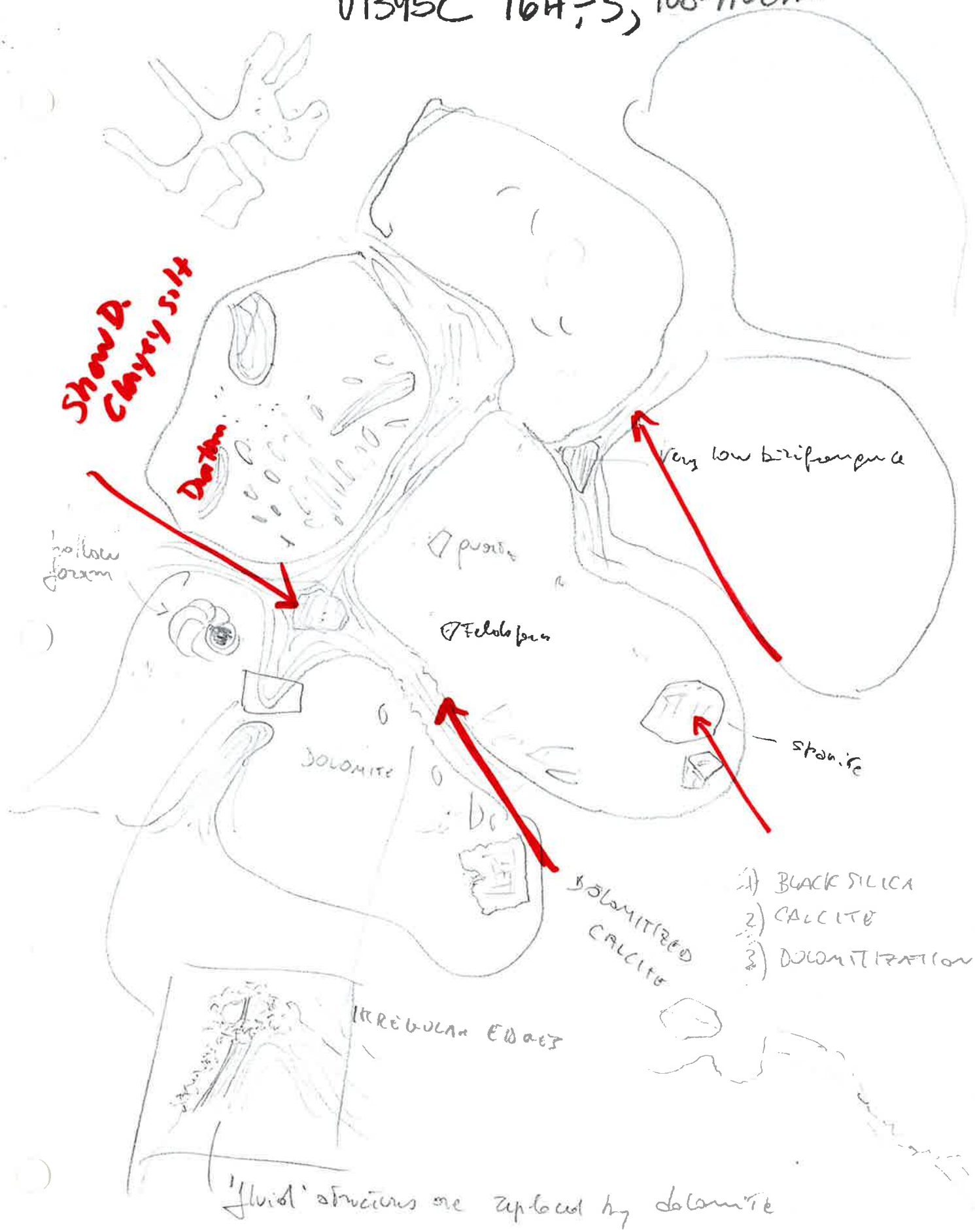
Percent Texture		
Sand	Silt	Clay

Comments: Volcaniclastic breccia like earlier thin sections with a range of porphyritic and vesicular basalt clasts.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓	Igneous Volcanic 90%
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
✓	Vitric grain (Glass, pumice) 10%
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

U1345C 16H-3, 108-110cm



IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1345	C	16	H	3	108	110

Sediment/Rock Name	dolomitized something. aka Tubeworm thing	Observer	IWA

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	A	6	H	6	60	61

Sediment/Rock Name	Lithic sand	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay
~100		

Comments: Sandy unit Roundness - sub-angular - mod well rounded.
Sorting - v good

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	✓ Quartz
25	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	✓ Plagioclase
55	✓ Rock fragments
	Sedimentary
	Igneous Intrusive
	✓✓ Igneous Volcanic
	✓ Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	✓Chlorite
2	Glauconite
	Chert
	Zircon
10	✓ Ferromagnesium minerals - pyx - amph.
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
1	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
1	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	A	6	H	4	14	16

Sediment/Rock Name	Glauconite-rich lithic sand.	Observer	

Thin Section	Coarse Fraction	Grain Mount

Dominant Lithology	Minor Lithology

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
5	Quartz
20	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
35	Rock fragments
	Sedimentary
	Igneous Intrusive
	Igneous Volcanic ✓
	Metamorphic ✓
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
30	Glauconite -pellets
	Chert
	Zircon
2	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
1	Radiolarians
	Spumellaria
	Nassellaria
5	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
2	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

IODP Expedition 323
THIN SECTION WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1342	D	8	X	1	96	98

Sediment/Rock Name	Volcaniclithic s/s - both scoria + non-vesicular.	Observer	Kelsie

Thin Section	Coarse Fraction	Grain Mount	Dominant Lithology	Minor Lithology	Percent Texture Sand	Silt	Clay

Comments: Basement - volcaniclastic s/s

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
✓	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Sedimentary
	Igneous Intrusive
✓✓✓	Igneous Volcanic
	Metamorphic
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite

Percent	Component
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain (Glass, pumice)
	Lithic grain
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others