SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 30x25x10 Location: SE wall Fours Trou [redacted]

Sample Id: D6-14 Weight (kg): 20 Depth (m): 2200-2000

Mn Crust Description

Surface Texture: patina in small patches

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-14

Comments and XRD Mineralogy:

Subs

D6-14A DPTS

~ 20%

Substrate Description

Rock Type: Basalt

Description: Sparsely plagioclase phyric (glomerocrysts) in aphanitic to glassy groundmass. Glassy rind. Vesicles near margin. Much ~~Biology (?)~~: yellow + brown altered "stuff" along fractures

Described by: ASD.

Subsampled by: ASD & JSS

more vesicles near glass rind

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): large boulder (broken) Location: SE Wall of Fais Trough [redacted]

Sample Id: D6-15 Weight (kg): 12 Depth (m): 2200-2000

Mn Crust Description

Surface Texture: patina

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-15

Comments and XRD Mineralogy:

Su

D6-15 TS XRD

Substrate Description

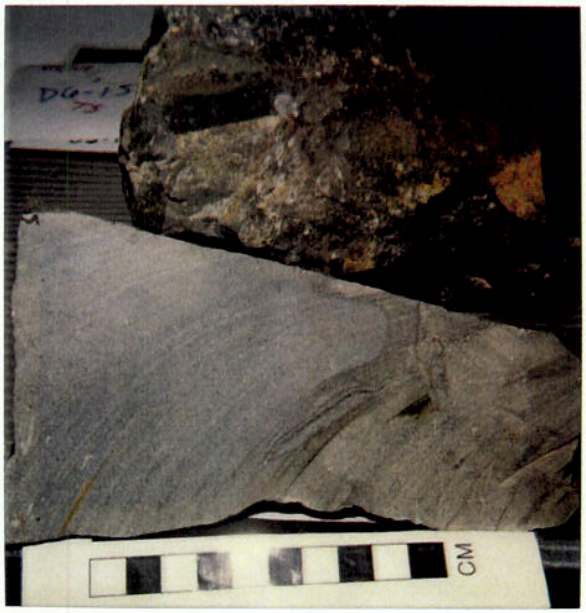
Rock Type: Basalt

1 piece to XRD! ~ 20%

Description: Very sparsely plagioclase phyric basalt with fine grained phaneritic groundmass. Much yellow, brown + greenish-yellow ~~Biology (?):~~ alteration along fractured surfaces.

~~Described by:~~ A.S.D

Subsampled by: ASD & JSD



D6-15

SAMPLE DESCRIPTION

SE Wall Fais Trou

Cruise Id: F7-91-WP Size (cm): 30x20x5 Location: [redacted]

Sample Id: D6-16 Weight (kg): ~~6~~ 10 Depth (m): 2200-2000

Mn Crust Description

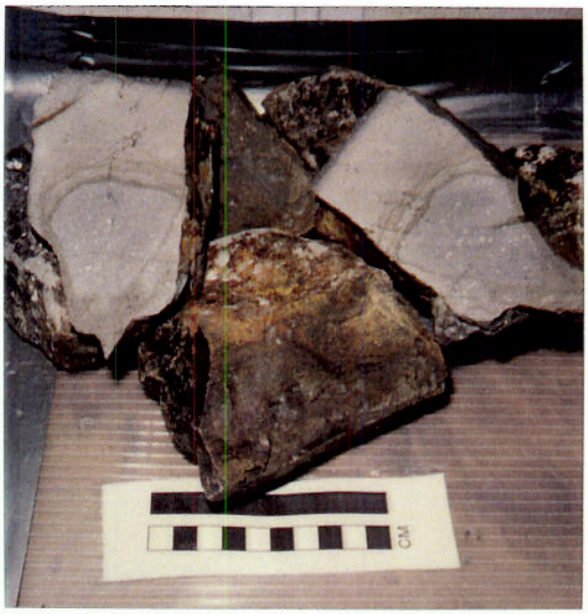
Surface Texture: Patina

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				



D6-16

Comments and XRD Mineralogy:

Subsa

[illegible] gm

[illegible] ~20%

Substrate Description

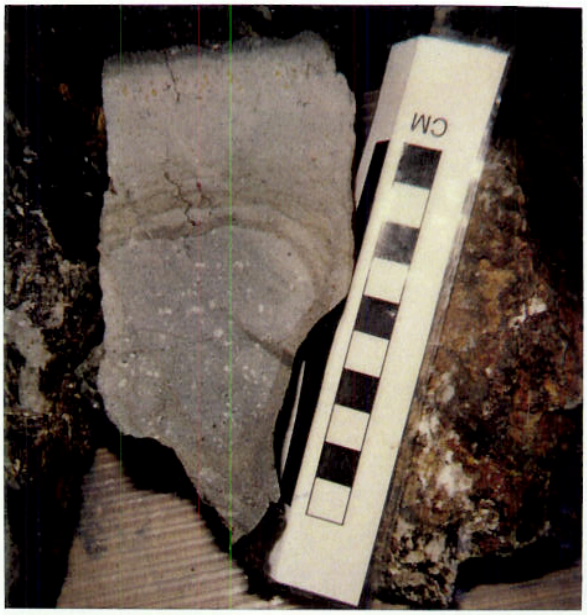
Rock Type: Basalt

Description: Mod. plagioclase phyric with glomerocrysts in aphanitic groundmass thin glassy rind. Iron oxide alteration along fractures

~~Biology (?):~~

Described by: ASD.

Subsampled by: [illegible]



D6-16

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 15x10x10 Location: SE Wall Eais Trough [redacted]

Sample Id: D6-17 Weight (kg): 5 Depth (m): 2200-2000

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-17

Comments and XRD Mineralogy:

Subsam

Substrate Description

Rock Type: Basalt

Description: Rare plagioclase phenocrysts in fine grained holocrystalline groundmass. Mod. altered except for gray rounded area —

~~Biology (?)~~: looks same mineralogically just less altered

Described by: ASD

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 10x10x7 Location: SE Wall Fais Trough [redacted]

Sample Id: D6-18 Weight (kg): 3 Depth (m): 2200 - 2000

Mn Crust Description

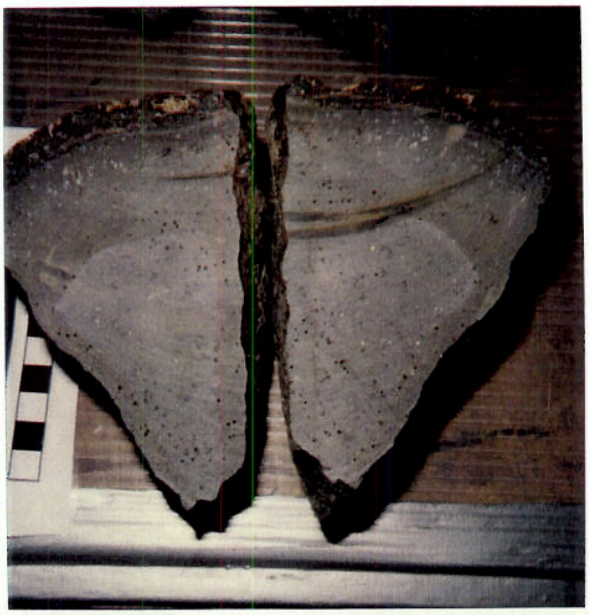
Surface Texture: patina

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				



D6-18

Comments and XRD Mineralogy:

Subs

Substrate Description

Rock Type: Basalt

Description: Sparsely plagioclase phyric (glomerocrysts) which are most abundant under glass rind. Mod. vesicular. Some oxidation along margins + fractures

~~Biology (?)~~:

Described by: ASD.

Subsampled by:

D6-18

SAMPLE DESCRIPTION

Cruise Id: FM-91-WP Size (cm): 45x40x10 Location: SE Wall Fan's Trough [redacted]

Sample Id: D6-19 Weight (kg): 40 Depth (m): 2200 - 2000 m

Mn Crust Description

Surface Texture: patina in small patches

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-19

Comments and XRD Mineralogy:

Subs

D6-19 glass rind to A Davis

DPTS } 69 gm
ICPMS - }

Substrate Description

Rock Type: Basalt

Description: Sparsely plagioclase phyric with glomerocrysts in aphanitic to glassy groundmass. Moderately vesicular with small round vesicles. Glass ~~Biology (?)~~: rind with fresh glass and palagonite.

Described by: ASD

Subsampled by:

SAMPLE DESCRIPTION

SE Wall Fais Trough

Cruise Id: E7-91-WP Size (cm): 25x20x15 Location: [redacted]

Sample Id: D6-20 Weight (kg): 15 Depth (m): 2200-2000

Mn Crust Description

Surface Texture: patina

Mn Crust Thickness (mm):

Min: Max: Ave:

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-20

Comments and XRD Mineralogy:

Su

D6-20 DPTS, XRD

[illegible] in XRD ~ 15%

Substrate Description

Rock Type: Basalt

Description: moderately plagioclase phyric basalt with fine-grained groundmass. Brownish oxidized margins.

looks ok. for K-Ar

Biology (?):

Described by: ASD.

Subsampled by:

ASD JSS

D6-20

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 23×17×13 Location: SE Wall Fais Trou [redacted]

Sample Id: D6-21 Weight (kg): 5 Depth (m): 2200 - 2000 m

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-21

Comments and XRD Mineralogy:

Subsa

Substrate Description

Rock Type: Basalt

Description: rare plagioclase phenocryst in phanaritic groundmass. Moderately altered.

Biology (?):

Described by: ASD.

Subsampled by:

SAMPLE DESCRIPTION

SE Wall Fais Troug

Cruise Id: F7-91-WP Size (cm): 30 x 25 x 10 Location: [redacted]

Sample Id: D6-22 Weight (kg): 15 Depth (m): 2200 - 2000 m

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-22

Comments and XRD Mineralogy:

Sub:

D6-22 TS, XRD, OC 30gms

[illegible] to XRD: ~25%

Substrate Description

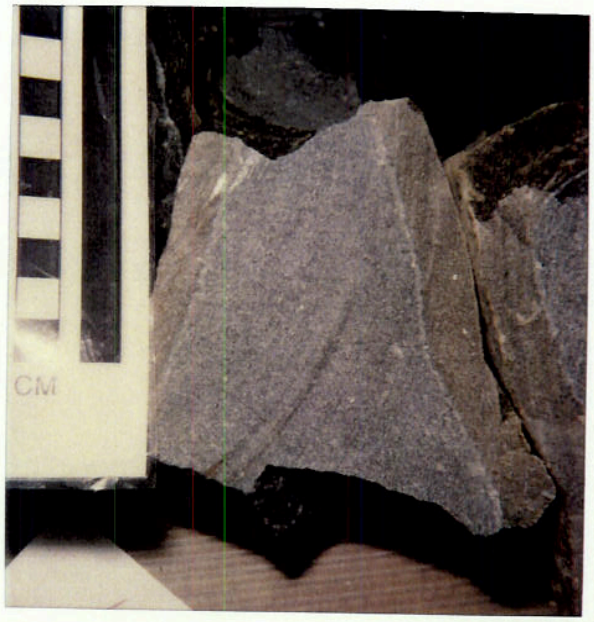
Rock Type: Basalt

Description: Rare plagioclase glomerocrysts in phaneritic groundmass. Massive. Oxidize "weathered" margins

Biology (?):

Described by: ASD

Subsampled by: ASD JSS



D6-22

SAMPLE DESCRIPTION

Cruise Id: FT-91-WP Size (cm): 20X15X10 Location: [redacted] SE Walls Fa's Tro.

Sample Id: D6-23 Weight (kg): 6 Depth (m): 2200 – 2000

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-23

Comments and XRD Mineralogy:

Sub

D6-23 piece of glass to A. Davis

DPTS
ICP-MS } 7 gm

Substrate Description

Rock Type: Basalt

Description: fresh gray basalt with rare plagioclase + olivine (very rare) glomerocrysts in aphanitic to glassy groundmass. Good glass selvages. Sparsely vesicular. Vesicles decreasing toward inside and becoming elongated "pipe" vesicles near glassy margins.

~~Biology (?)~~:

~~Described~~ by: ASD

Subsampled by: ASD JSS

D6-23

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 15x10x7 Location: SE Wall Fais Trough [redacted]

Sample Id: D6-24 Weight (kg): 3 Depth (m): 2200-2000 m

Mn Crust Description

Surface Texture: patina

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

D6-24

Comments and XRD Mineralogy:

Subs

Substrate Description

Rock Type: Basalt

Description: rare plagioclase glomerocrysts in aphanitic to glassy groundmass — glassy selvage — sparsely vesicular. Basalt oxidized along hairline fractures — alteration

~~Biology (?)~~:

Described by: with fresh gray chlas

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: FT-91-WP Size (cm): 20 x 10 x 7 Location: SE Wall Fan's Trough [redacted]

Sample Id: D6-25 Weight (kg): 7 Depth (m): 2200 - 2000 m

Mn Crust Description

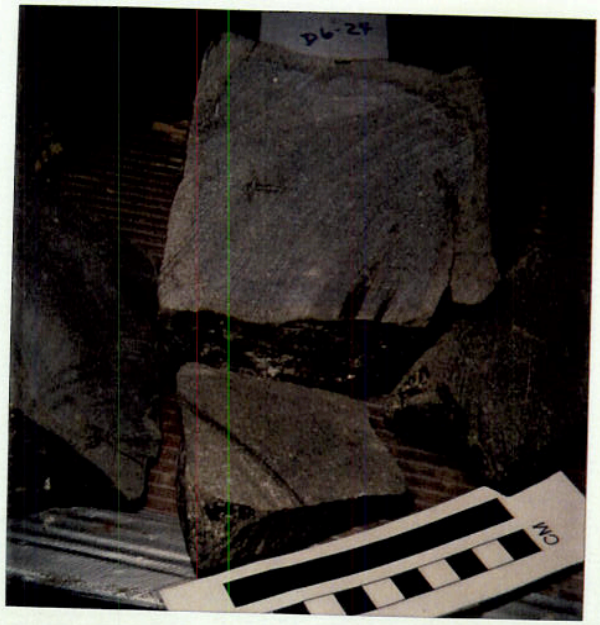
Surface Texture: patina

Mn Crust Thickness (mm):

Min: Max: Ave:

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				



D6-25

Comments and XRD Mineralogy:

Subsar

Substrate Description

Rock Type: Basalt

Description: very sparse plagioclase glomerocrysts in fine grained groundmass — massive — no vesicles — has "weathering" rind of oxidized layer

Biology (?):

Described by: KSD

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP **Size (cm):** Many pieces of large boulder **Location:** [redacted] SE Wall Fars Trough

Sample Id: D6-26 **Weight (kg):** 14 **Depth (m):** 2200-2000

Mn Crust Description

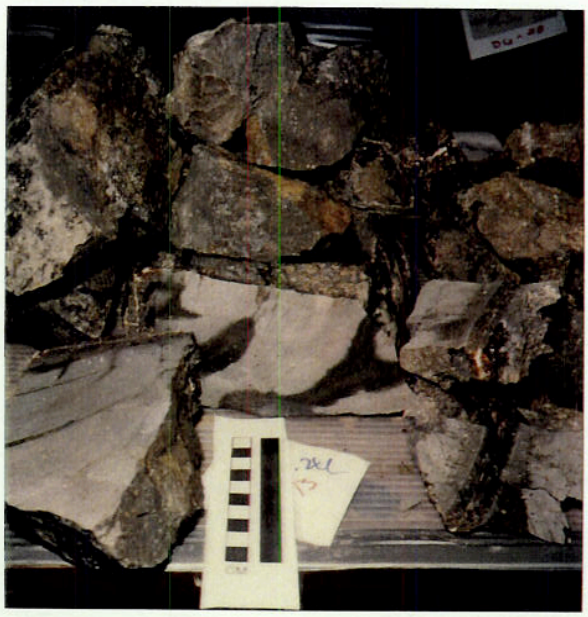
Surface Texture: smooth patina in some areas

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				



D6·26

Comments and XRD Mineralogy:

S

D6-26A — Glass Rind for A. Davis DPTS, ICP-M 16gm

D6-26 DPTS, XRD

Substrate Description

Rock Type: Basalt

2 small pieces to KOEDL <10%

Description: plagioclase + olivine phyric, with plagioclase and rare fresh olivine glomerocrysts in aphanitic to glassy groundmass. Sparsely

Biology (?): Vesicular - Good glass rind

Described by: ASD

Subsampled by: ASD & JSS

D6-26

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 2 cobble size pieces Location: SE Wall of Fais Trough [redacted]

Sample Id: D6-27 Weight (kg): .7 Depth (m): 2200-2000

Mn Crust Description

Surface Texture:

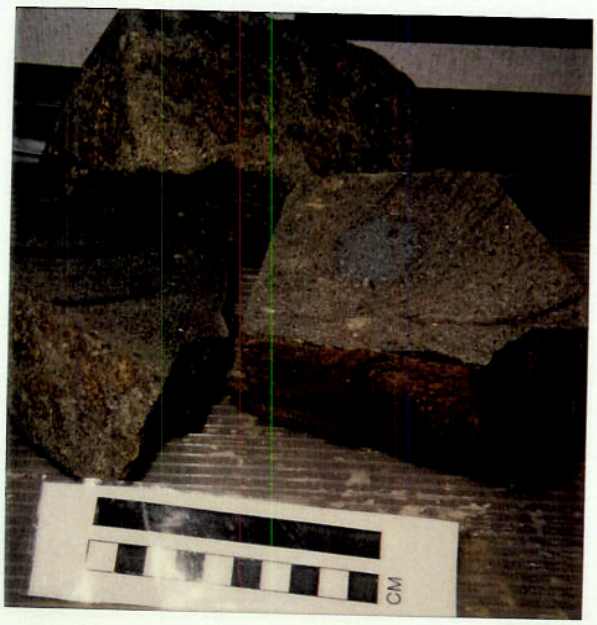
some iron oxide coating

Mn Crust Thickness (mm):

Min: Max: Ave:

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				



D6 · 27

Comments and XRD Mineralogy:

Substrate Description

Rock Type: Basalt

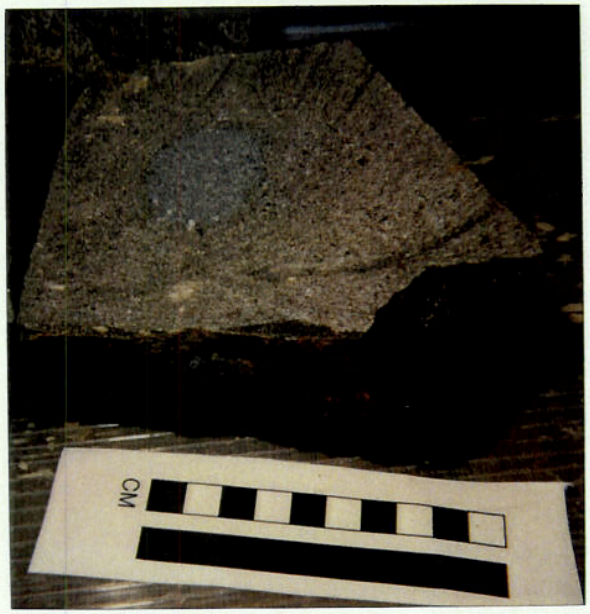
Description: sparsely plagioclase and olivine phyric in glassy groundmass. Olivine replaced by iron oxides, clay. Rock chalky to fresh. Rock is

Biology (?): moderately altered has area of fresher basalt

Described by: inside (looks same as groundmass except for less alteration)

ASD

Subsampled by:



D6 -27

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): Cobble Location: S.E. Wall of Fais trough [redacted]

Sample Id: D6-28 Weight (kg): ~5ka Depth (m): 2200 - 2000

D6-28

Mn Crust Description

Surface Texture: Eroded patina - Smooth

Mn Crust Thickness (mm):

Min: _____ Max: Patina Ave: _____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

Comments and XRD Mineralogy:

Substrate Description

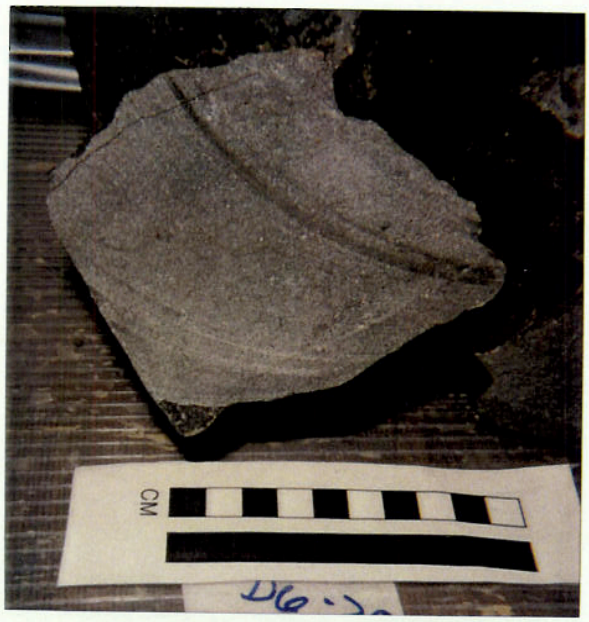
Rock Type: Basalt

Description: Greyish brown phaneritic groundmass with 1mm plag. phenocrysts - plag. altering to smectite?

Biology (?): —

Described by: [signature]

Subsampled by:



D6.28

SAMPLE DESCRIPTION

Cruise Id: E7-91-WP Size (cm): several hundred Large Pebbles Location: Fais Trough [redacted]

Sample Id: D6-29 Weight (kg): To small pebbles 80 kg Depth (m): 2200-2000

Mn Crust Description

Surface Texture: Patchy Patina

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				
2				
3				
4				
5				
6				

Comments and XRD Mineralogy:

Subsample No [redacted] D6-29

Substrate Description

Rock Type: Basalt Uncut

Description: Same as larger pieces

Biology (?):

2/5 HORDI
3/5 USGS

Described by: HEIN

Subsampled by: