SAMPLE DESCRIPTION

Replace photo

Cruise Id: L5-83-HW Size: 25x20x16 cm

Sample Id: D29-A1-A Weight: ~2 kg

Mn Crust Description

Surface Texture: bottom

Mn Crust Thickness:

Min: 1mm Max: 2mm Ave: 1.5mm

Layers (Outer to Inner):

	Min	Max	Ave	Texture
1.				
2.				
3.				
4.				
5.				
6.				

4/29

D29

Phos. Study

Comments and XRD Mineralogy:

Substrate Description

Rock Type: limestone

Description:

Foram Sandstone

encrusting forams on top

ANALYSES

Subsample & Type	Analysis	Weight
XRD		C. Daniel
I: substrate		
Chemistry + bulk substrate		
O_2 isotopes,	~50 g 100 ms O_2 isotopes	Yeh
Experimental		
dissolution kinetics		Fred Mackenzie
		~30 gms.
Substrate bulk 5 gms	Quinterno Forams	5 gm, Forams
Bulk Substrate	Sr-isotopes	- Sue Gunn
" "	DPTS	- Mann
6/29/90 35mm slide XRD, OC, U, Th, O, Se, Fl, Cl, S	D29-A1-A	G. Smith
DPTS		G. Smith
		" "

Described By: Jung-Kenk Kang 6/88 Subsampled By: Jung-Kenk Kang 6/88

Sample Description

Cruise I.D: L5-83-HW Sample I.D: Sta: D29-A1-B Location: S.P. Lee Guyot

Size: 11×8.5×5cm Weight: 0.44 kg water depth ~ 1700m

Mn crust thickness:

Total: min: 0.5mm max: 3 mm ave: 0.75mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: smooth botryoidal

Internal structure:

layered:
laminated:
massive: X
porous:
dendritic:
other:

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: phosphatized foram sand

Description: foram sand, pervasive Mn staining, not wholly replaced

Mineralogy (XRD):

Analyses and subsamples:

analysis:	analyst:

SAMPLE DESCRIPTION

Cruise Id: L5-83-HW Size: _____ Location: _____

Sample Id: D29-A1 Weight: _____ Depth: _____

Mn Crust Description

Surface Texture: _____

_____

_____

Mn Crust Thickness:

Min: _____ Max: _____ Ave: _____

Which D29-A1 does this go with???

Layers (Outer to Inner):

	Min	Max	Ave	Texture
1.				
2.				
3.				
4.				
5.				
6.				

Comments and XRD Mineralogy:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Substrate Description

Rock Type: _____

_____

_____

Description:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ANALYSES

Subsample & Type	Analysis	Weight
Bulk Mn Crust	CC (Rester)	2?g 6/88 Job # B28
		↑ (from submittal sheet)

Described By: Subsampled By:

Sample Description

Cruise I.D: L5-83-HW

Sample I.D: Sta: D29-A-2 Location: S.P. Lee

Size: 15 x 8 x 8cm Weight: 1.5 kg

Mn crust thickness:

Total: min: 0.5mm max: 2mm ave: 1mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: smooth botryoidal

Internal structure:

layered:
laminated:
massive: X
porous:
dendritic:
other:

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: phosphatized limestone

Description: not wholly replaced foram sand

Mineralogy (XRD):

Analyses and subsamples:

analysis:	analyst:
Subsampled Foams	Lauren Mullineaux

SAMPLE DESCRIPTION

C[illegible] Id: L5-83-HW Size: 16x9x7.5cm (cm) Location: S. Rose Summit

Sample Id: D29-A3 Weight: 0.92 kg (kg) Depth: 1700m (m)

Mn Crust Description

Surface Texture: Small grained granular, slightly botryoidal

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave: 1mm (coating)

Layers (Outer to Inner)(mm):

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

ients and XRD Mineralogy:

Substrate Description

Rock Type: Replaced foram Sand

Description: appears to be the same rock as D29-A1

Biology ?:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

Described By: Subsampled By:

SAMPLE DESCRIPTION

C Id: L5-83-HW Size: 12x14x6 cm (cm) Location: S.P. Lee Guyot

Sample Id: D29-A4 Weight: 0.27 Kg (kg) Depth: 1700 (m)

L5-83-HW

D29-A4

Mn Crust Description

Surface Texture: substrate shape (patina)

Mn Crust Thickness (mm):

Min: _____ Max: _____ Ave: patina

Layers (Outer to Inner)(mm):

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

ients and XRD Mineralogy:

Substrate Description

Rock Type: Partially replaced foram sand

Description: Looks very similar to D29-A1, but is much more Carbonaceous (lots of fizz).

Biology ?:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

Described By: Subsampled By:

SAMPLE DESCRIPTION

Id: L5-83-HW Size: (3@) 5x4.2x4.5 cm (cm) Location: S.P Lee Guyot

Sample Id: D29-A5 Weight: 0.3 kg (kg) Depth: 1700 (m)

Mn Crust Description

Surface Texture: 1) Smooth
2) Vesicular looking } Substrate
3) Vugs } Texture

Mn Crust Thickness (mm):
Min: Max: Ave: Patina

Layers (Outer to Inner)(mm):

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

L5-83-HW

D29-A5

ients and XRD Mineralogy:

Substrate Description

Rock Type: Clastic limestone

Description: Partially replaced foram sand, ~3% clasts of large pebble sized, rounded basalts, similar to D29-A6

Biology ?:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

Described By: Subsampled By:

Sample Description

Cruise I.D: L5-83-HW

Sample I.D: Sta: D29-A6

Location: S P Lee Guyot

Size: 11.5 x 15 x 5.5 cm Weight: 0.74 Kg

Mn crust thickness:

Total: min: max: ave: Patina

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: granular (small grained)

Internal structure:

layered:
laminated:
massive:
porous:
dendritic:
other:

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Phosphatized clastic limestone

Description: rounded, pebble-sized clasts (~3%) in a phosphatized foram sand

Mineralogy (XRD):
phosphorite

Analyses and subsamples:

analysis:	analyst:
XRD	C. Daniel
Insubstrate	
Chemistry-bulk substrate	

Cruise I.D: L5-83-HW

Size: 30x20x17.5 cm Weight: ~3 kg

Photo

Location: S. P. Lee Guyot

Mn crust thickness:

Total: min: patina max: 2 mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: smooth to porous granular

Internal structure:

layered:
laminated:
massive:
porous:
dendritic:
other:

SAM 6/.

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Clastic limestone (partially replaced by phosphorite)

Description:

Clasts are altered and fresh volcaniclastic 10 to 20% clasts [illegible] with matrix of biogenic calcareous [illegible]

Similar to D29-A6

Mineralogy (XRD):

[illegible]

Analyses and subsamples:

analysis:	analyst:
XRD	C. Daniel
I: substrate	
Chemistry - bulk substrate	U.S.G.S.
Density	C. Daniel
35mm Slide 6/29/90	G. Smith
6/29/90 XRD	G. Smith
OC	
Sr + O	
U + Th	D29-A7 treated
F + Cl + S	
DPTS	" "

SAMPLE DESCRIPTION

Id: L5-83-HW Size: 19x18x13 (cm) Location: S. P. Lee Guyot

Sample Id: D29-A8 Weight: 1kg (kg) Depth: 1700 (m)

Mn Crust Description

Surface Texture: porous to granular

Mn Crust Thickness (mm):

Min: patina Max: 1mm Ave:

Layers (Outer to Inner)(mm):

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

L5-83-HW
D29-A8

Comments and XRD Mineralogy:

Substrate Description

Rock Type: Foraminifera & limestone; most replaced to phosphate (judged by reaction to HCl)

Description: Similar to D29-A1

Fe staining on several stones

[illegible]gy ?:

[illegible] J. Schul[illegible]

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

SAMPLE DESCRIPTION

Id: L5-83-HW Size: 23×17×13.5 (cm) Location: S.P. Lee Guyot

Sample Id: D29-A9 Weight: ~2 kg (kg) Depth: 1700 (m)

Mn Crust Description

Surface Texture: smooth to granular botryoidal nodules

Mn Crust Thickness (mm):

Min: [illegible] Max: 5 mm Ave: [illegible]

Layers (Outer to Inner)(mm):

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

ents and XRD Mineralogy:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

Substrate Description

Rock Type: Partially phosphatized foraminiferal limestone, very porous, highly lithified. Similar to D29-A1

Description:

Biology ?: encrusting foram

Described By: J. Selch Subsampled By:

SAMPLE DESCRIPTION

Id: L5-83-HW Size: _____ (cm) Location: S.P. Lee Guyot

Sample Id: D29-10, D29-11, D29-13 Weight: <1 kg (kg) Depth: 1700 (m)

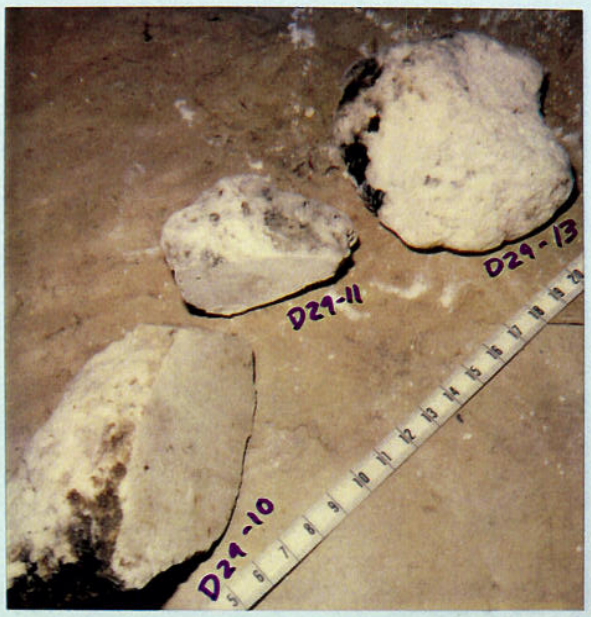
Mn Crust Description

Surface Texture: Dating of Mn in some areas on D29-10 and D29-13

Mn Crust Thickness (mm):
Min:_____ Max:_____ Ave:_____

Layers (Outer to Inner)(mm):

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



L5-83-HW

Comments and XRD Mineralogy:

Substrate Description

Rock Type: [illegible] D29-10 & D29-13 probably more [illegible] on HCL reaction)

Description: D29-11 very reactive with HCL and whiter in color (very chalky) burrowed upper surface

Biology ?:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

SAMPLE DESCRIPTION

C[illegible] Id: L5-83-HW Size: 7.5x4.5 x 3 (cm) Location: S. Pike Guyot

Sample Id: D29-12 Weight: 0.06 kg (kg) Depth: 1700 m (m)

Mn Crust Description

Surface Texture: Three 0.5 cm splotches of Mn on substrate

Mn Crust Thickness (mm):
Min:_____ Max:_____ Ave:_____

Layers (Outer to Inner)(mm):

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

[illegible]ents and XRD Mineralogy:

Sampled by Janet Haggerty

Substrate Description

Rock Type: clastic limestone

Description: Foram Sand w/ pebble + sand-sized rounded clasts (~3%)

Biology ?:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

Described By: Subsampled By:

SAMPLE DESCRIPTION

Id: L5-83-HW Size: _____ (cm) Location: S P Lee Guyot

Sample Id: D29-A14 Weight: <1kg (kg) Depth: 1700 (m)

Mn Crust Description

Surface Texture: Patina of manganese on several pieces

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.				
2.				
3.				
4.				
5.				
[illegible]				

D29-A14

L5-83-HW

Comments and XRD Mineralogy:

Substrate Description

Rock Type: Clastic Limestone

Description: Similar To D29-A7

[illegible]gy ?:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

J Schulz

SAMPLE DESCRIPTION

Id: LS-83-HW Size: 23 x 5 x 20cm (cm) Location: S. Flank summit

Sample Id: D29-15 Weight: ~8 kg (kg) Depth: 1700 (m)

Mn Crust Description

Surface Texture: a few splotches of Mn

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Layers (Outer to Inner)(mm):

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

...ients and XRD Mineralogy:

Substrate Description

Rock Type: limestone

Description: foram sand - looks just like D29-21, but is more carbonaceous.

Biology ?:

ANALYSES

Subsample Number	Analysis	LayerThickness-Explanation

Described By: Subsampled By: