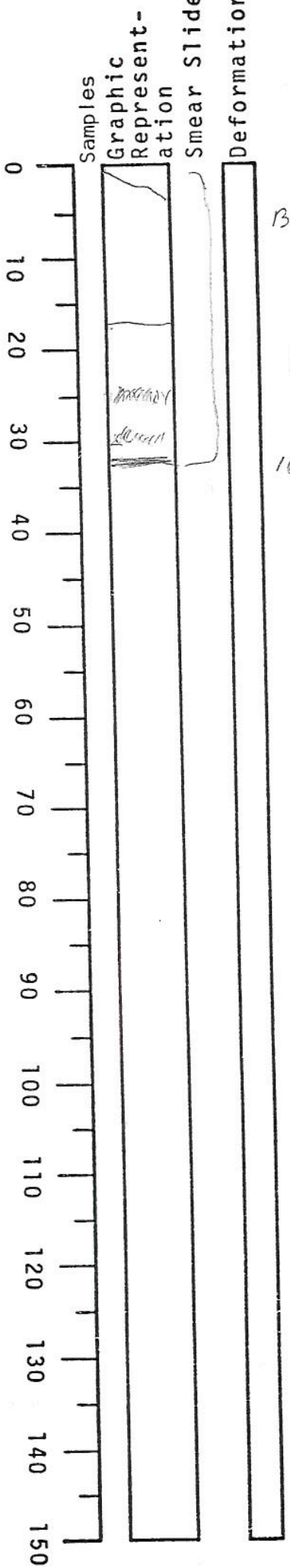
VISUAL CORE DESCRIPTION

ATV 177-2C

LOCATOR	SAMPLE NO.	SEC.
96-14-	2C	

Core Barrel 10

STATION#	OBSERVER



Brown Bacterial Mat

gray-green sandy volcaniclastic w/ brown layers, streaked foam

160mm

*note - a little plastic from core liner on surface of core

Date Aug 22, 1996

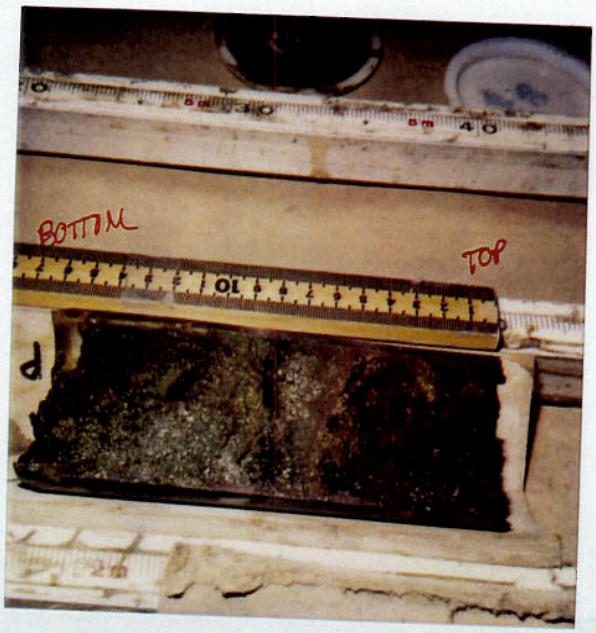
Time 1635

Lat. 44° 12.6987' N

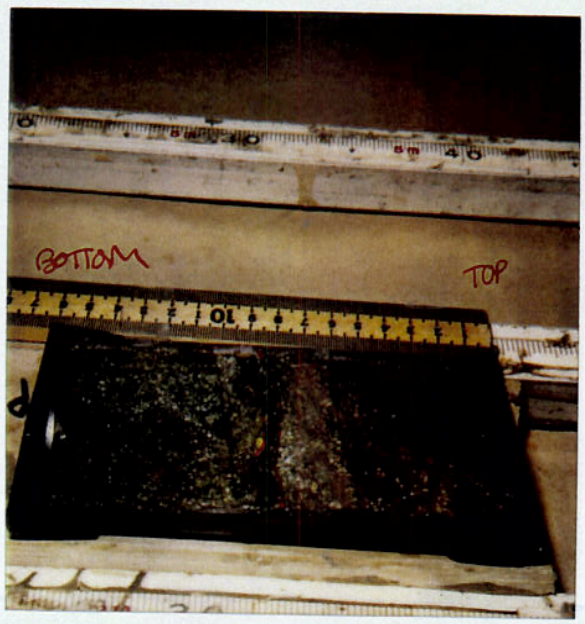
Long. 129° 38.4345' W

Sample : ATV177-2C

Water Depth: 11350 ft



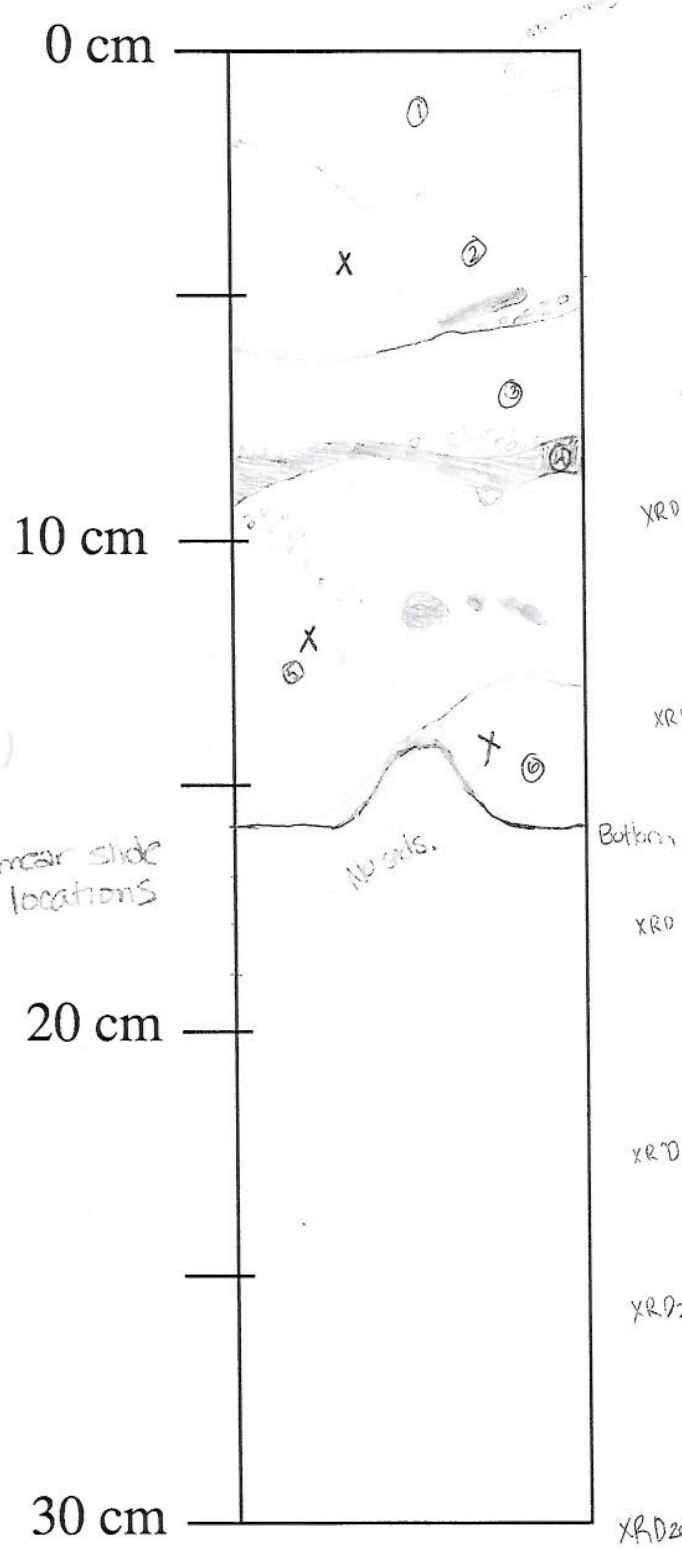
ATV 177-2C



ATV 177-2C

Visual Core Log

TOP



BOTTOM

Cruise ID: LC94-14
Sample No: ATV 177-2C
Latitude: 44° 12.6987' N
Longitude: 129° 38.4345' W
Water Depth: 11350 ft
Date: 22 Aug. 96
Time: 1635 Z
Location:
Core Length: 16 cm

Subsampled
[Sampled for MER 1/10/97]

XRD 2C① Mostly black fine-grained to medium grained sediments, poorly sorted with large (~1.5cm) black (Mn?) chunks, thin brown sediment layer at very surface of core.
(Variable thickness 1.5cm to 2.0 cm)
+ plastic from rock saw

XRD 2C② Moderate Brown, light brown, and black intermixed sediments, fine to coarse grained sediments, coarser gra at bottom of layer, pale olive grains, some black (Mn) chunks, poorly sorted, sub rounded grains
(Variable thickness 4.5 cm to 4.0cm)

XRD 2C③ Light olive to moderate brown intermixed sediments, very co to fine grains, coarser sediments at bottom of layer - fine grained, coarser sediments are lighter in color (light olive brown sediments are near the top portion of the layer
(Thickness 2.0 to 2.5 cm)

XRD 2C④ Black layer, thin brown layer of sediments at upper and lower layer boundaries, fine-grained sediments, fairly well sorted,
[Sampled for MER 1/10/97]
(Variable thickness 1.0cm to 0.5cm)

XRD2C⑤ Light olive and pale olive fine to very coarse sediments very poorly sorted with patches of coarse sediments, coarser sediments are lighter in color (pale olive) & subrounded, this layer also has small black (Mn?) chunks up to ~ 0.5 cm surrounded by a thin layer of brown sa
(Variable thickness 3.5 cm to 5.5 cm)

XRD2C⑥ Olive gray, and moderate brown sediments, fine to coarse grained, poorly sorted, rounded to subrounded grains
Very thin black layer at bottom of this layer
(Variable thickness 0.5cm to 3.5 cm)

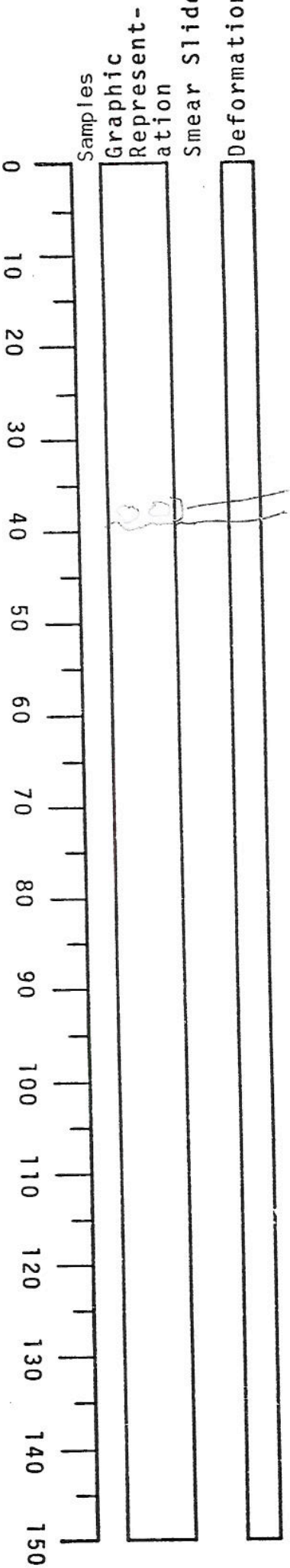
black crust @ top [crust + 6 sampled for MER 1/10/97

VISUAL CORE DESCRIPTION

ATV 177-3C

LOCATOR	SAMPLE NO.	SEC.
LC96-14		

STATION#	OBSERVER



10 mm - manganese pieces at bottom of core (1 cm)
180 mm

1-11 subsamples

Core length 17-18 cm

1 → 0-2 cm
2 → 2-4 cm
3 → 4-7 cm
4 → 7-10 cm
5 → 10-13 cm
6 → 13-15 cm
7 → 15-17 cm

17-18 cm (MnO2 chunks)

- Top portion of core has been subdivided into 2-3 cm segments & centrifuged. (Sediments) for pore waters

Date: Aug 22, 1996
Time: 1635
Lat: 44°12.6987' N
Long: 129°38.4345' W

Sample: ATV 177-3C
Water Depth: 11350 f

* Core from Geoff Wheat

Visual Core Log

TOP

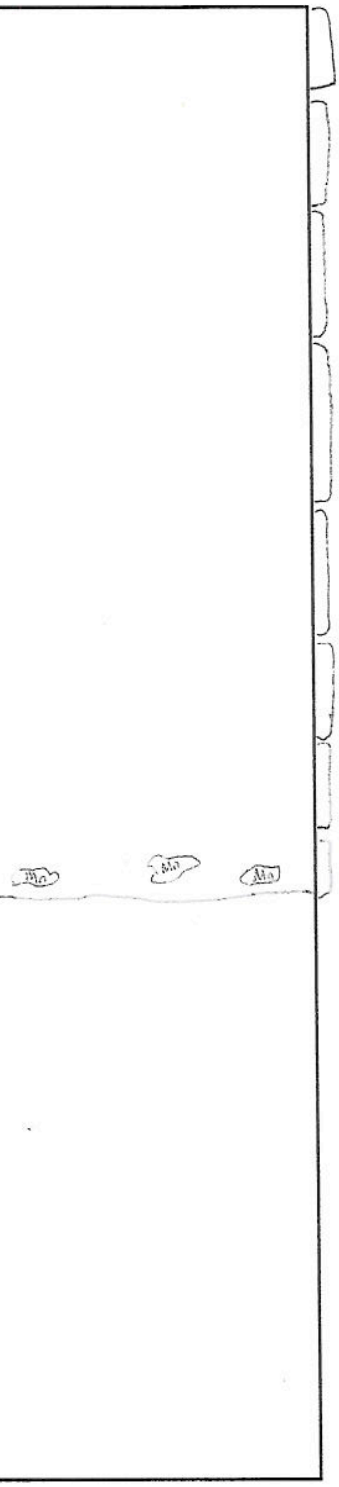
0 cm

10 cm

20 cm

30 cm

BOTTOM



Subsamples

ATV177-3C1 (0-2cm)

ATV 177 - 3C2 (2-4cm)

ATV 177 - 3C3 (4-7 cm)

ATV 177 - 3C4 (7-10cm)

ATV 177 - 3C5 (10-13 cm)

ATV 177 - 3C6 (13-15 cm)

ATV 177 - 3C7 (15-17cm)

ATV 177 - 3C8 (Mn-Chunks) - block Mn chunks (~2cm (17-18cm)

XRD - all

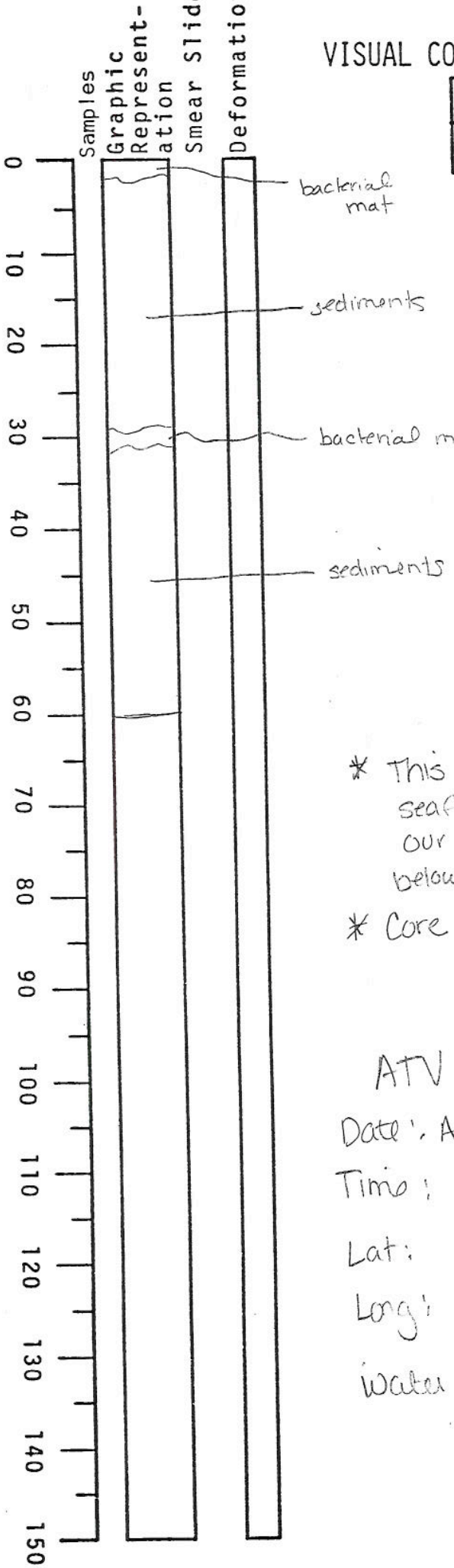
* Samples 3C1 – 3C7 were centrifuged to collect pore waters (Geoff Wheat)

Cruise ID: LC96-14
Sample No: ATV 177-3C
Latitude: 44° 12.6987' N
Longitude: 129° 38.4345' W
Water Depth: 11350 ft.
Date: 22 Aug 96
Time: 1635 Z
Location:
Core Length: 18 cm

VISUAL CORE DESCRIPTION ATV 177-7C

LOCATOR	SAMPLE NO.	SEC.
LC96-14		

STATION#	OBSERVER



* sediments: sandy material with black patches, a manganese sediments. Some patches of reddish brown Fe-rich sediments; mainly brown & tan sediments (fine to medium grained)

* This core was pushed into the seafloor twice - creating two sections. Our sample is a mixture of the material below the bacterial mats in both sections

* Core from Craig. (length unknown)

ATV 177-7C

Date: Aug 22, 1996

Time: 2259

Lat: 44° 12.7666' N

Long: 129° 38.4779' W

Water Depth: 11175 ft.

subsamples

Visual Core Log

TOP

0 cm

10 cm

20 cm

30 cm

BOTTOM

Cruise ID: LC96-14
Sample No: ATV 177-7C
Latitude: 44° 12.7666' N
Longitude: 129° 38.4779' W
Water Depth: 11175 ft.
Date: 22 Aug 96
Time: 2259 z
Location:
Core Length: unknown

Subsamples:

ATV 177-7C1 – very fine-grained (oxidized (?)) orange brown sediment, only a few small patches throughout core

ATV 177-7C2 – medium to coarse grained light tan sediments patches

ATV 177-7C3 – fine to coarse grained gray sediments. Some large angular chunks (up to ~10mm), poorly sorted
[sampled for MER 1/10/97] — * note

chem

ATV 177-7C4 – large (up to ~10 mm) pale yellow (white) angular chunks, found throughout core, earthy.

ATV 177-7C5 – mixture of core sediments, fine to coarse grained sediments, light orangish brown in color with small white fragments.

XRD - all

* note sample 7C3 for MER contains significant amounts of surrounding sedi. (v. difficult to separate)

VISUAL CORE DESCRIPTION

ATV 177-8C

LOCATOR	SAMPLE NO.	SEC.
96-14-	8C	

STATION#	OBSERVER

Samples | Graphic Represent-ation | Smear Slide | Deformation

Core Barrel 9

Mn Crust
Mn rubble

Brown Bacterial mat?
grading into

orangish, sandy to pebbly
hydrothermal mud

Black bodies

190mm

160 mm

ATV 177-8C

Date: Aug 23, 1996

Time: 2356

Lat: 44° 12.7835' N

Long: 129° 38.4560' W

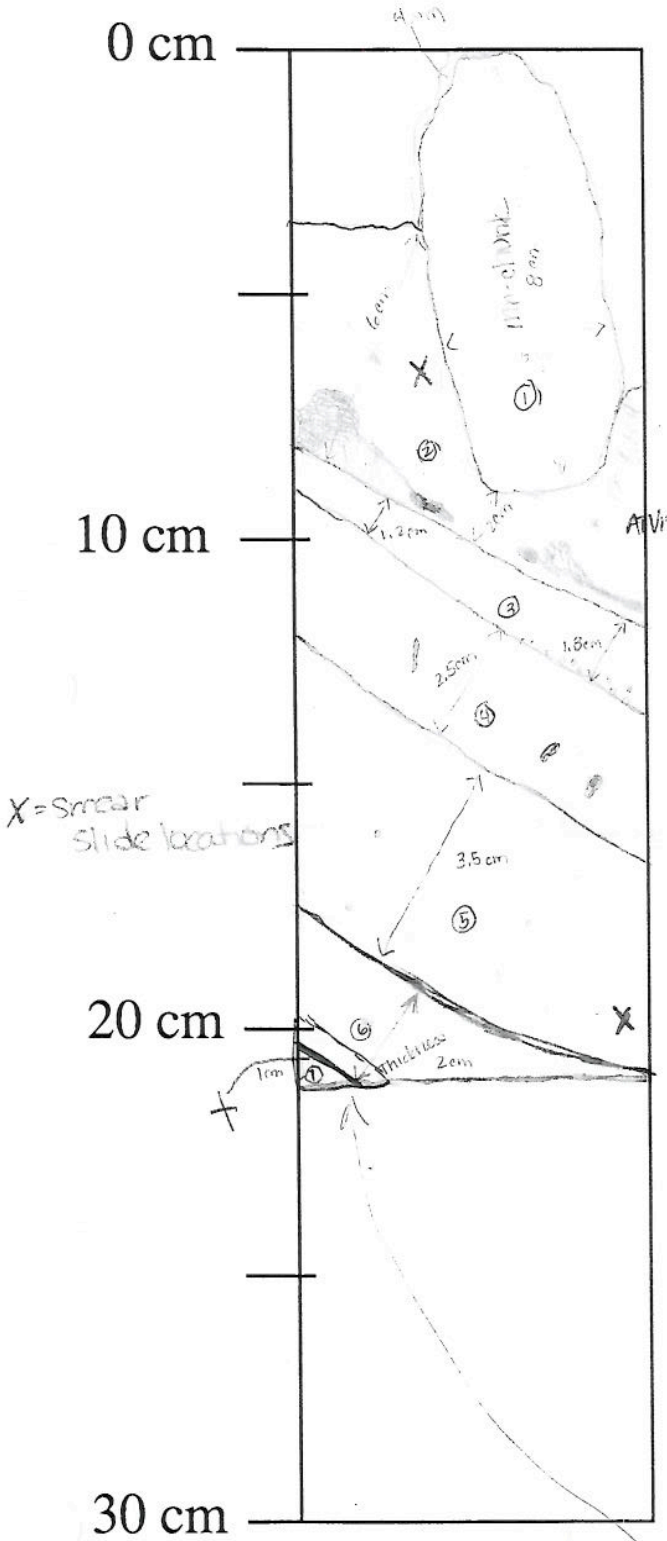
Water Depth: 11173 ft.

ATV 177 - 8C

ATV 177 - 8C

Visual Core Log

TOP



BOTTOM

Cruise ID: LC96-14
Sample No: ATV 177-8C
Latitude: 44° 12.7835' N
Longitude: 129° 38.4560' W
Water Depth: 11173 ft
Date: 22 Aug 96
Time: 2356
Location:
Core Length: 21 cm

ATV177-8C ① Mn chunk. Dimensions (8 cm x 5 cm x 4 mm) Black, friable, very fine to fine grained, earthy, angularly embedded within the top 6 cm of sediment.
[Sampled for MER 1/10/97]

8C ② Black and moderate brown intermixed sediment layer, fine-grained with a few coarse grained particles, large chunk of Mn embedded within this layer.
[Sampled for MER 1/10/97]
(variable layer thickness from 2 cm to 6 cm)

8C ③ Moderate to light brown, coarse to very fine grained sediment, thin layer of larger grained size sediments at bottom of layer, poorly sorted. → pale olive
(layer thickness ~ 1.2 cm & 1.8 cm)

8C ④ Grayish brown to Moderate brown fine to coarse grained, poorly sorted sand, subangular to rounded grains, small patches (up to 8 mm) of greenish gray sediments
(layer thickness ~ 2.5 cm)

8C ⑤ Moderate brown to light brown fine to coarse grained sand, poorly sorted → (orangish hue), subangular to subrounded grains large grains are pale olive colored.
(layer thickness ~ 3.5 cm)

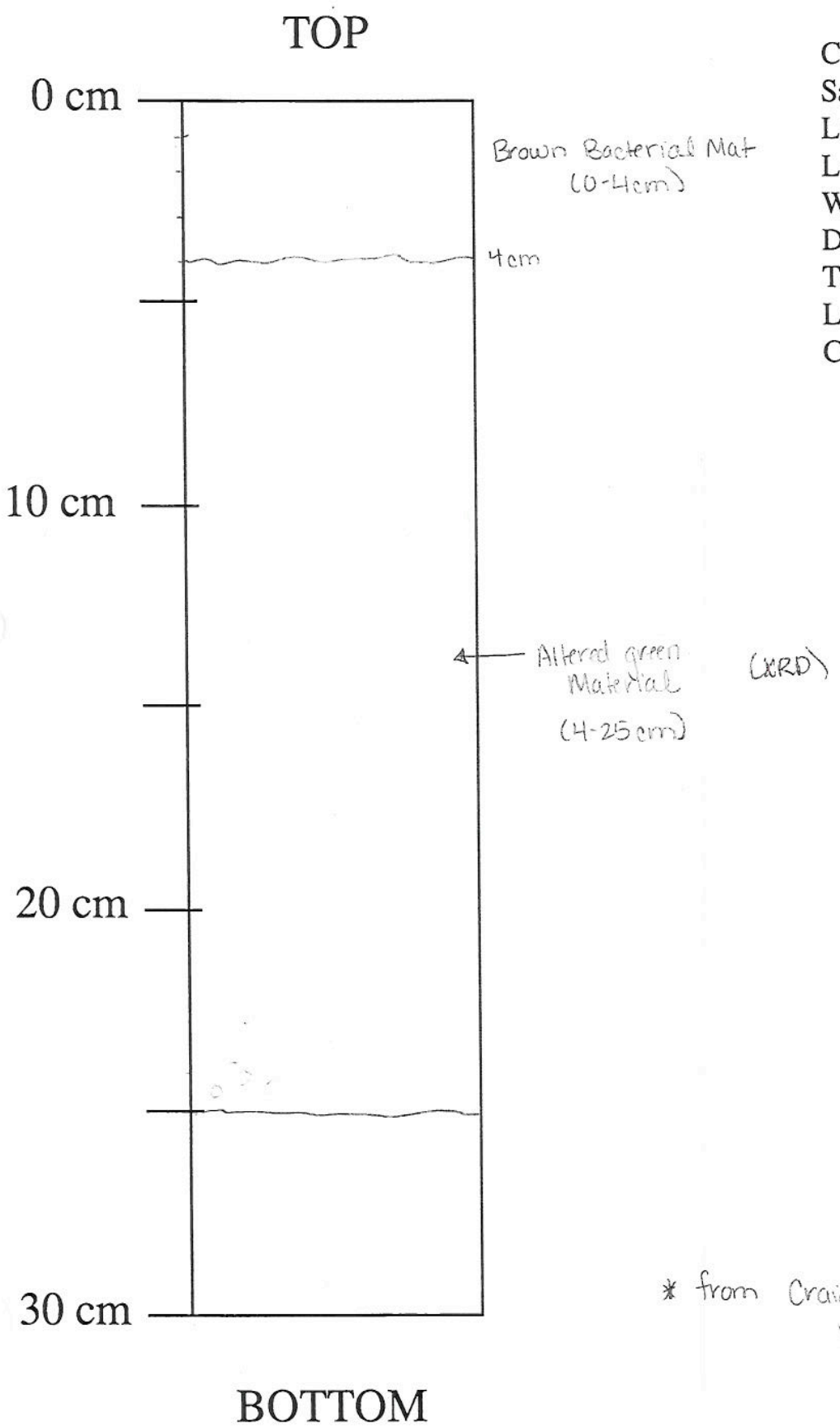
8C ⑥ Moderately brown fine to medium grained sand, fairly well sorted, forms a ___ angle with sediments below.
(layer thickness ~ 2 cm.)

8C ⑦ Pale olive to light olive coarse grained, subangular sand, includes some large pale olive chunks up to 5 mm in size, poorly sorted, (layer thickness ~ cm)
[Sampled for MER 1/10/97] - sample mixed w/ 30 cm sediments from end cap collected.

lower 7C6

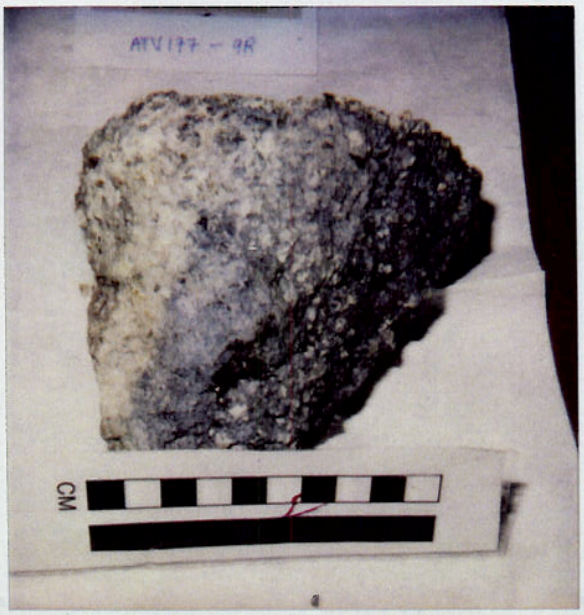
XRD - all

Visual Core Log



Cruise ID: LC 96-14
Sample No: ATV 177-13BC
Latitude: 44° 12.79804' N
Longitude: 129° 38.3513' W
Water Depth: 11216 ft
Date: 23 Aug 96
Time: 0351
Location: Bacterial Mat
Core Length: 24-25cm

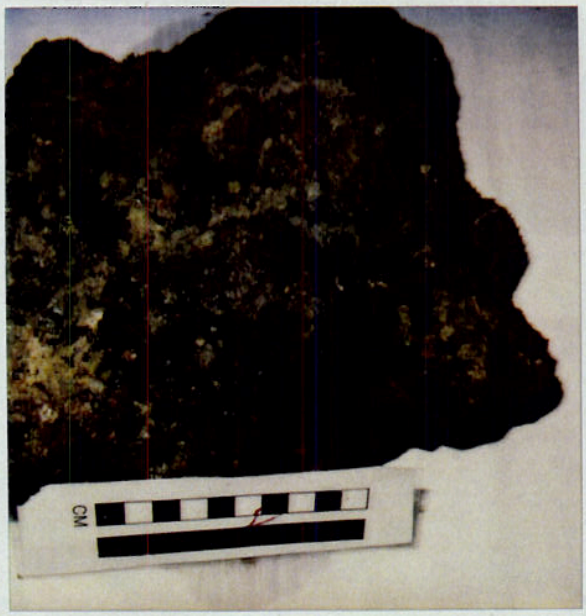
* from Craig Moyer



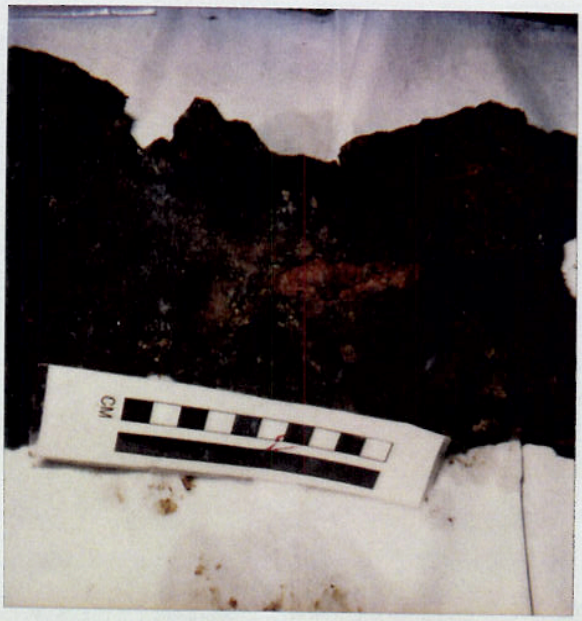
ATV 177-9R

ATV 177 - 9R

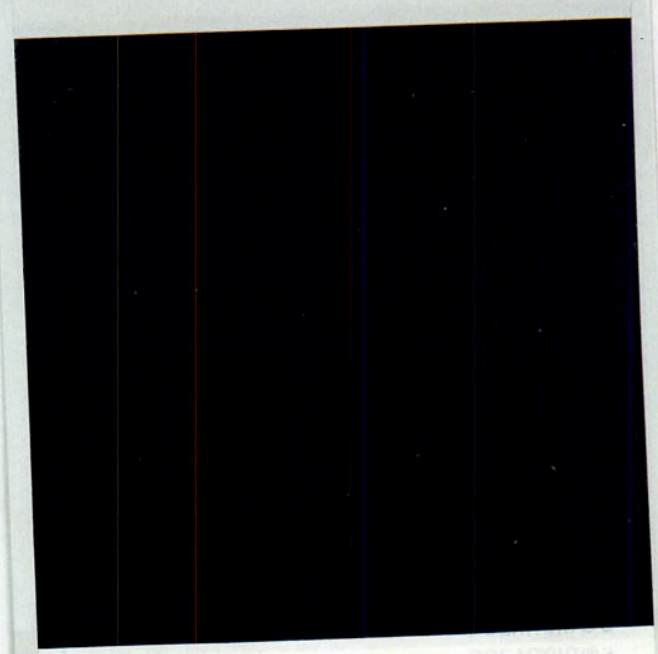
A - Interior portion
ATV 177-14R (red oxidized)



A - Outer Scrapped Side
ATV 177-14R (black oxidized)



B- Outer Side (black oxidized)
ATV 177-14R

B- Interior red oxidized
ATV 177-14R

B- Interior - close up of worm structure
ATV-177-14R