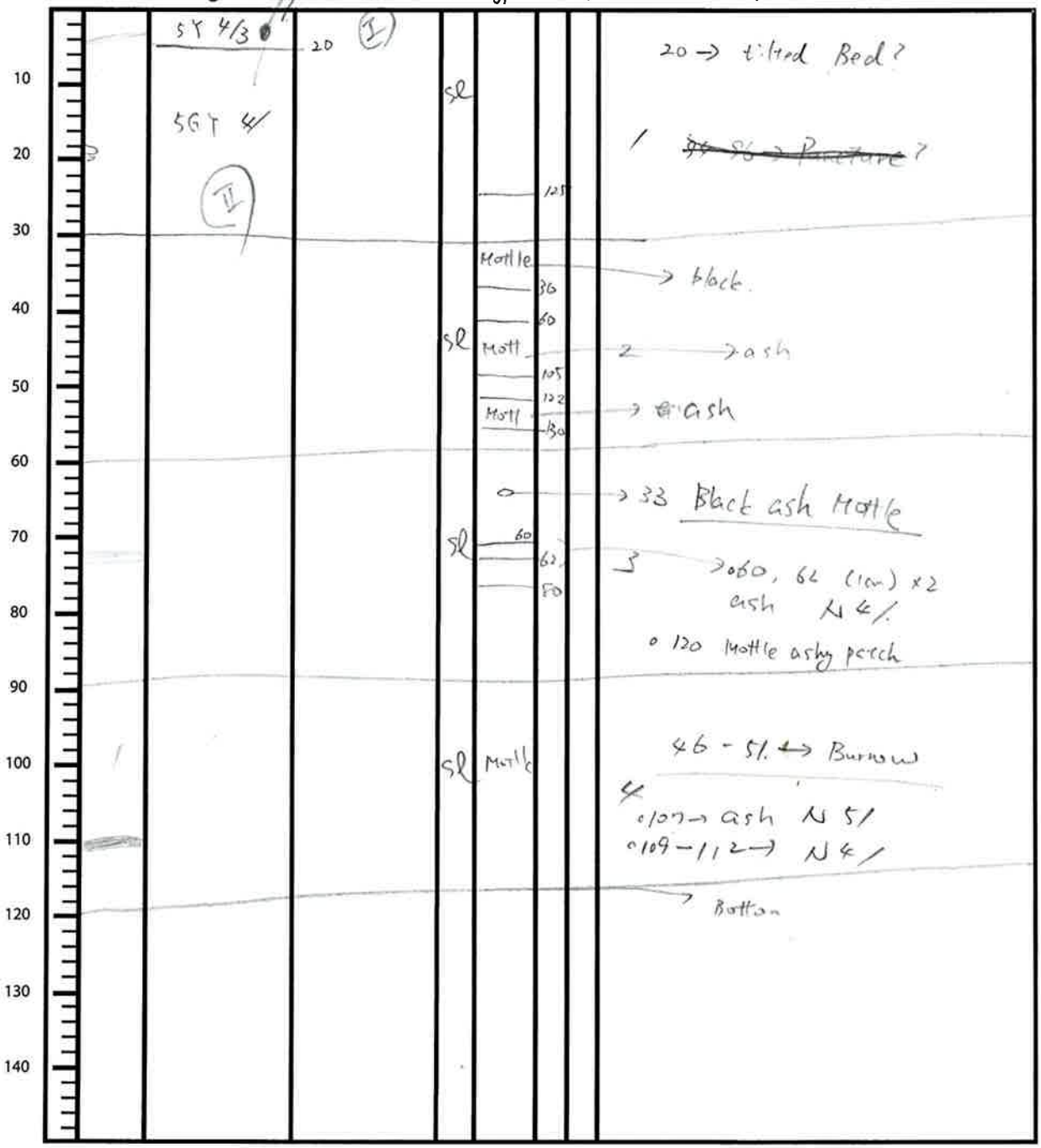
1343 E 1H 1-X
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: Hino Date:

Site	Hole	Core	Section	Top Depth
1343	E	1H	5-CC	

Expedition 323
Bering Sea

Major Lithology:

Minor Lithology:

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Visual Core description
0–30		5GY 4/	(II) + (III)	mod	20, 40, 52			(III) Black → diatom rich silty-clay; (II) diatom rich clayey silt; → mod; → 130-134 Greenish patch
30–60		5GY 4/						6
60–70		5GY 4/						CC
70								6cm

Scale: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140

Observer: Hiro

Date:

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	1	H	1	10	

Sediment/Rock Name	Diatom silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Greenish tint

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
15	Quartz
15	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
10	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
10	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
5	Vitric grain
	Lithic grain

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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	1	H	4	40	

Sediment/Rock Name	Diatom-rich clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lith.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
10	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
20	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
2	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	✓ Radiolarians
	Spumellaria
	Nassellaria
30	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
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	1	H	5	10	

Sediment/Rock Name	Diatom-rich silty clay

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Blackish patch/mottle

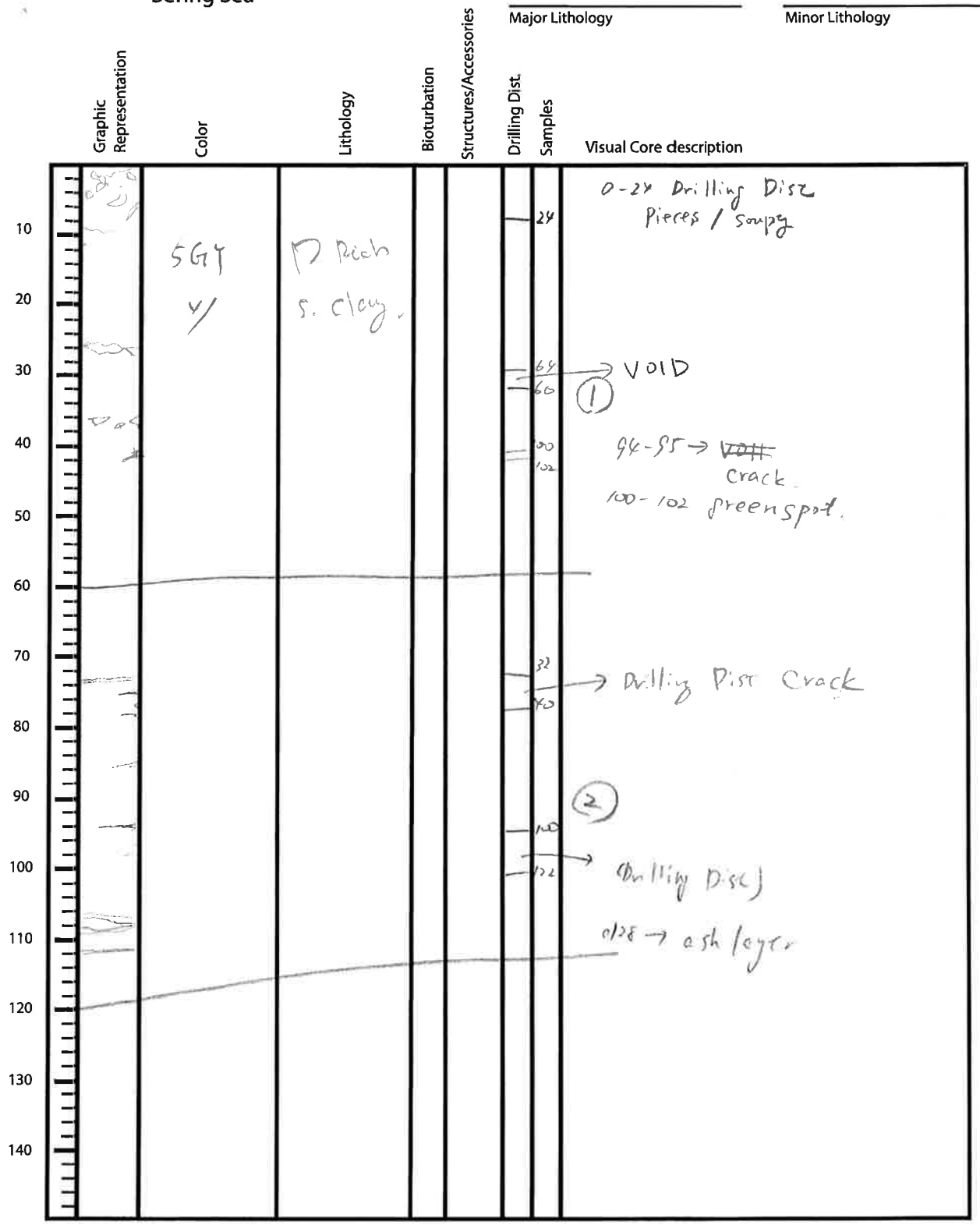
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
30	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
15	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30	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

1334 | F | 2H | 1-2 |
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology



Observer: Hino Date:

Site	Hole	Core	Section	Top Depth
		3-4		

Expedition 323
Bering Sea

Major Lithology: ____

Minor Lithology: ____

Depth	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Visual Core description
10				14	14, 34			14 crack; Mottling (14–34cm) (Black)
20							34, 40	crack (34–42)
30				140	70, 90	44	50, 85	③ 34–44 (crack); 57 50cm ("); crack
40								
50								
60								Green
70					No Mottling			~~Crack. 34–44 cm~~
80								~~Crack 57–50 cm~~
90								④ cracks 1cm, 12–14cm, 28cm, 58–69cm
100								
110								
120								
130								
140								

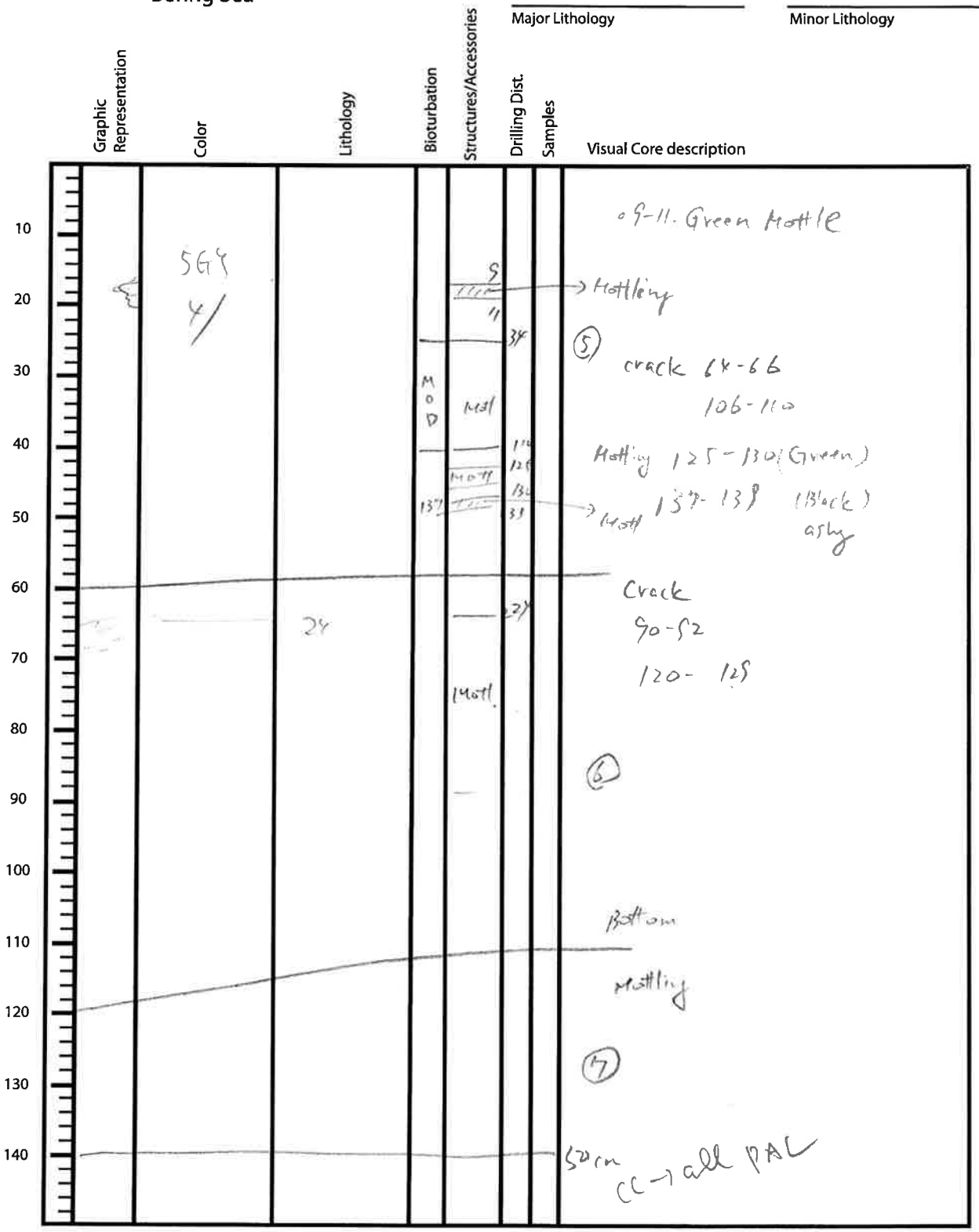
Observer: Hiro

Date: ____

Site ____ Hole ____ Core ____ Section 5-6 Top Depth ____

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: Hino Date: ____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	2H		7A	50	51

Sediment/Rock Name	Diatom rich. silty clay

Observer	H.A

Percent Texture		
Sand	Silt	Clay
10	40	50

Comments: Main Litho.

84

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~84~~ 84
	Framework minerals
69 ~~68 69~~	Quartz 10
15 ~~14 15~~	Feldspar 3
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
5	Biotite 1
	Muscovite
15	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
15 ~~14 15~~	Ferromagnesium minerals 3
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

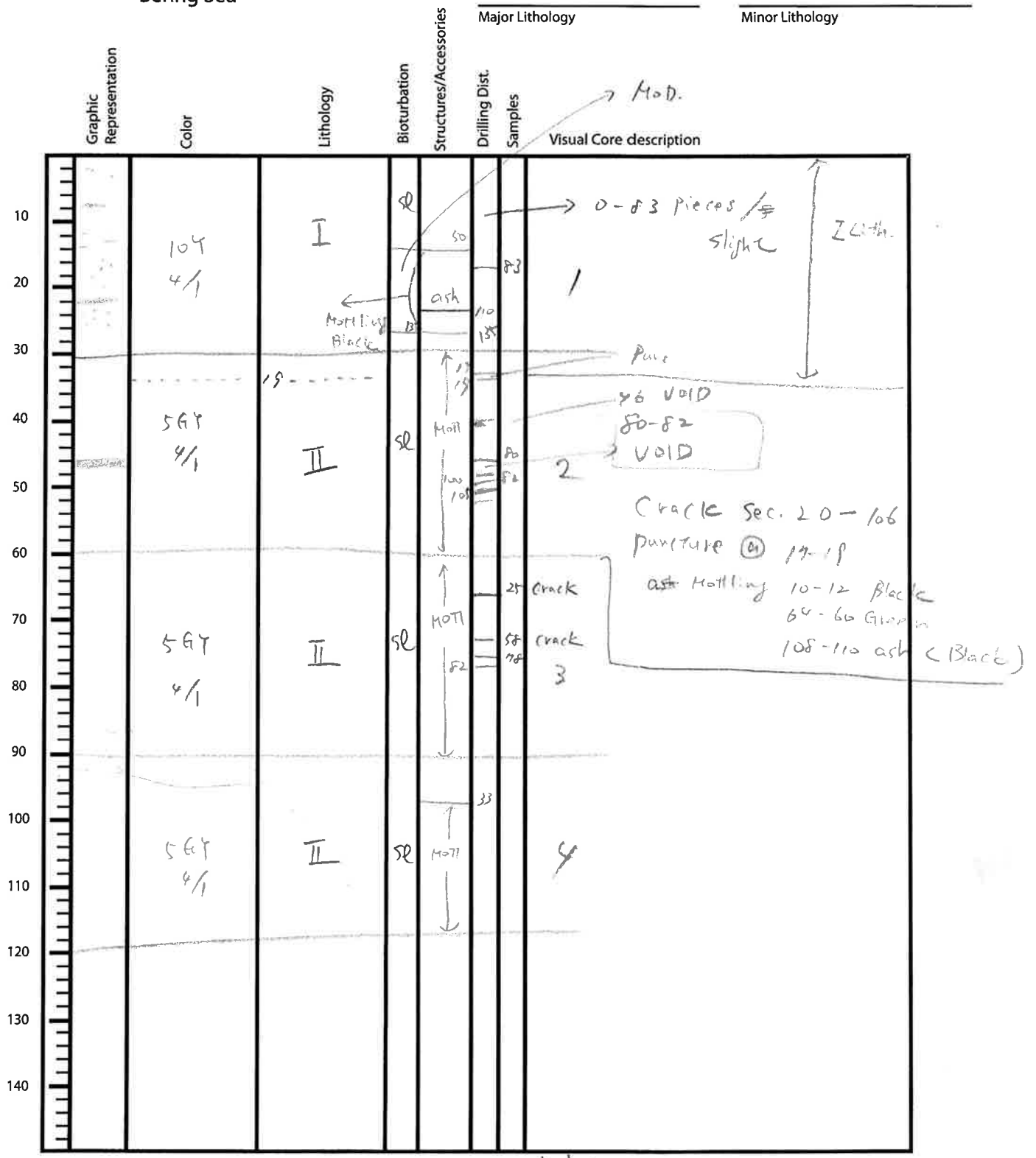
Percent	Component
	BIOGENIC GRAINS 16
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
2	0 5 Radiolarians
	Spumellaria
	Nassellaria
14 ~~15~~	3 Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

323	E	34	1-4	
Site	Hole	Core	Section	Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



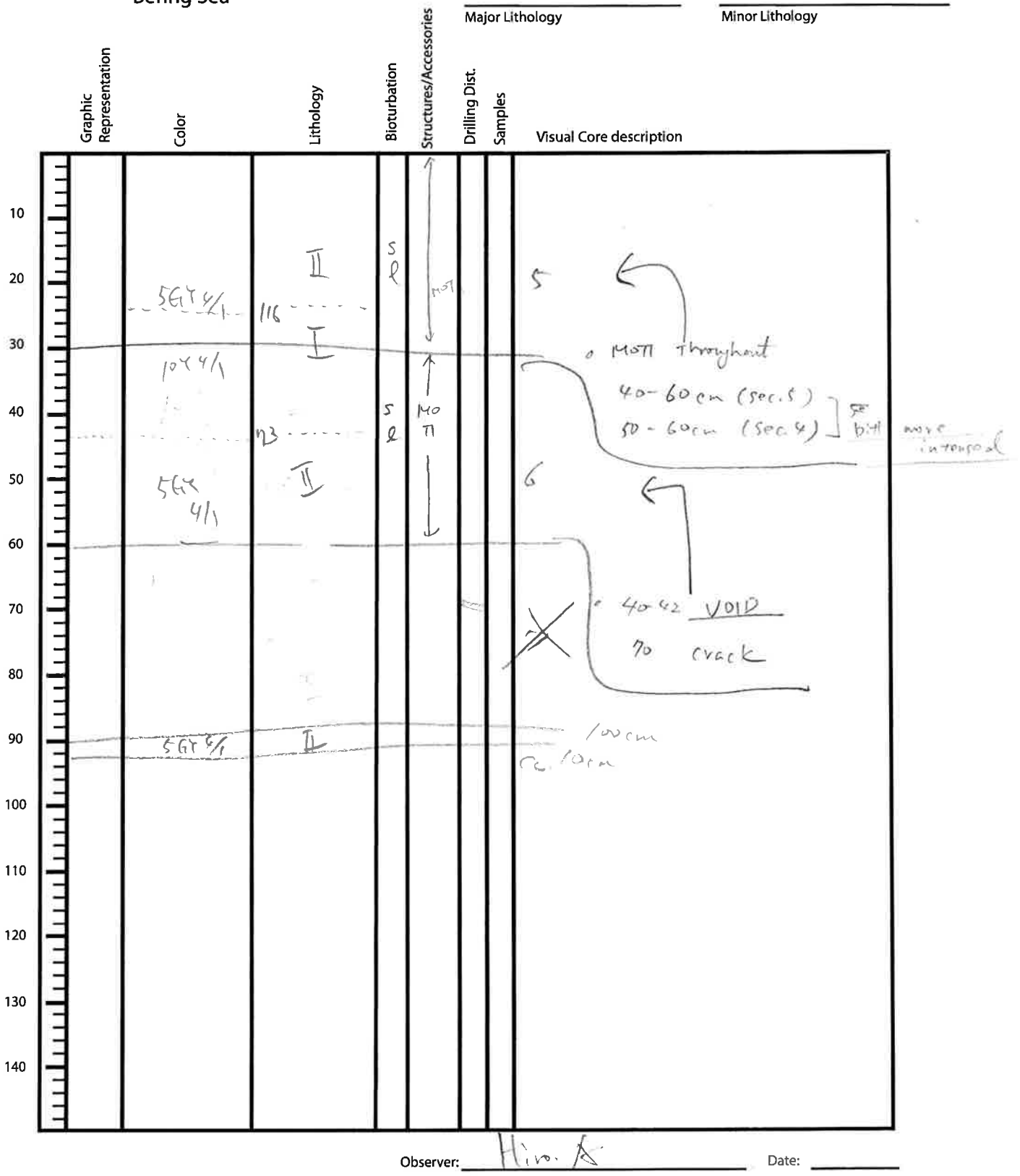
Observer: HB Date:

1343 E 3H 5-CC
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: Hino. K Date:

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	3	H	1	70	

Sediment/Rock Name	Diatom silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Greenish lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20	Quartz
20	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
1	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	✓ Radiolarians
	Spumellaria
	Nassellaria
53	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
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	3	H	4	80	

Sediment/Rock Name	Diatom-rich clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology

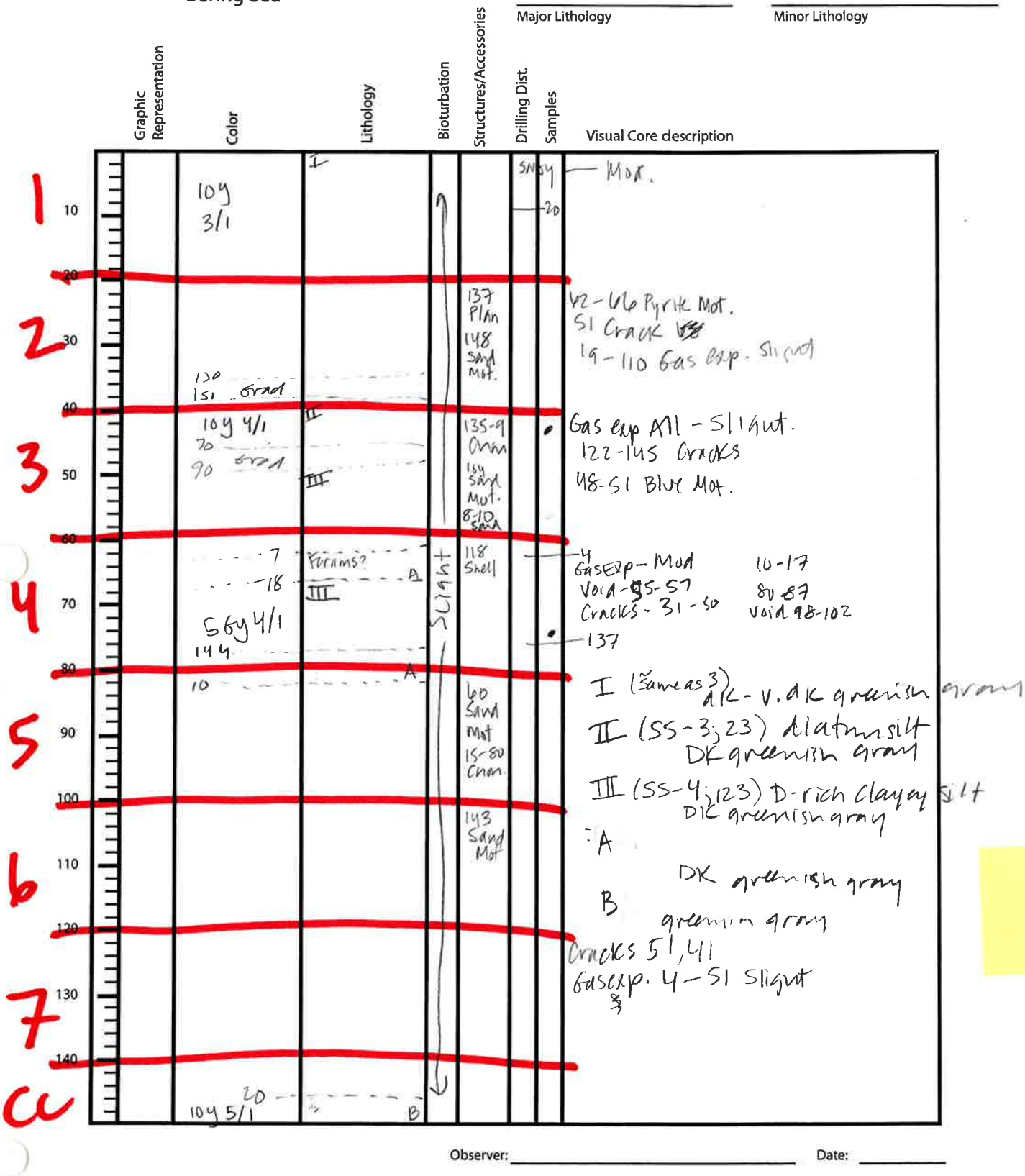
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
10	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
20	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
2	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
40	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

U1343 E 4H ALL ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	~~D~~ E	4	H	4A	14	

SM

Sediment/Rock Name	Observer
~~fo~~ diatom-bearing foraminifera silt.	Akira

Percent Texture		
Sand	Silt	Clay
	70	30.

Comments: laminae

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
6	Quartz @ 1
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
3	Clay Minerals 0.5
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals 0.5
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
11	Pyrite 2.
	Magnetite
	Fe-oxide
	Carbonates
17	Calcite 3
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
40	Foraminifera 7
	Planktonic foraminifera
	Benthic foraminifera
3	Nannofossils 0.5
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
17	Diatoms 3
	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
SEDIMENT SMEAR SLIDE WORKSHEET

SM

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	4	H	4A	123	

Sediment/Rock Name	diatom-rich clayey silt

Observer	Akira

Percent Texture		
Sand	Silt	Clay
3	77	20

Comments: Major lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
21	Quartz 5
21	Feldspar 5
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
13	Clay Minerals 3
	Chlorite
	Glauconite
	Chert
	Zircon
98	Ferromagnesium minerals 2
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
98	Pyrite 2
	Magnetite
	Fe-oxide
	Carbonates
4	Calcite 1
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
4	Foraminifera 0.1
	Planktonic foraminifera
	Benthic foraminifera
2	Nannofossils 0.5
	Coccoliths ✓
	Discoasters
	Pteropods
	Siliceous
	Radiolarians ✓
	Spumellaria
	Nassellaria
21	Diatoms 5
	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

SM

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	4	H	3A	23	

Sediment/Rock Name	diatom silt

Observer	Ackora

only for siliciclastics

Percent Texture		
Sand	Silt	Clay
5 → 2.	90 → 20.	5

Comments: Major lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
22	Quartz 7
16	Feldspar 5
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
6	Rock fragments 2
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals ✓ ?
	Chlorite
	Glauconite
	Chert
	Zircon
2	Ferromagnesium minerals 0.5
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
6	Pyrite 2
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

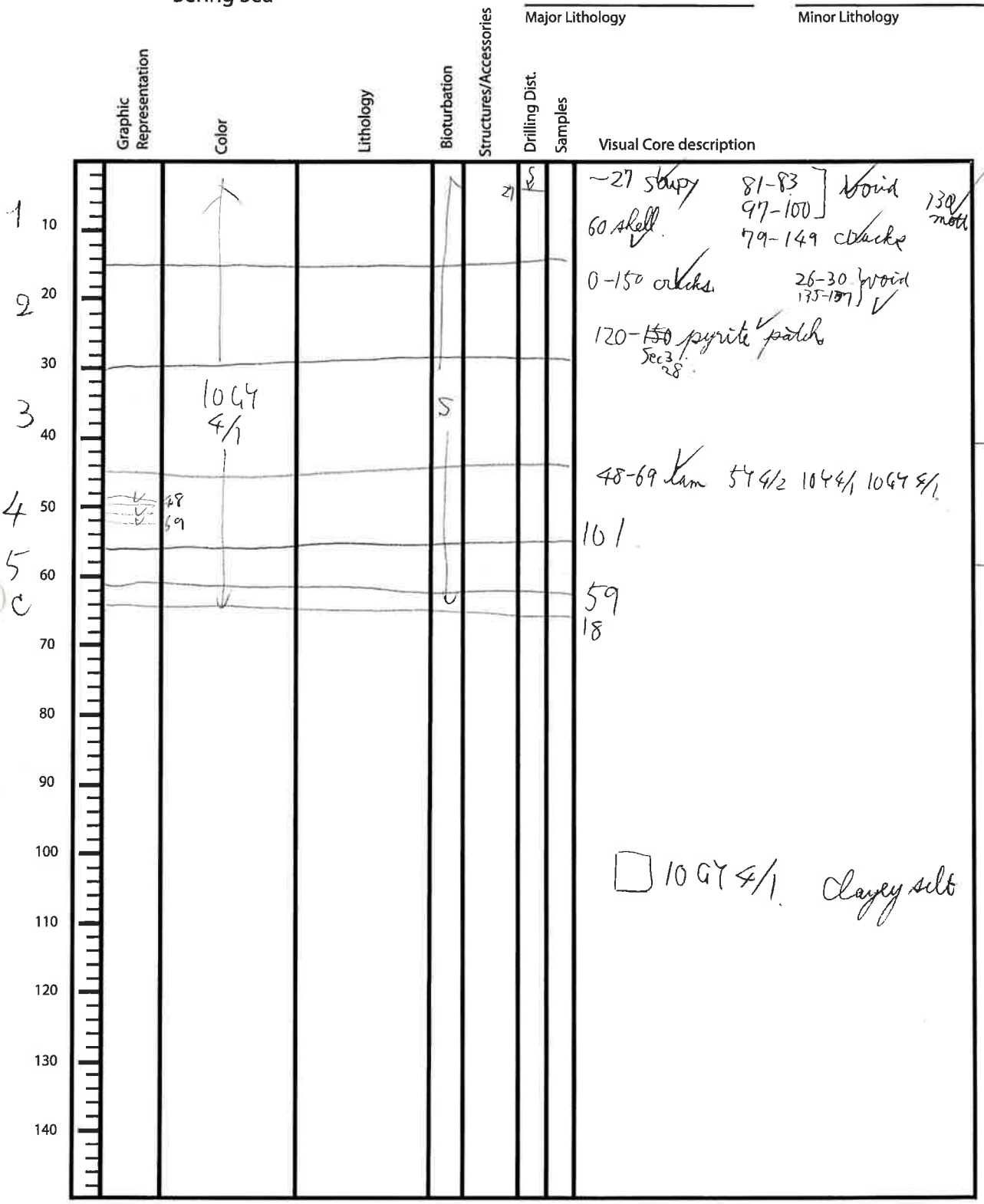
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	✓ Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
48	Diatoms 15
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules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

1343 E 5 A
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	5	H	3	100 cm	

Sediment/Rock Name	Clayey-silt.

Observer	G.B

Percent Texture		
Sand	Silt	Clay
5	40	55

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
40	X Quartz
20	X Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
40	X Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
X	Fe-oxide Hbe.
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
2	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	5	H	4	52cm	

SM

Sediment/Rock Name	Clay

Observer	G.B.

Percent Texture		
Sand	Silt	Clay
2	38	60

Comments:

Percent		Component
SILICICLASTIC GRAINS/MINERAL		
		Framework minerals
15	x	Quartz + polycrystalline Q3.
5	x	Feldspar
		K-feldspar (Orthoclase, Microcline...)
		Plagioclase
		Rock fragments
		Accessory/trace minerals
		Micas
		Biotite
		Muscovite
40	x	Clay Minerals
		Chlorite
		Glauconite
		Chert
		Zircon
		Ferromagnesium minerals
		Authigenic minerals
		Barite
		Phosphorite/Apatite
		Zeolite
		Opaque minerals
10	x	Pyrite
		Magnetite
		Fe-oxide
		Carbonates
20	x	Calcite Needles (some)
		Dolomite
VOLCANICLASTIC GRAINS		
		Crystal grain
		Vitric grain
		Lithic grain

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

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

SM

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	5	H	4A	67	

Sediment/Rock Name	Foram-bearing diatom clayey silt

Observer	Beth

B - 45
S - 55

Comments: V - 0

Percent Texture		
Sand	Silt	Clay
	60	40

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
5	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
70	Rock fragments polyxline
	Accessory/trace minerals
3	Micas
	Biotite
	Muscovite
15	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
10	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
10	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

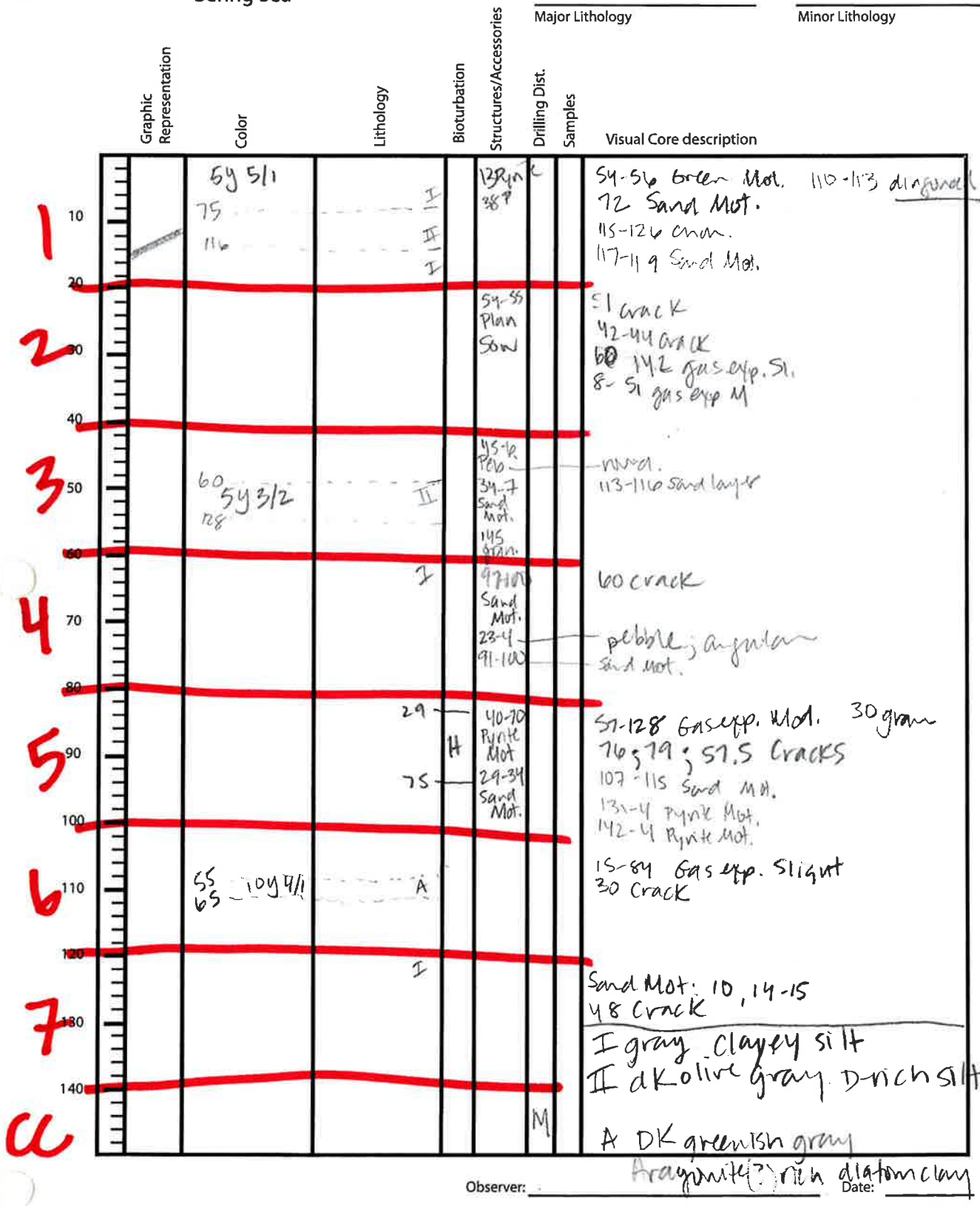
Percent	Component
	BIOGENIC GRAINS
	Calcareous
10	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
20	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
3	Sponge spicules calcareous
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 E 6H ALL
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: Date:

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	6	H	3	92cm	

Sediment/Rock Name	Diatom-rich Silt.

Observer	G.B

Percent Texture		
Sand	Silt	Clay
v 10	/ 60	30

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
45	X Quartz
25	X Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
8	X Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
10	X Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2	X Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
10	X 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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U 1343	E	6	H	4	90 cm	

Sediment/Rock Name	Clayey Silt

Observer	G.B.

Percent Texture		
Sand	Silt	Clay
5	45	50

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
40	x Quartz
25	x Feldspar
	K-feldspar (Orthoclase, Microcline...)
	x Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
23	x Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
10	x Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
2	x 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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	6	H	6A	60	

Sediment/Rock Name	aragonite-rich? diatom-clay

Observer	Akira

Percent Texture		
Sand	Silt	Clay
	30	70

Comments:

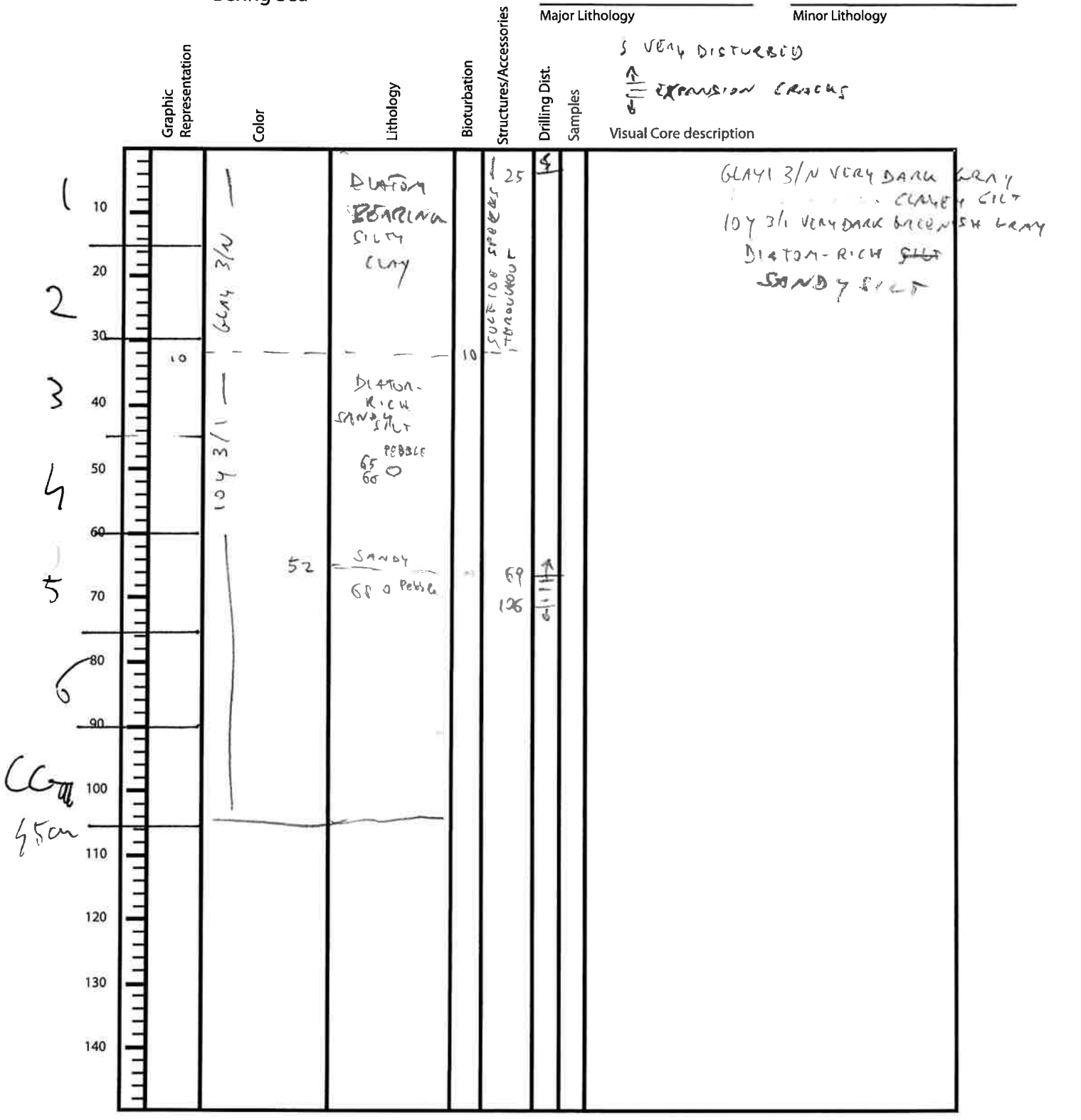
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
13	Clay Minerals 85
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
8	Calcite 3
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
13	Diatoms 5
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
66%	Others aragonite? 25

1343 E 7 1-CC
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	7	H	2A	70	

Sediment/Rock Name	diatom-bearing clayey silt

Observer	akiras

Percent Texture		
Sand	Silt	Clay
10	60	30
5	75	25

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
21	Quartz 17
9	Feldspar 3
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
21	Rock fragments 7
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
30	Clay Minerals 10.
	Chlorite
	Glauconite
	Chert
	Zircon
1	Ferromagnesium minerals 0.5 ✓
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain 2
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
15	Diatoms 5
	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	7	H	3A	70	

Sediment/Rock Name	diatom-bearing sandy silt

Observer	Akira

Percent Texture		
Sand	Silt	Clay
28 ~~17~~	40 ~~10~~	12 3

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
28	Quartz ~~57~~
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
20	Rock fragments 5
	Accessory/trace minerals
	Micas 5
	Biotite
	Muscovite
8	Clay Minerals 2
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
4	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
8	Crystal grain 2
	Vitric grain
	Lithic grain

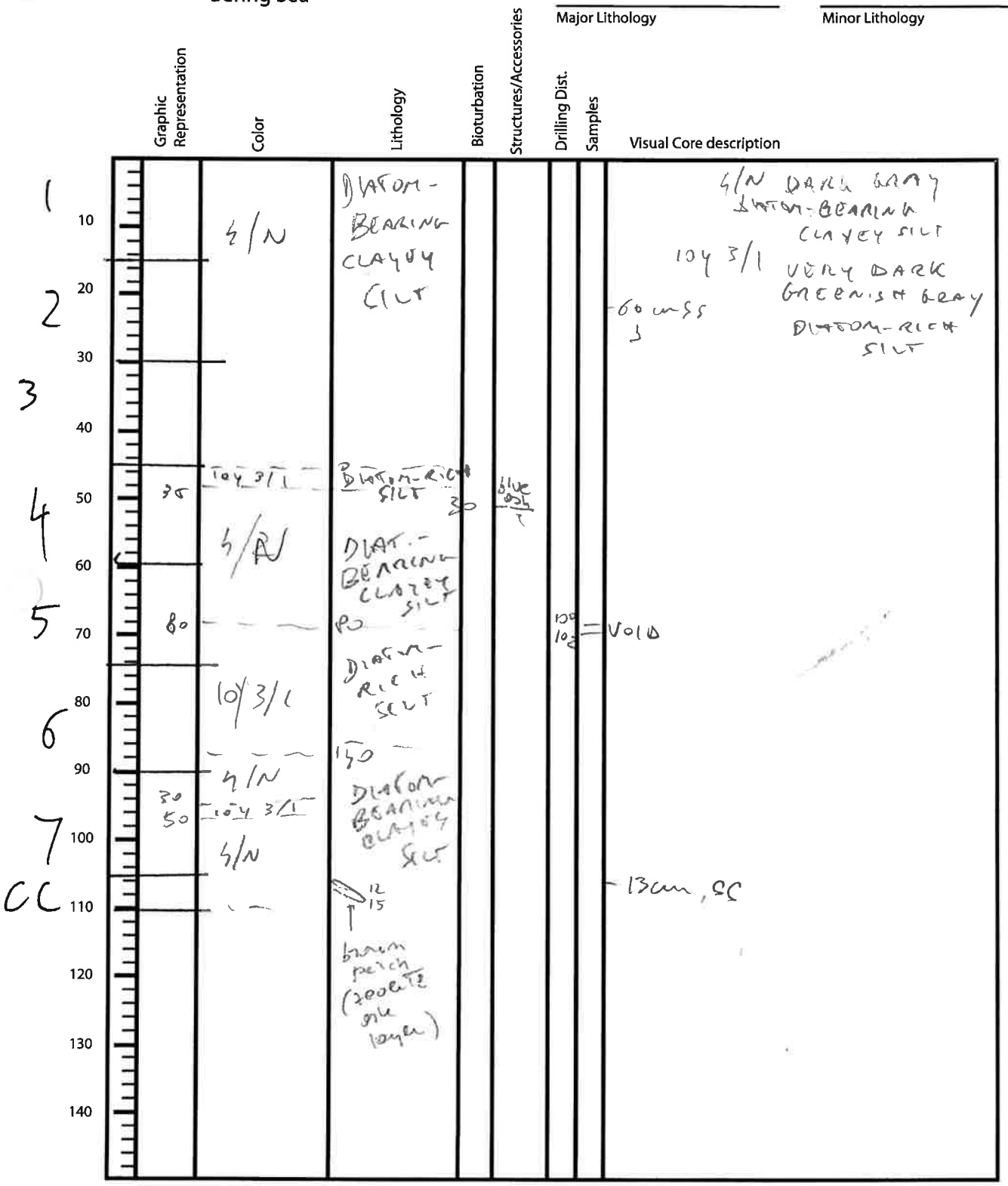
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
12	Diatoms 3
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 B 8 1-CC
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	8	H	2	60	

Sediment/Rock Name	diatom-bearing clayey silt

Observer	Akira

Percent Texture		
Sand	Silt	Clay
17 3	56 15 ~~7~~	28 10

Comments:

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
10	Diatoms 3
	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
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	8	H	CC	13	

Sediment/Rock Name	fine ash.	Observer	Akira

Percent Texture		
Sand	Silt	Clay
29	59	6
5	10	0

Comments:

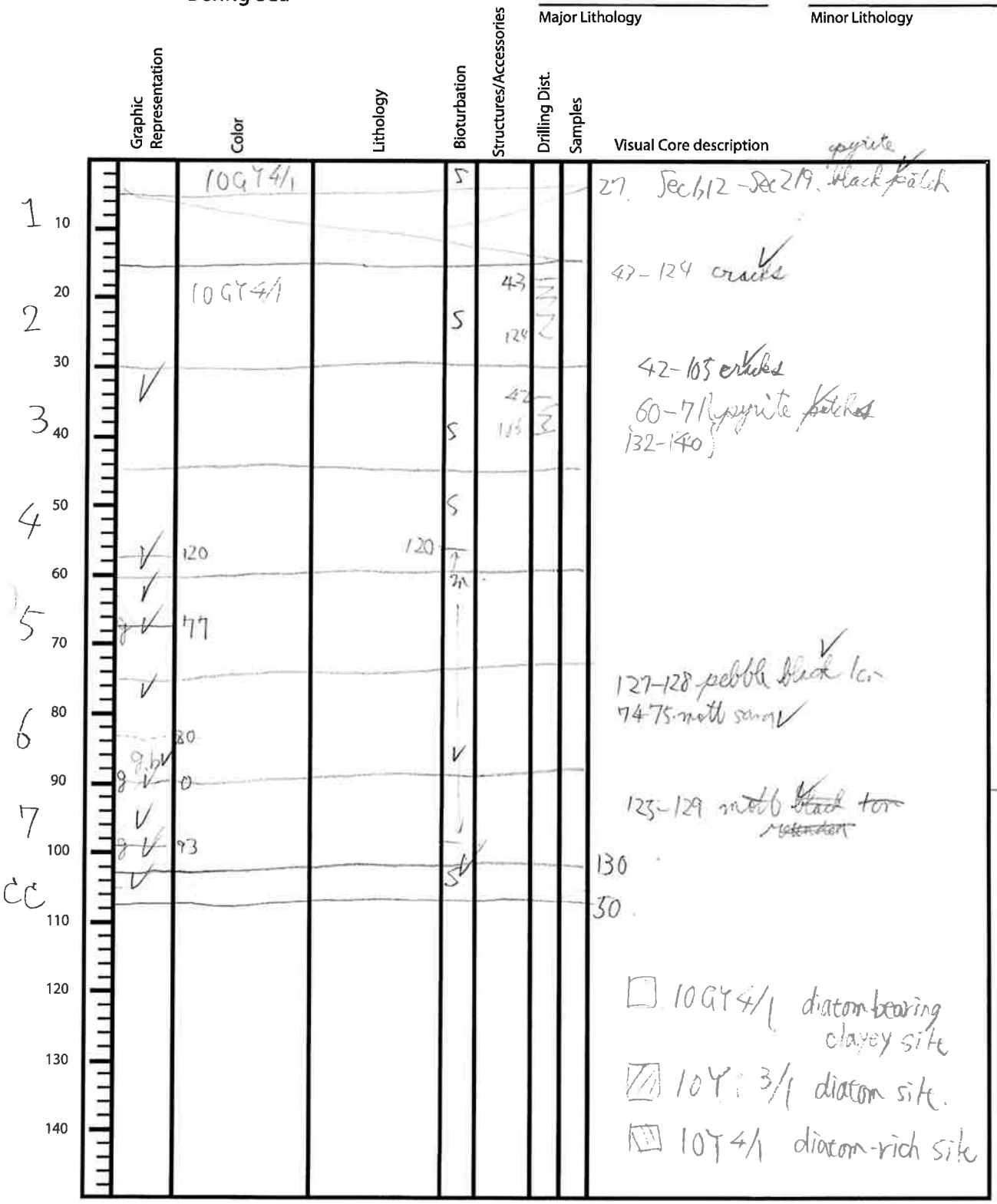
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
5	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
30	Pyrite 7
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
65	Vitric grain 15
	Lithic grain

Percent	Component
	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

1343 E 9 ____ ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	9H		1	50cm	

Sediment/Rock Name	Observer
Diatom Silt	Ben

B-42
S-58

Percent Texture		
Sand	Silt	Clay
5	95	

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
20	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
10	Rock fragments
	Accessory/trace minerals
5	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
10	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
3	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
32	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

1343 Site | E Hole | 10H Core | All Section | Top Depth

Expedition 323
Bering Sea

Major Lithology — Minor Lithology

gas exp. Mod-fragment

Section	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Visual Core description
1		10Y 4/1		S all	36-51 Sand Mot			0-3 void 140-103 void 50-52 Sand mot.
2		dark greenish gray						77-80 void
3					120-4 Sand Mot			120 SS:
4					67-9 Sand Mot			98-102 void
5					12-14 Sand Mot 26 Sand			
CC								

Scale: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140

Observer: ______ Date: ______

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	10	E	3A	120	

Sediment/Rock Name	Silty clay

Observer	Akira

Percent Texture		
Sand	Silt	Clay
0	40	60

Comments:

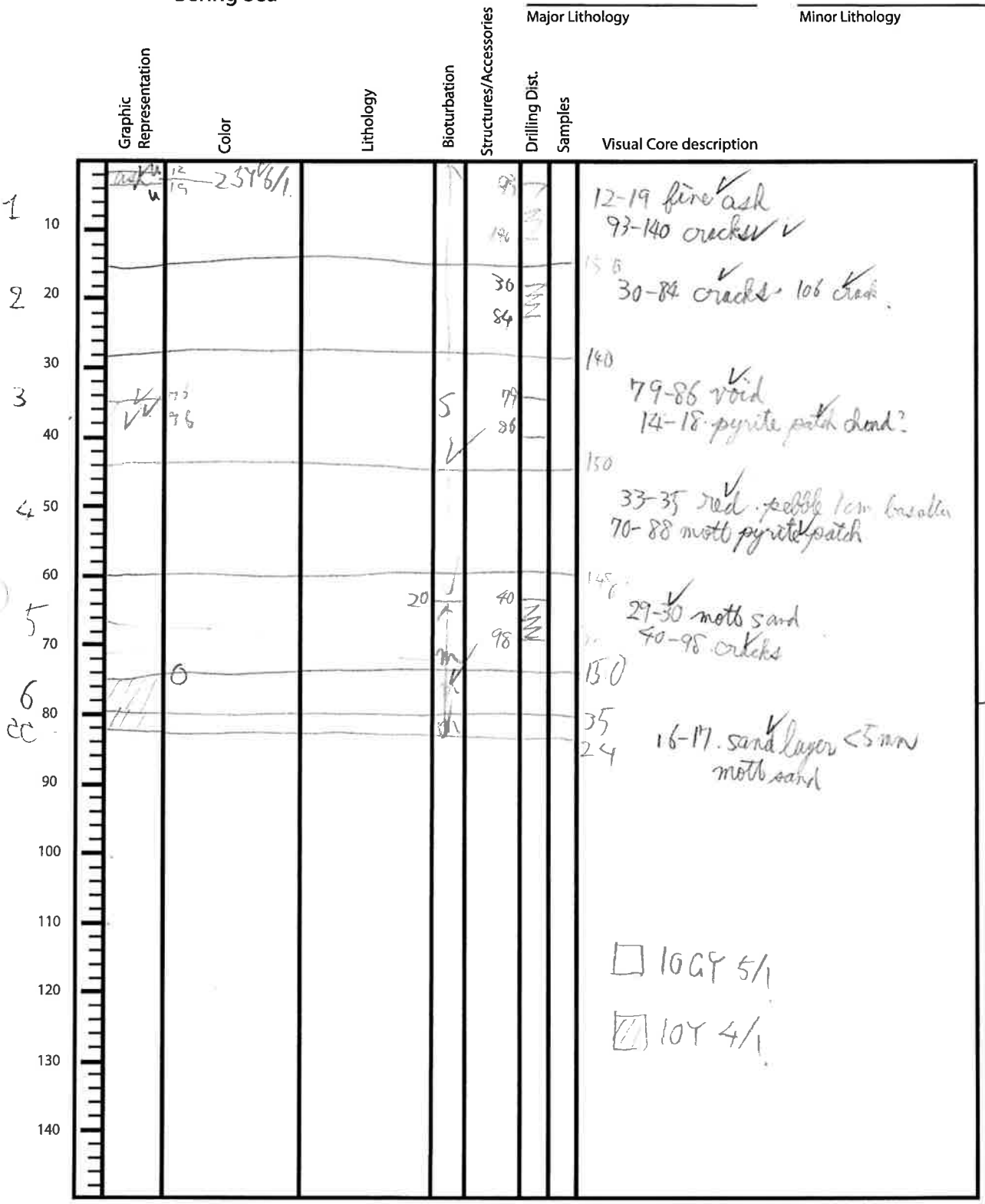
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
26	Quartz 10
	Feldspar 7
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
5	Micas 2
	Biotite
	Muscovite
38	Clay Minerals 15
	Chlorite
	Glauconite
	Chert
	Zircon
5	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite 2
	Magnetite
	Fe-oxide
	Carbonates
5	Calcite 2
	Dolomite
	VOLCANICLASTIC GRAINS
VF	Crystal grain 2
8	
	Vitric grain 3
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
8	Diatoms 3
	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

1343 E 11 ____ ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	11		6	30 cm	

Sediment/Rock Name	DIATOM CLAYEY SILT

Observer	BCP

Percent Texture		
Sand	Silt	Clay
20	45	35

siliciclastic fraction only

Comments:

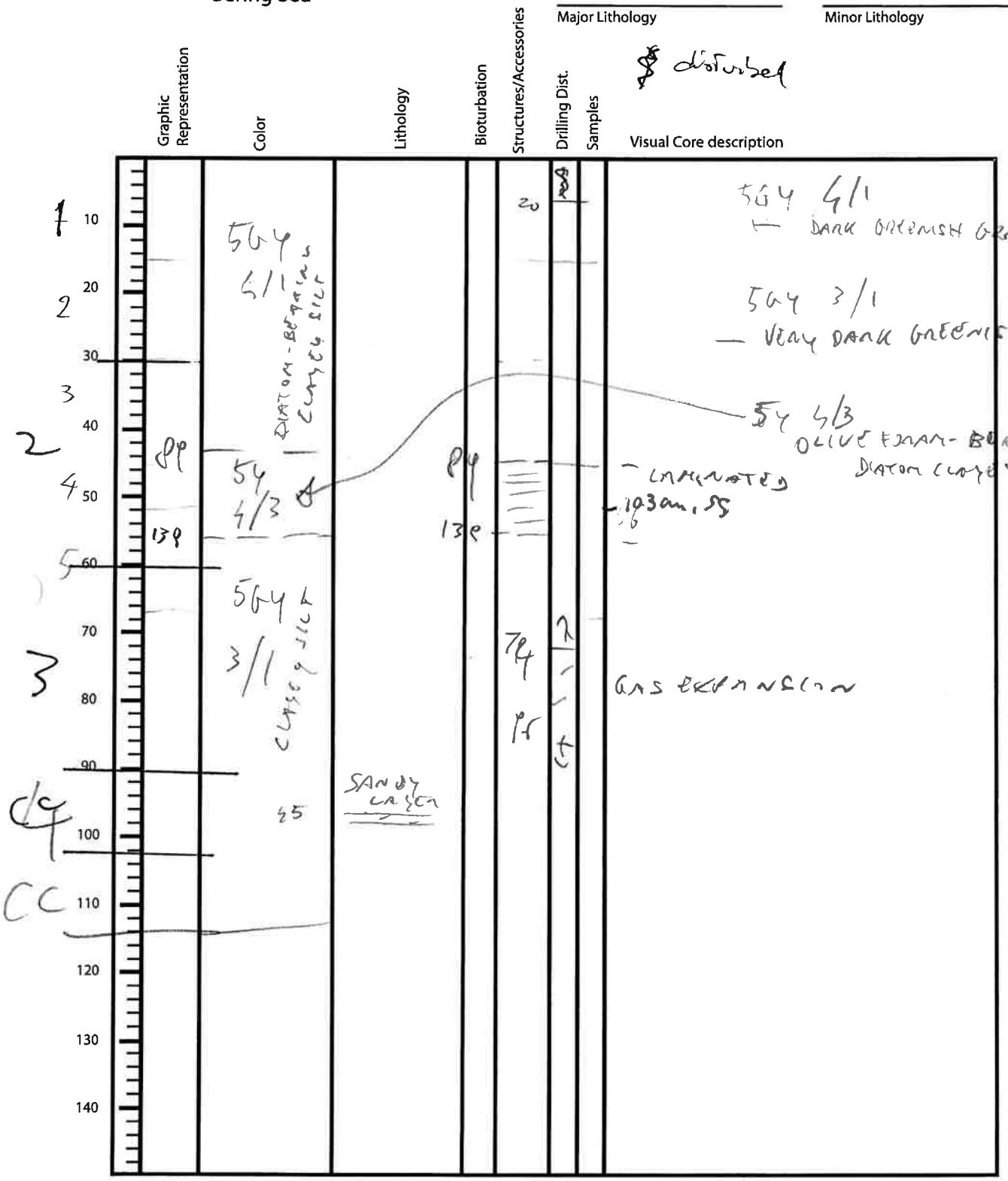
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
4%	Quartz
14% 10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
14 10	Rock fragments
38%	
	Accessory/trace minerals
	Micas
	Biotite
7 5	Muscovite
21 15	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3 2	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
35%	Diatoms
21 15	Centric
14 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

1343 E 12 1-CC
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____



Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	12	H	2A	103	

Sediment/Rock Name	foram-bearing diatom clayey silt

Observer	Akira

Percent Texture		
Sand	Silt	Clay
0	70	30

Comments:

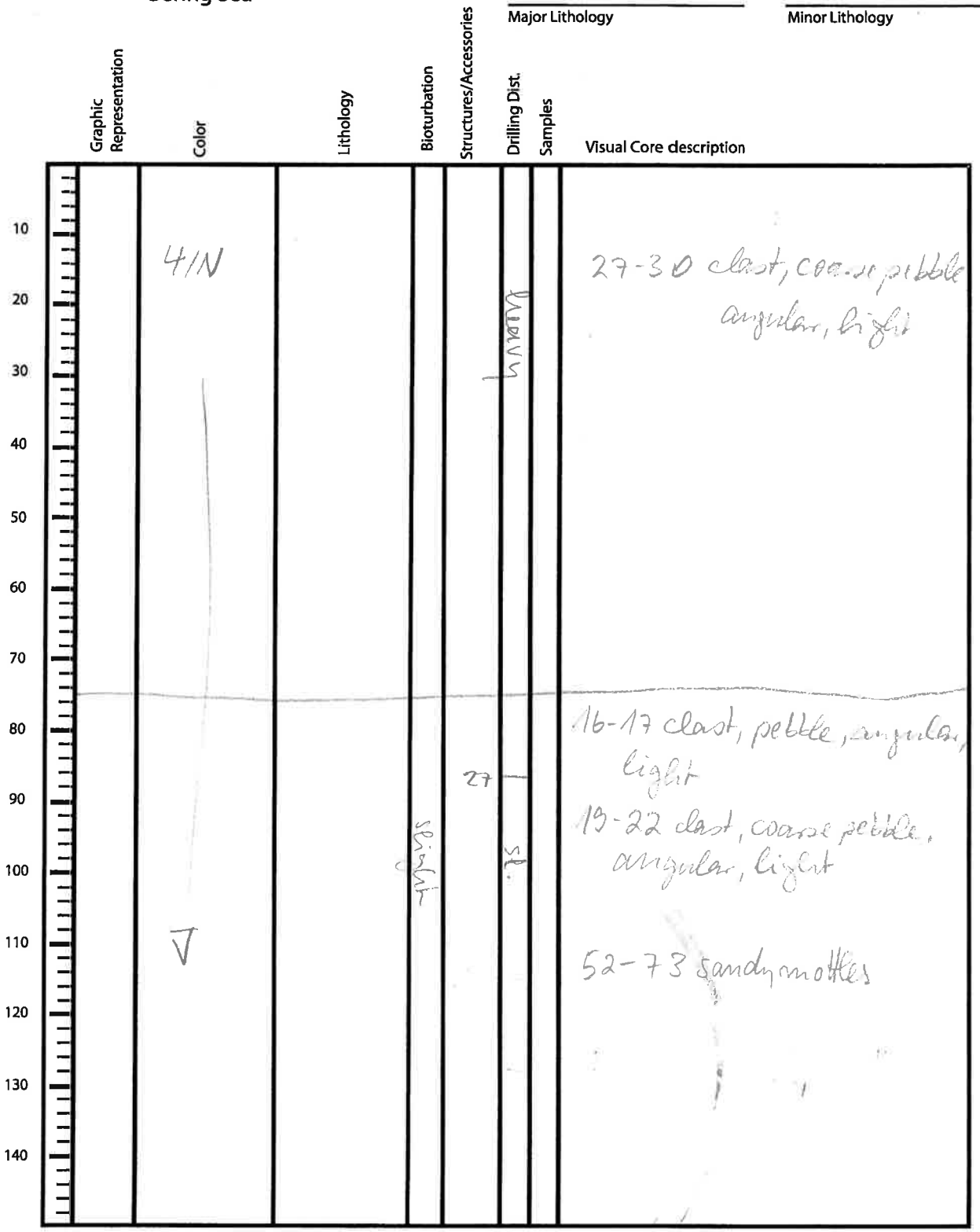
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
6	Quartz 2
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
6	Rock fragments 2
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite ?
9	Clay Minerals ~~2~~ 3
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals 1
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
9	Pyrite ~~2~~ 3
	Magnetite
	Fe-oxide
	Carbonates
9	Calcite 3
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
6	Vitric grain 2
6	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
9	Foraminifera R2 fragment
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
45	Diatoms 15
	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

1343 E 14H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

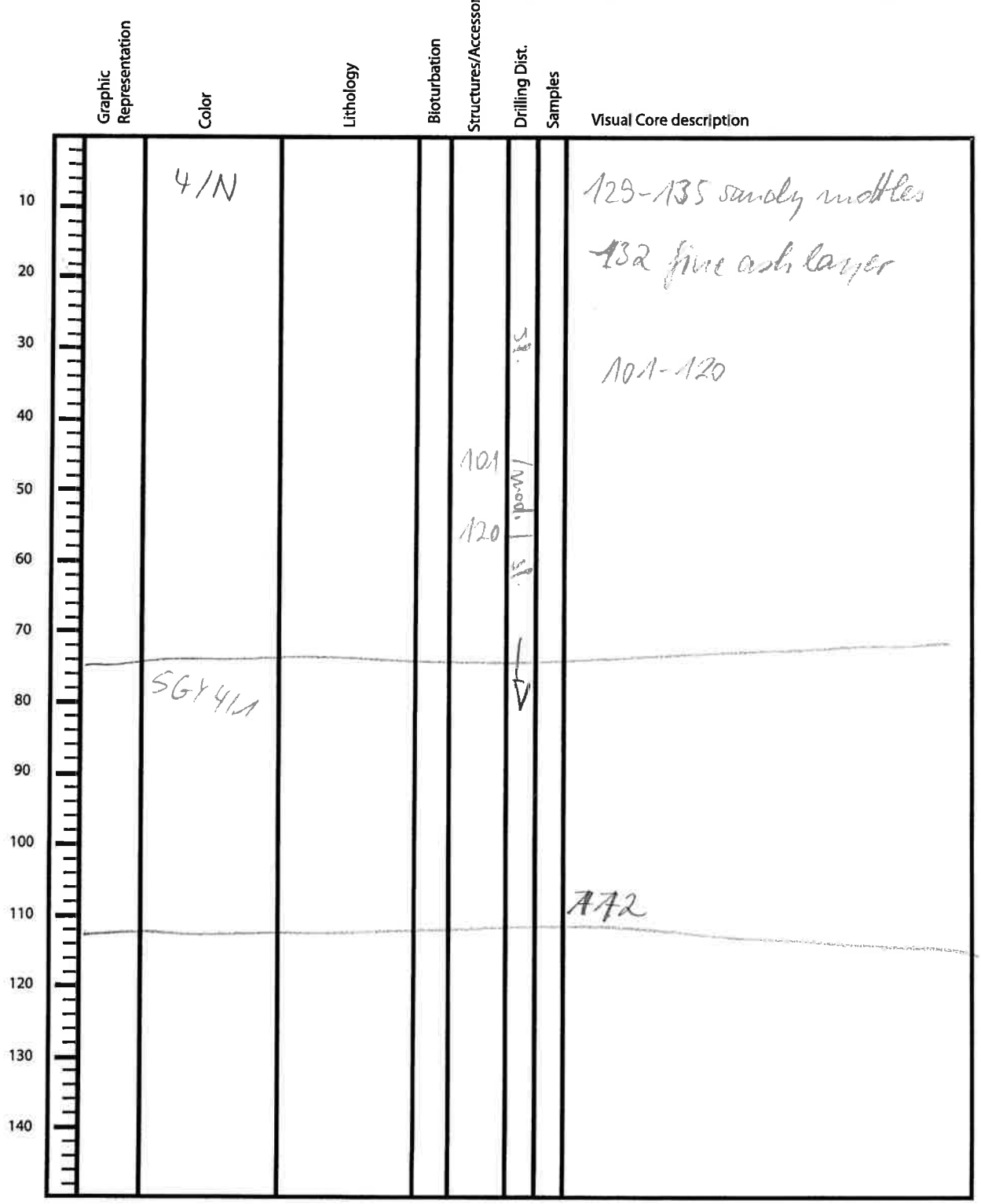


Observer: ____ Date: ____

1343 E 14H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



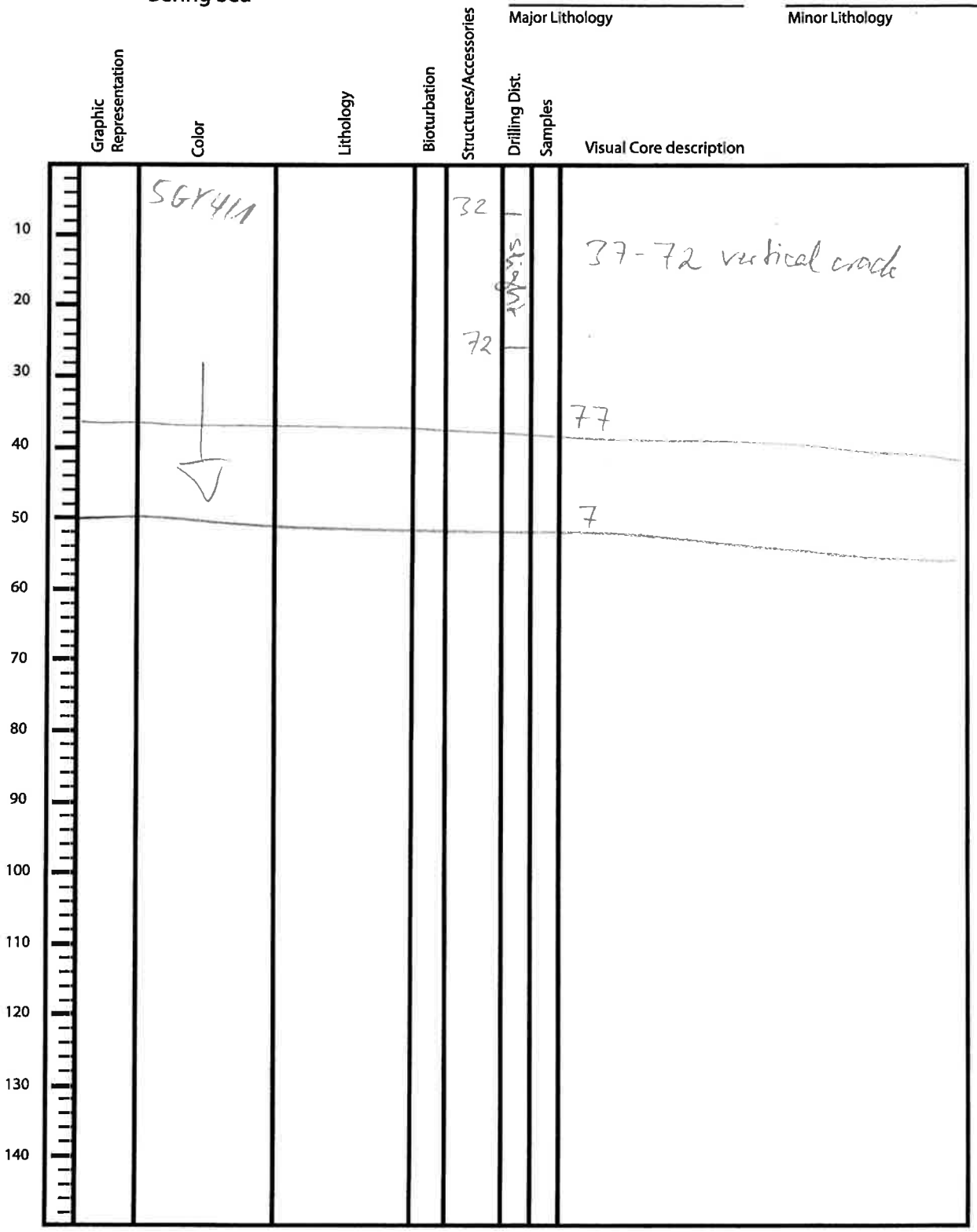
Observer: ____ Date: ____

1343 E 14H 5+cc
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	14	H	4	30	30

Sediment/Rock Name	Diatom-rich clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay
	50	50

Comments: Main lithology

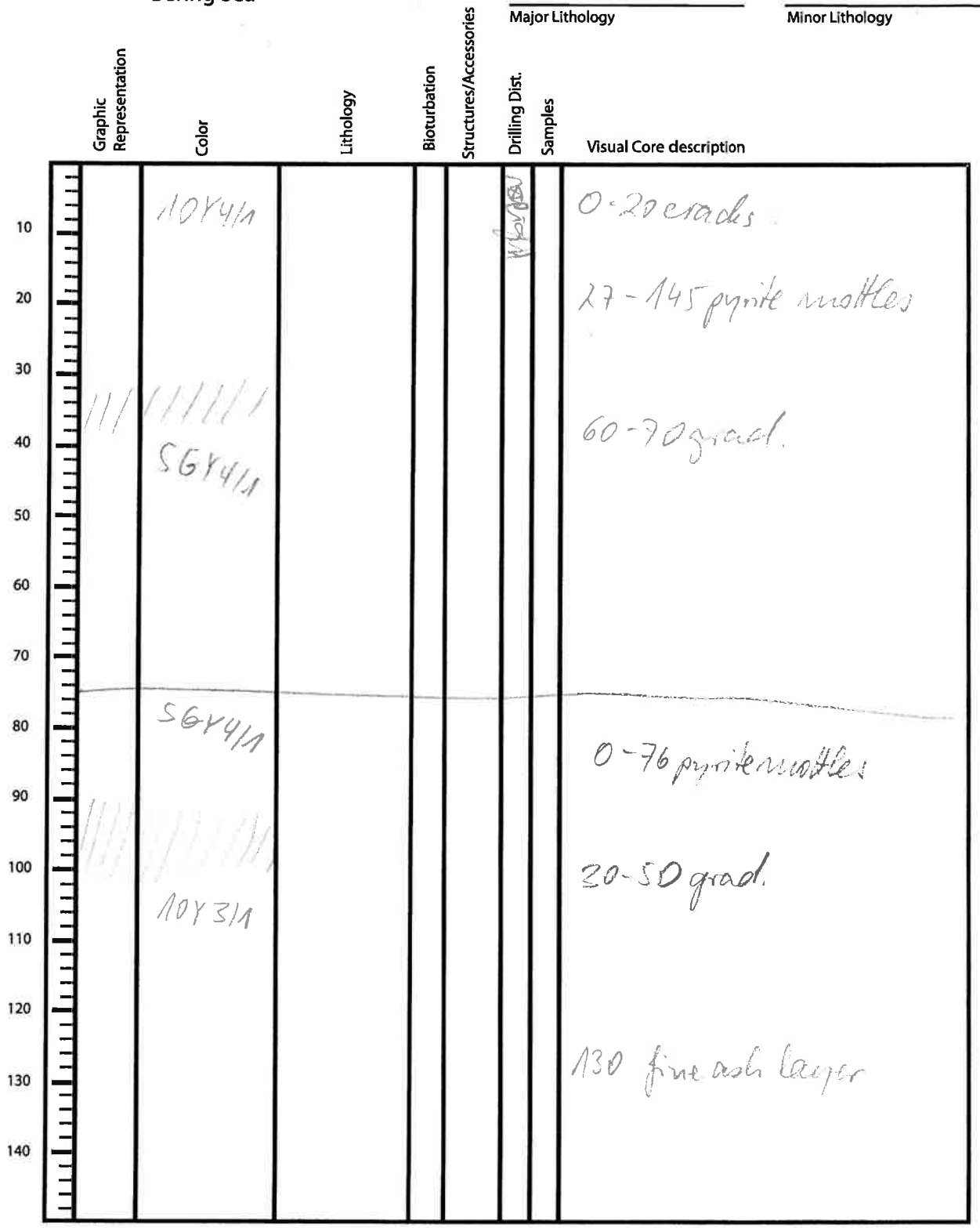
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20	Quartz
15	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
30	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
1	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
25	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

1343 E 15H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

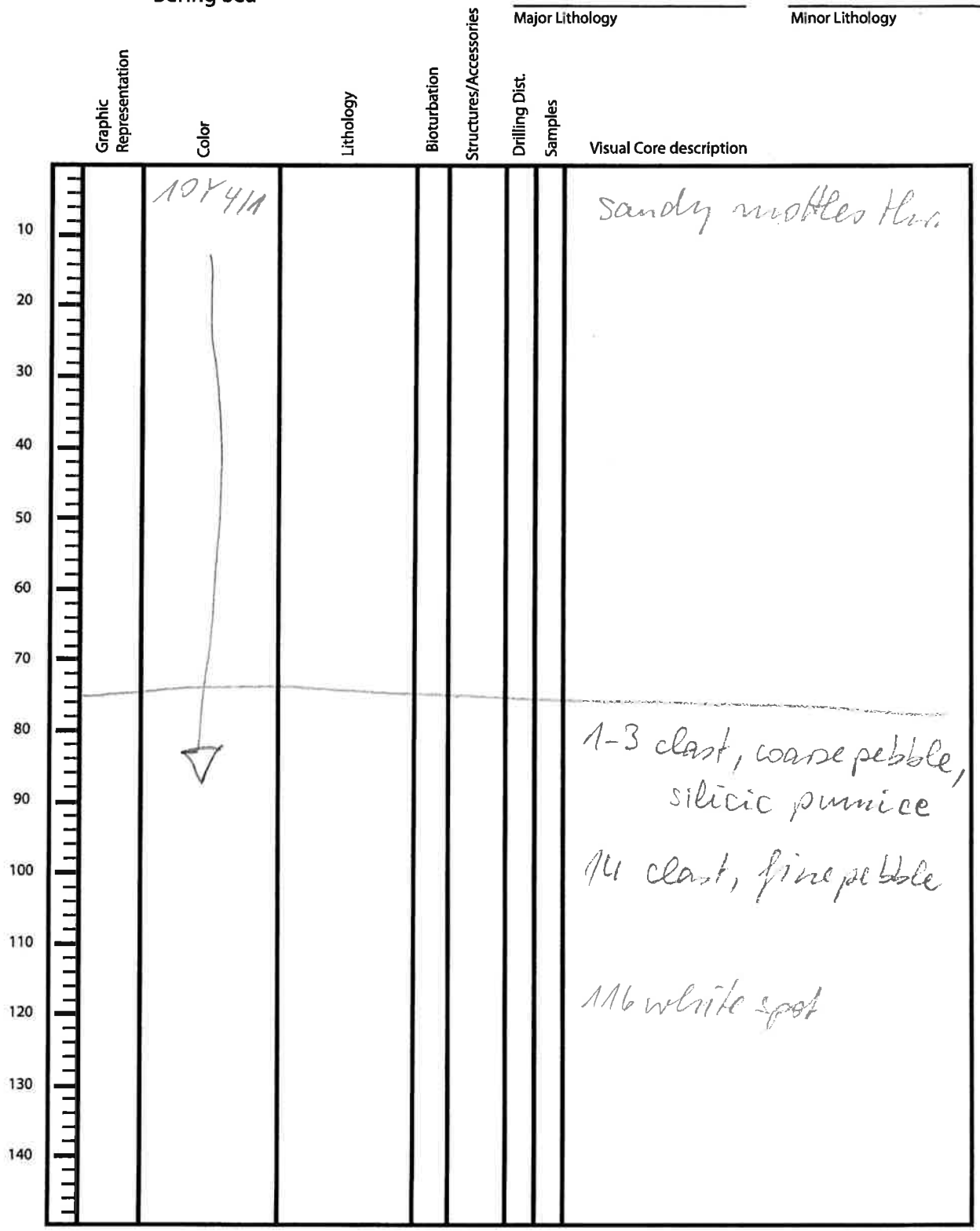


Observer: ____ Date: ____

1343 E 15H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



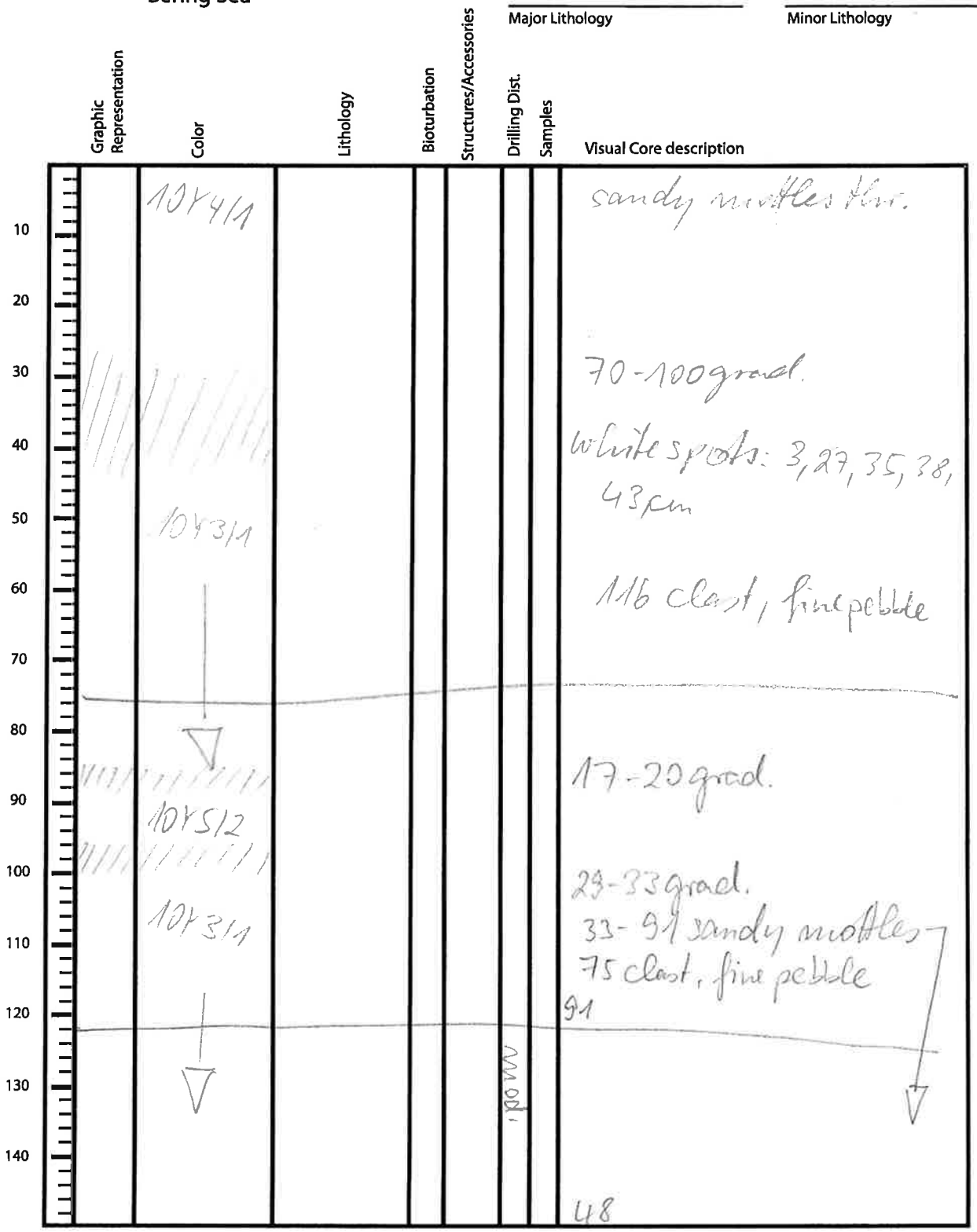
Observer: _____ Date: _____

1343 E 15H 5+6+cc
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	15	H	1	30	

Sediment/Rock Name	Diatom rich clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay
	50	50

Comments: Main lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
30	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
1	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	✓Radiolarians
	Spumellaria
	Nassellaria
30	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

✓SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	15	H	6	12	

Sediment/Rock Name	Diatom silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay
	80	20

Comments: Main lith - outside carbonate area

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	✓ Radiolarians
	Spumellaria
	Nassellaria
45	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

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	15	H	6	23	

Sediment/Rock Name	Authi carbonate rich diatom silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Lighter area

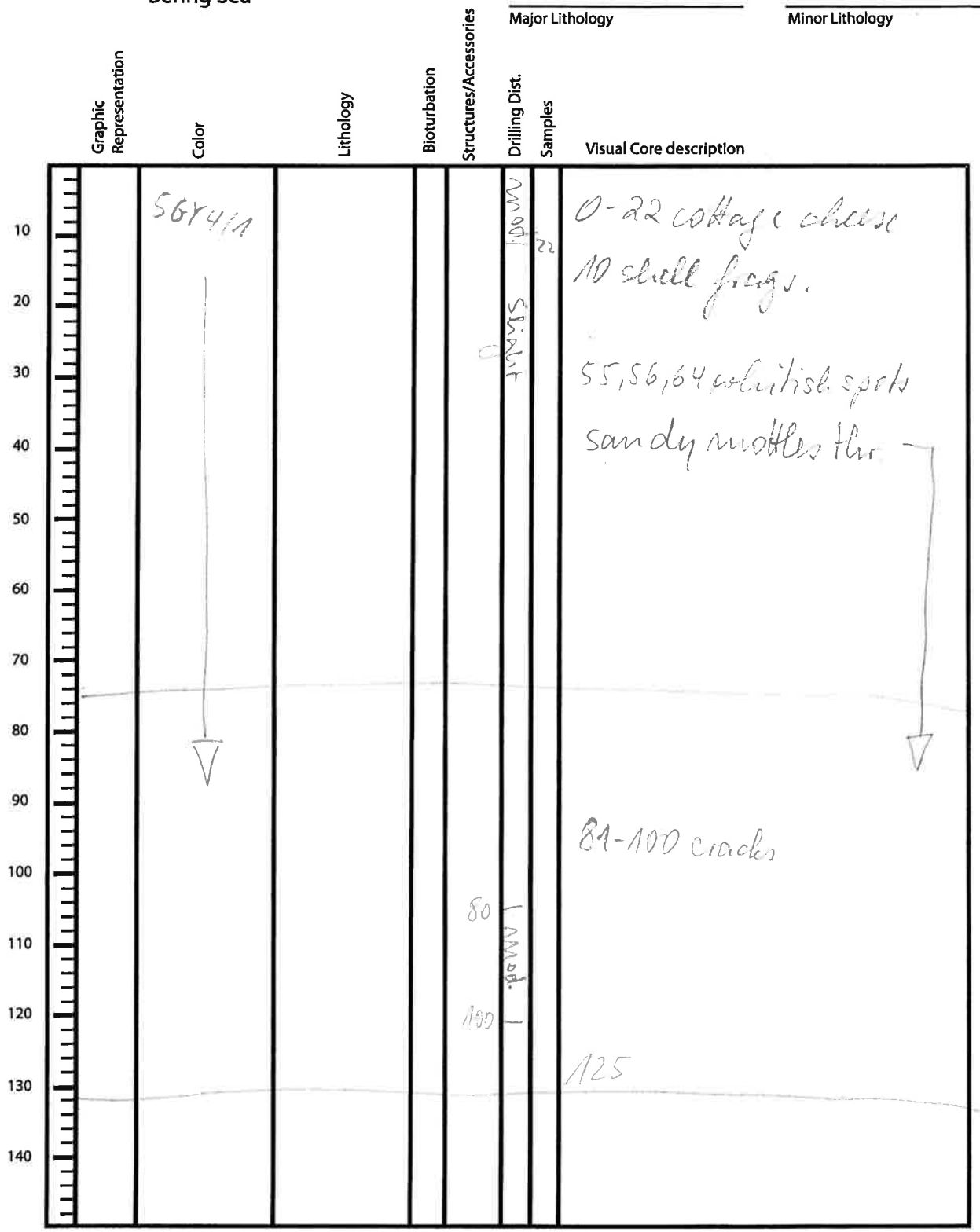
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
2	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
45	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
3	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30	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

1343 E 16H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



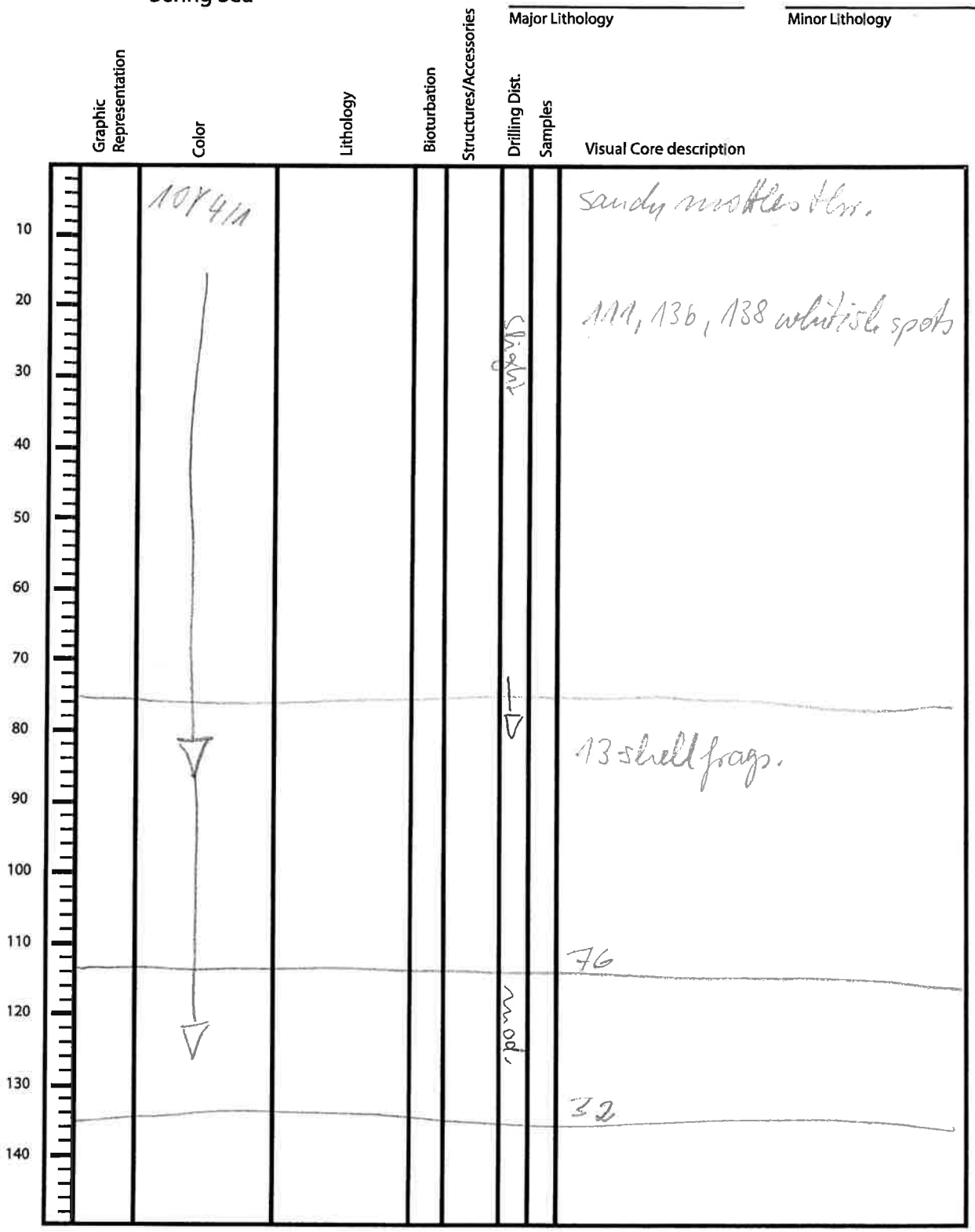
Observer: ____ Date: ____

1343 E 16H 3+4+cc

Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology



Observer: _____ Date: _____

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	16	H	4	40	

Sediment/Rock Name	Diatom silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay
	70	30

Comments: Main lith - slightly greener

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

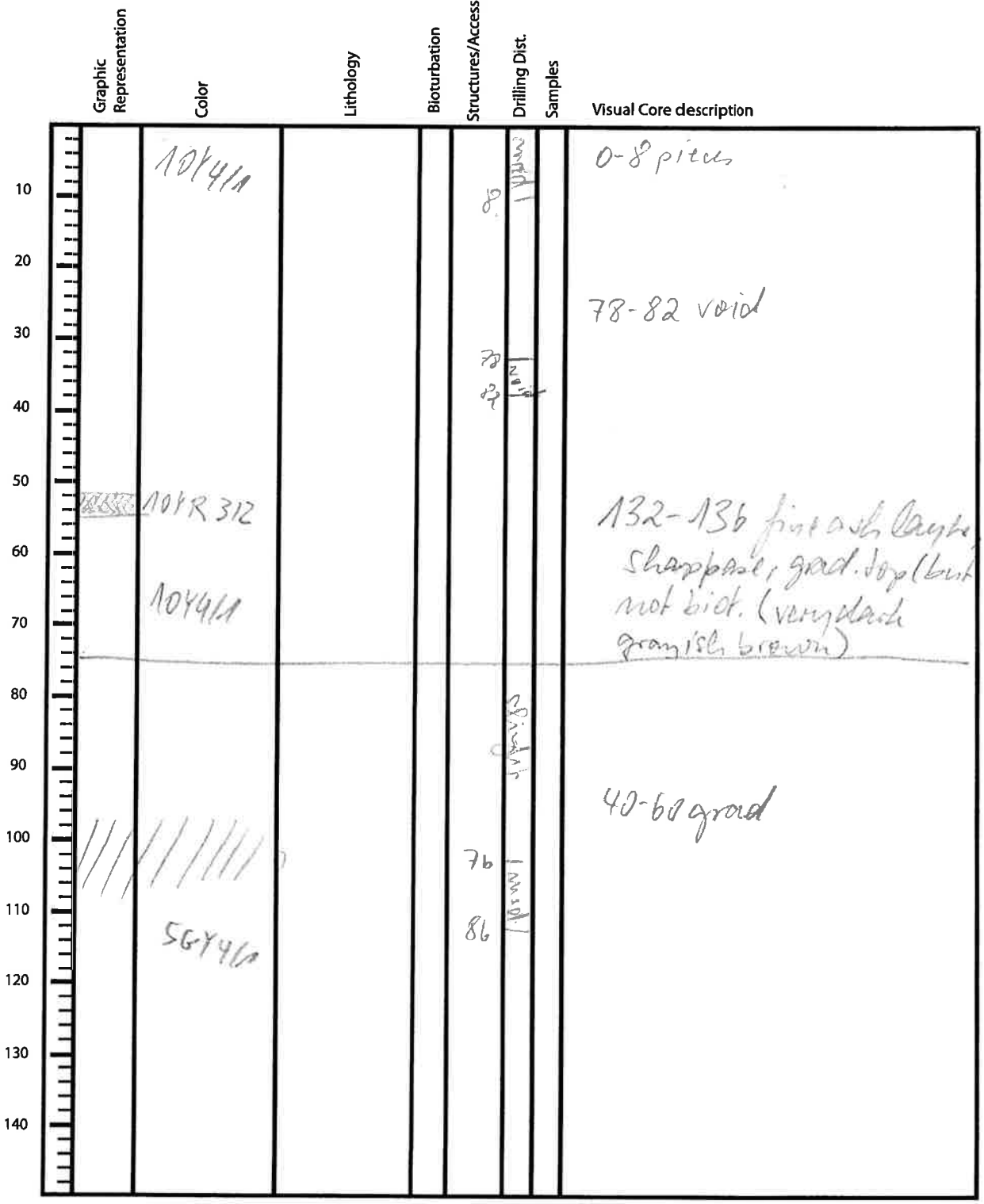
Percent	Component
	BIOGENIC GRAINS
	Calcareous
1	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
40	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules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

1343 E 17H 1+2
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology

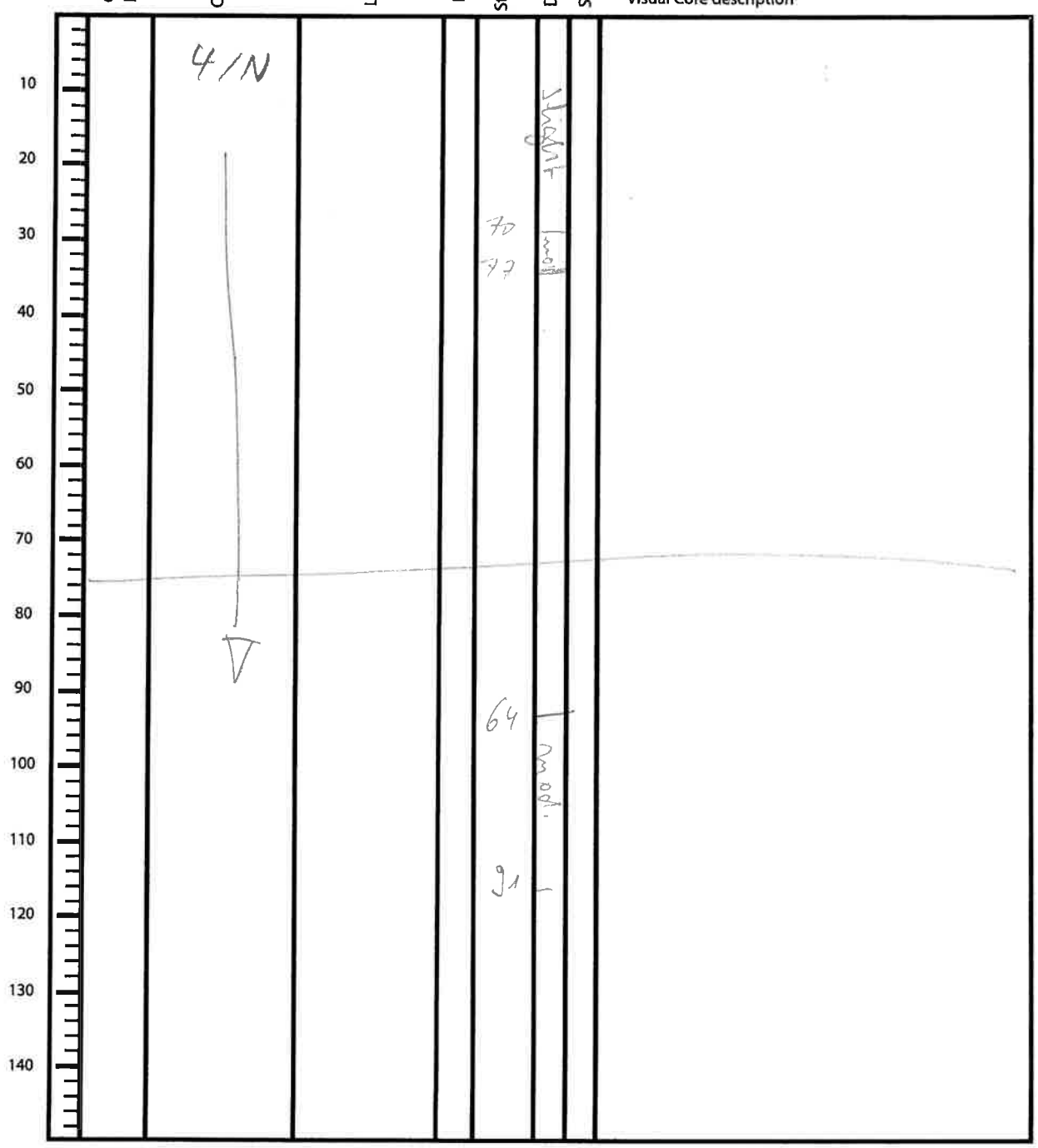


Observer: _____ Date: _____

1343 E 17H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____



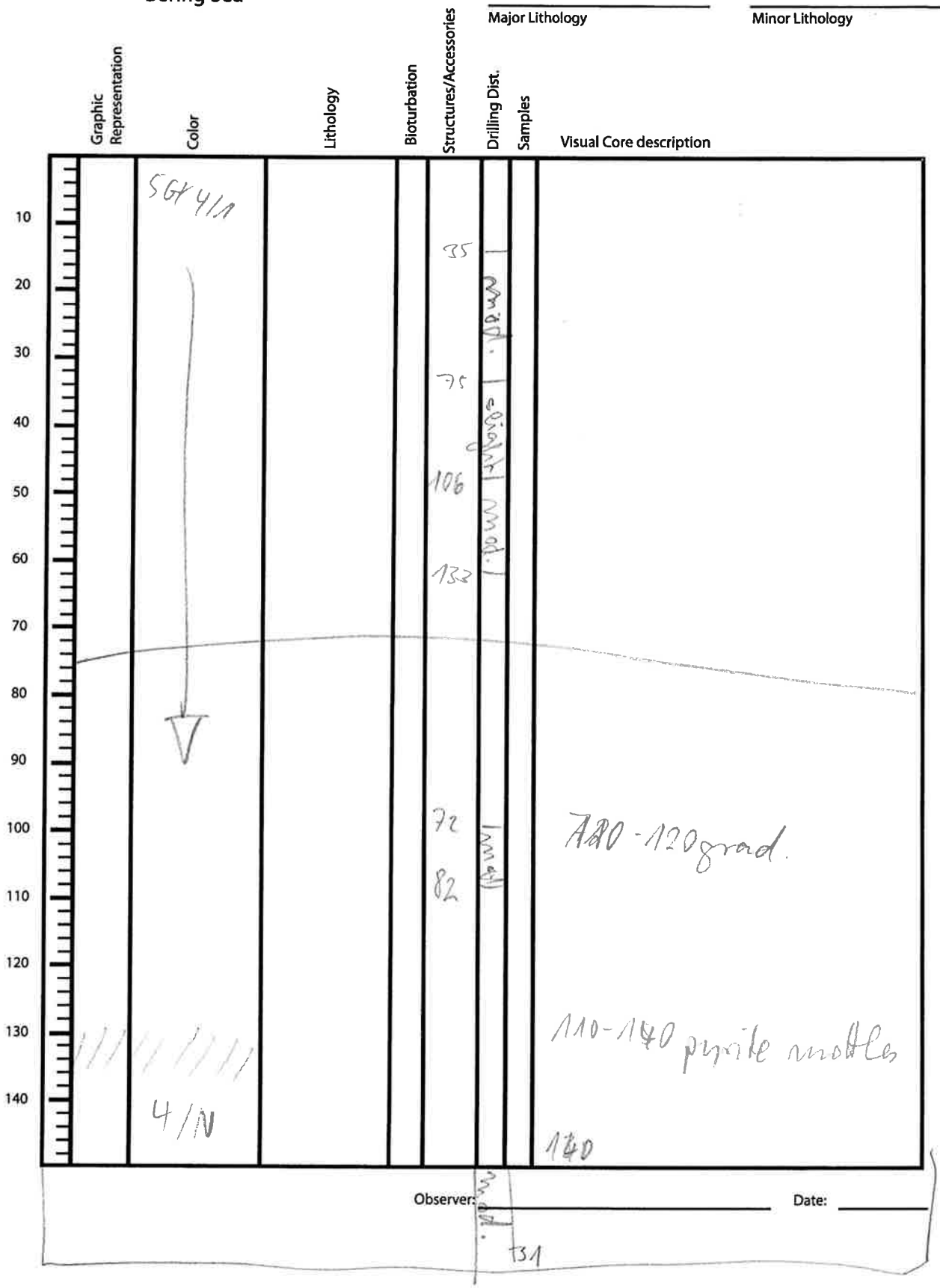
Observer: _____ Date: _____

1343 E 17H 5-16+cc
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: Date:

131

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	17	H	1	90	90

Sediment/Rock Name	Diatom-rich silt

Observer	MSC

S

Percent Texture		
Sand	Silt	Clay
5	85	10

Comments: Main lithology

Percent	Component
60	**SILICICLASTIC GRAINS/MINERAL**
	Framework minerals
25	Quartz
20	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
8	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
2	Fe-oxide
	Carbonates
	Calcite
	Dolomite
10	**VOLCANICLASTIC GRAINS**
	Crystal grain
10	Vitric grain
	Lithic grain

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

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	17	H	3	90	90

Sediment/Rock Name	Diatom-rich silt

Observer	MSC

S

Percent Texture		
Sand	Silt	Clay
4	80	16

Comments:

Percent	Component
80	**SILICICLASTIC GRAINS/MINERAL**
	Framework minerals
25	Quartz
22	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
15	Rock fragments
	Accessory/trace minerals
	Micas
8	Biotite
	Muscovite
5	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

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

✓SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	17	H	5	90	90

Sediment/Rock Name	Diatom silty clay

Observer	MEA

	Percent Texture		
	Sand	Silt	Clay
S	5	30	65

Comments:

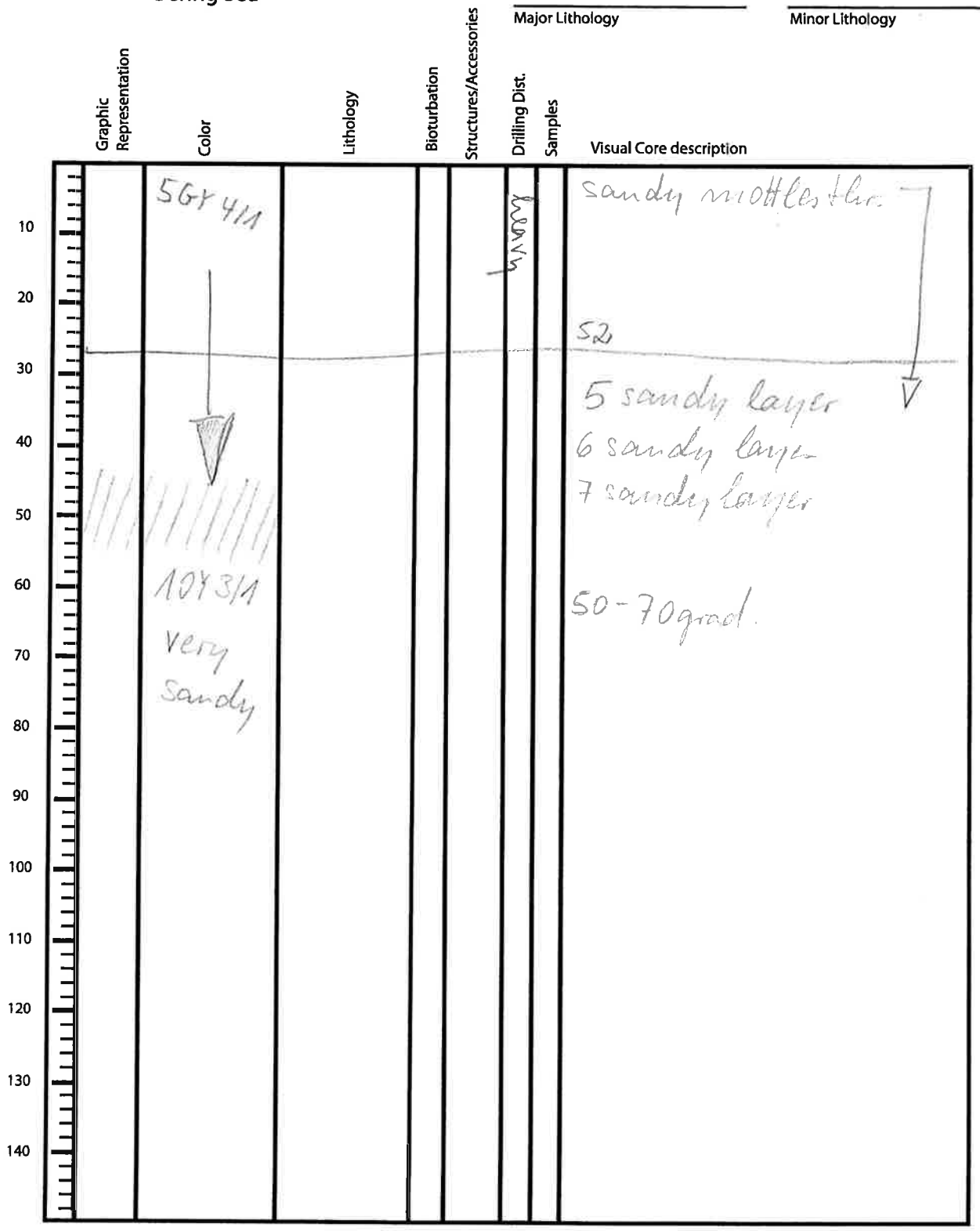
Percent	Component
60	**SILICICLASTIC GRAINS/MINERAL**
	Framework minerals
~~35~~	Quartz
20	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
6	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
4	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
40	**BIOGENIC GRAINS**
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
30	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

1343 E 18H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

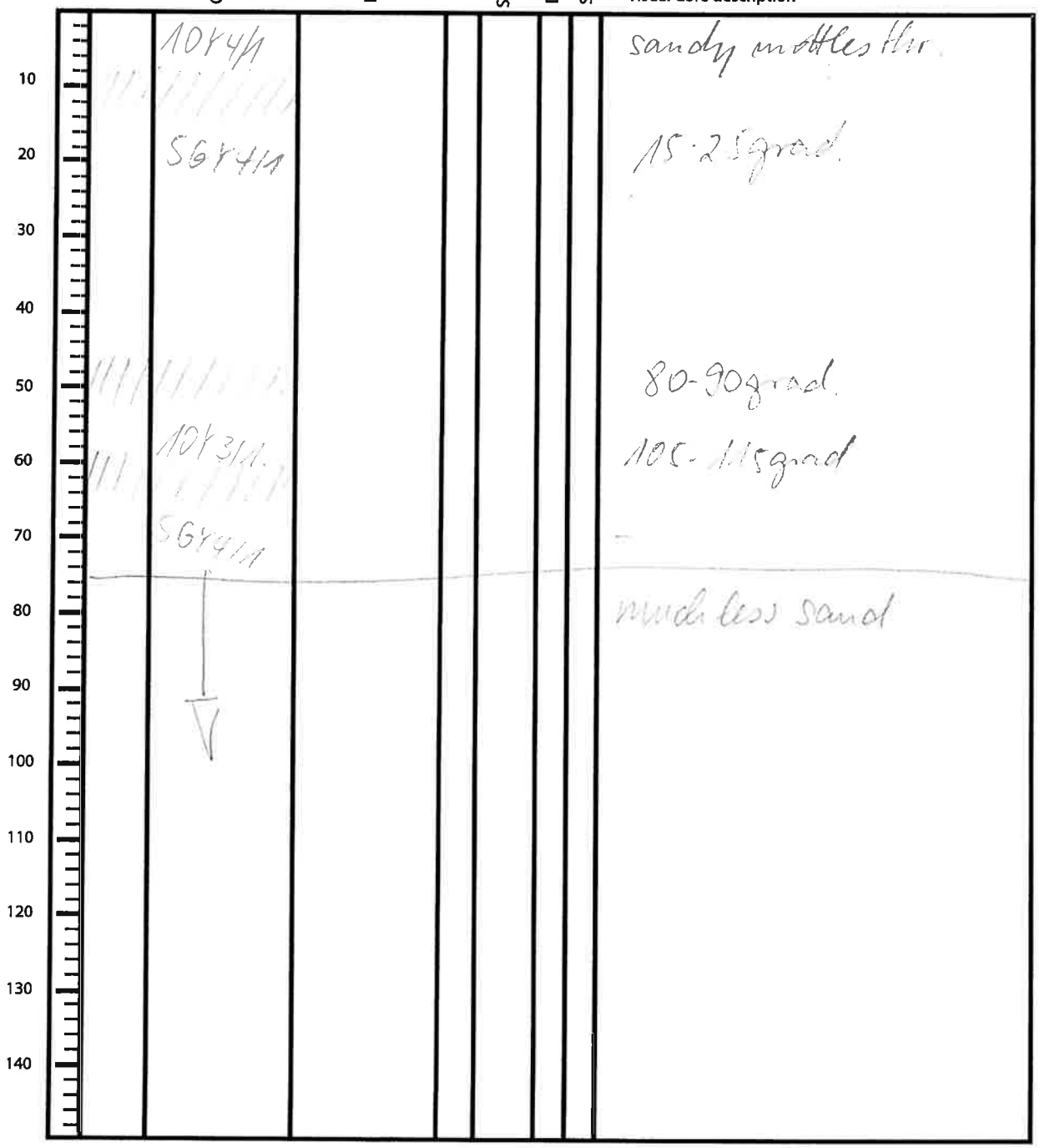


Observer: _____ Date: _____

1343 E 18H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

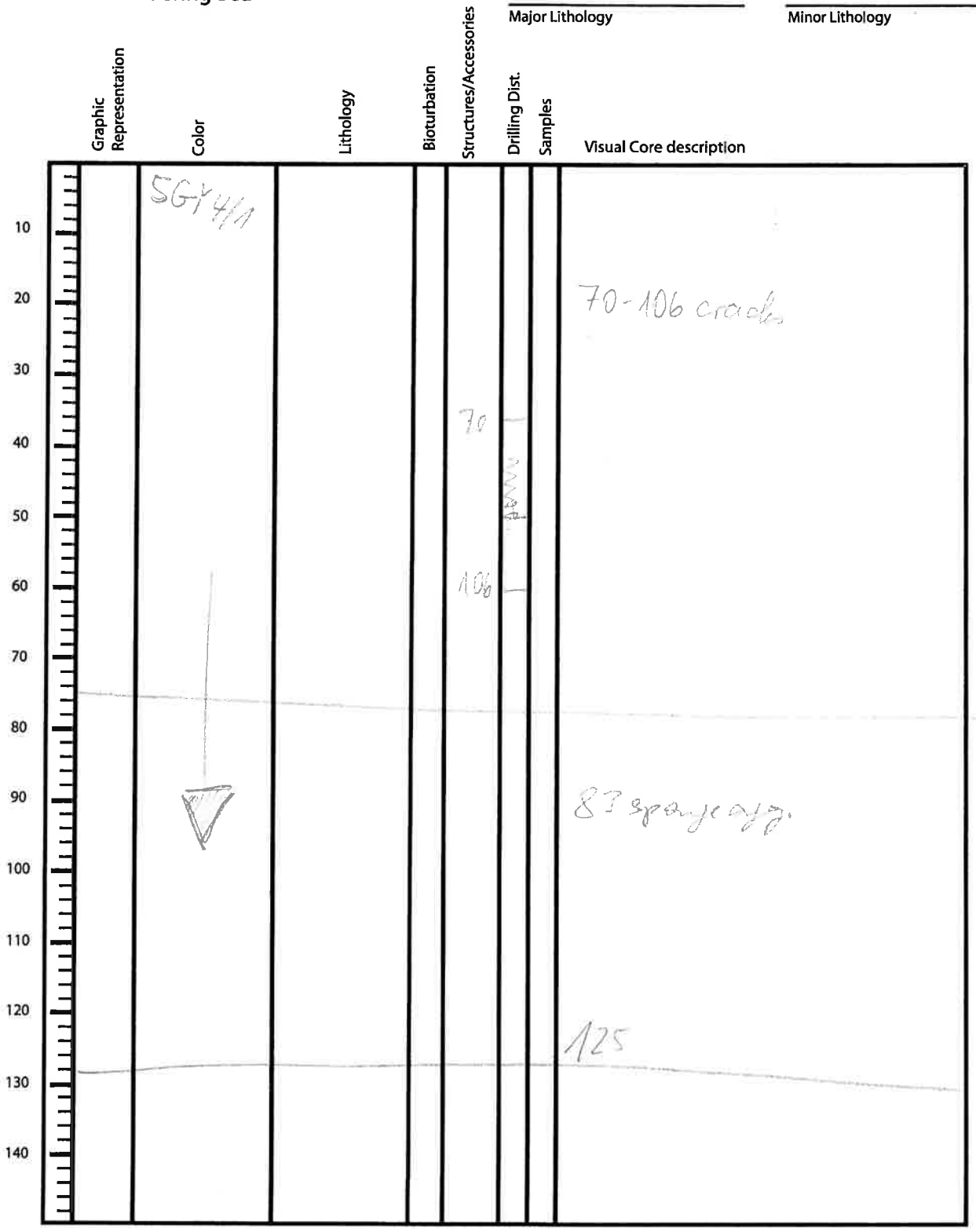


Observer: ____ Date: ____

1343 E 18H 5+6 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____

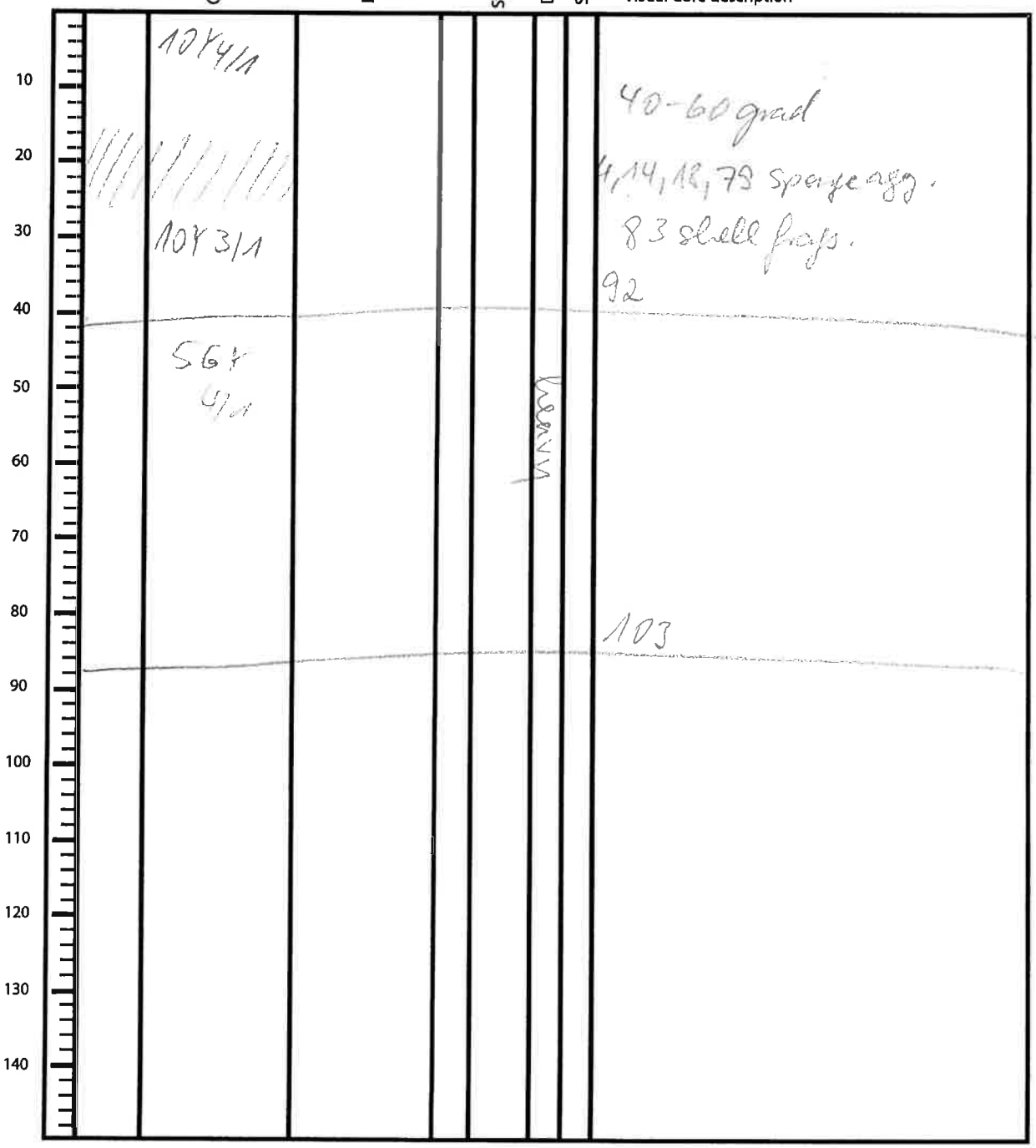


Observer: _____ Date: _____

1343 E 18H 7+8 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	~~1343~~	323	18		6	54	58

Sediment/Rock Name	Diatom Sandy Silt

Observer	

Percent Texture		
Sand	Silt	Clay
~~40~~ 50	~~30~~ 30	20

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~52~~ 48%
	Framework minerals
30	Quartz 7
9	Feldspar ≠ 2
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
4	≠ Ferromagnesium minerals 1
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS 4%
	Crystal grain
4	Vitric grain 1
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 52%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
~~20~~	Diatoms
~~20~~ 3	Centric
3	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

√SVM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	18H		2A	130	130

Sediment/Rock Name	diatom Sandy silt

Observer	HA

Percent Texture		
Sand	Silt	Clay
40	50	10
3	12	6

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 46
	Framework minerals
~~29~~ 26	Quartz 5
5	Feldspar 1
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
#10	Rock fragments 2
15	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
<1	Pyrite <1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5 ~~5~~	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS ~~59~~ 54
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
3	Radiolarians 0.5
	Spumellaria
	Nassellaria
	Diatoms
36 ~~38~~	~~59~~ 7 Centric
15 ~~16~~	3 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	18H		4	40	40

Sediment/Rock Name	diatom-bearing sandy silt

Observer	H. A

Percent Texture		
Sand	Silt	Clay
30	60	10

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 89
	Framework minerals
54	10 Quartz
	Feldspar
	~~3~~ K-feldspar (Orthoclase, Microcline...)
	Plagioclase
16	Rock fragments 3
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
16	Ferromagnesium minerals 3
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3	Pyrite 0.5
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 11
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
11 ~~3~~	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
SEDIMENT SMEAR SLIDE WORKSHEET

E 18 7 ✓sm

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
		~~H~~	7			10	10

Sediment/Rock Name	Observer
Diatom-rich ~~Hazy~~ silty clay	,

Percent Texture		
Sand	Silt	Clay
10	~~30~~ 40	~~70~~ 80

Comments:

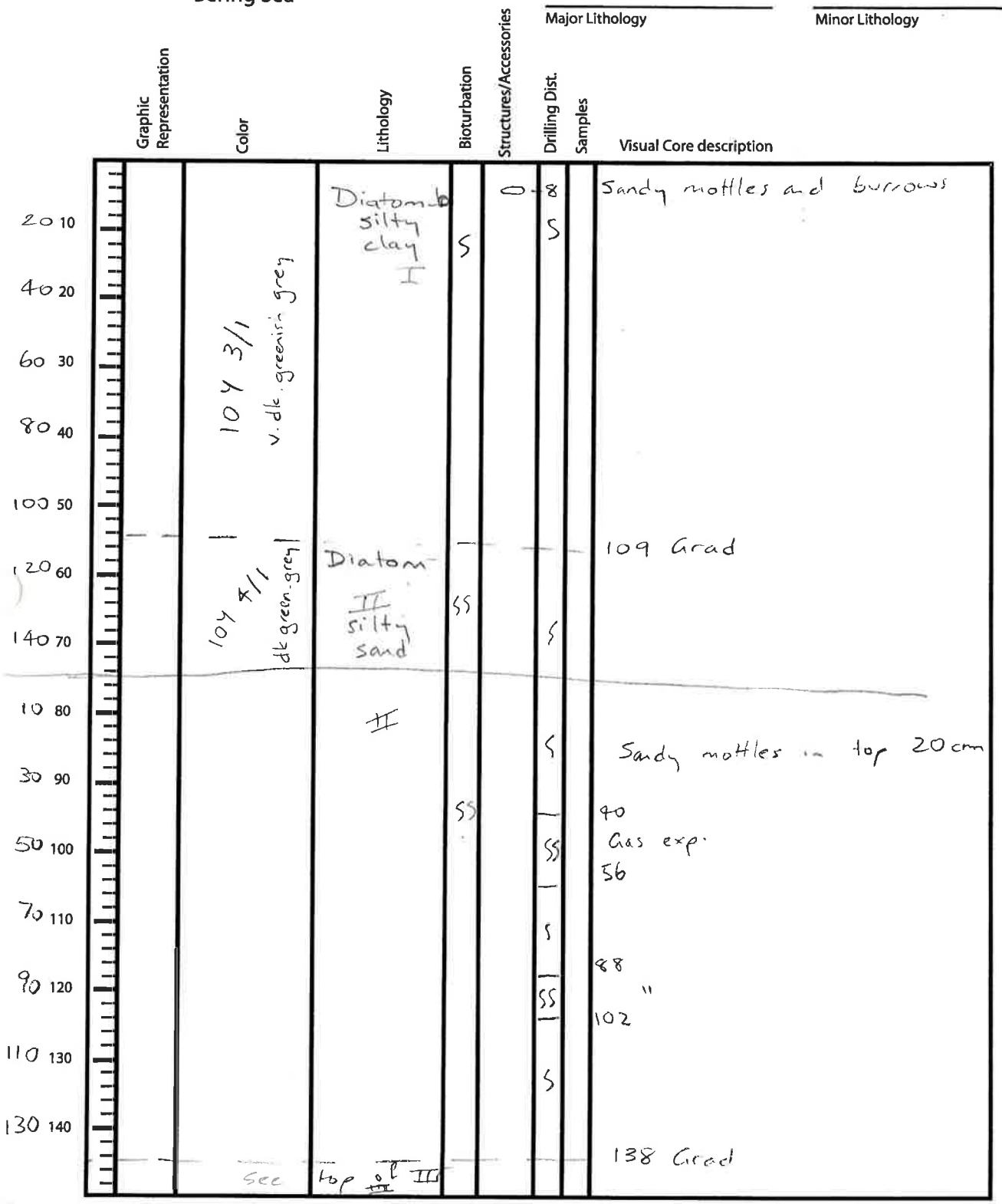
Percent	Component 72%
	SILICICLASTIC GRAINS/MINERAL ~~70%~~
	Framework minerals
39% 7	Quartz
8 ~~30%~~ 2	Feldspar 2
~~20~~ 50	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
6% 7	Rock fragments
15%	
	Accessory/trace minerals
1%	Micas
	Biotite
	Muscovite
19 22 3	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component 28
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
6% ~~3~~	Radiolarians
	Spumellaria
	Nassellaria
22% ~~23~~	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

1343 E 19 1+2
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____

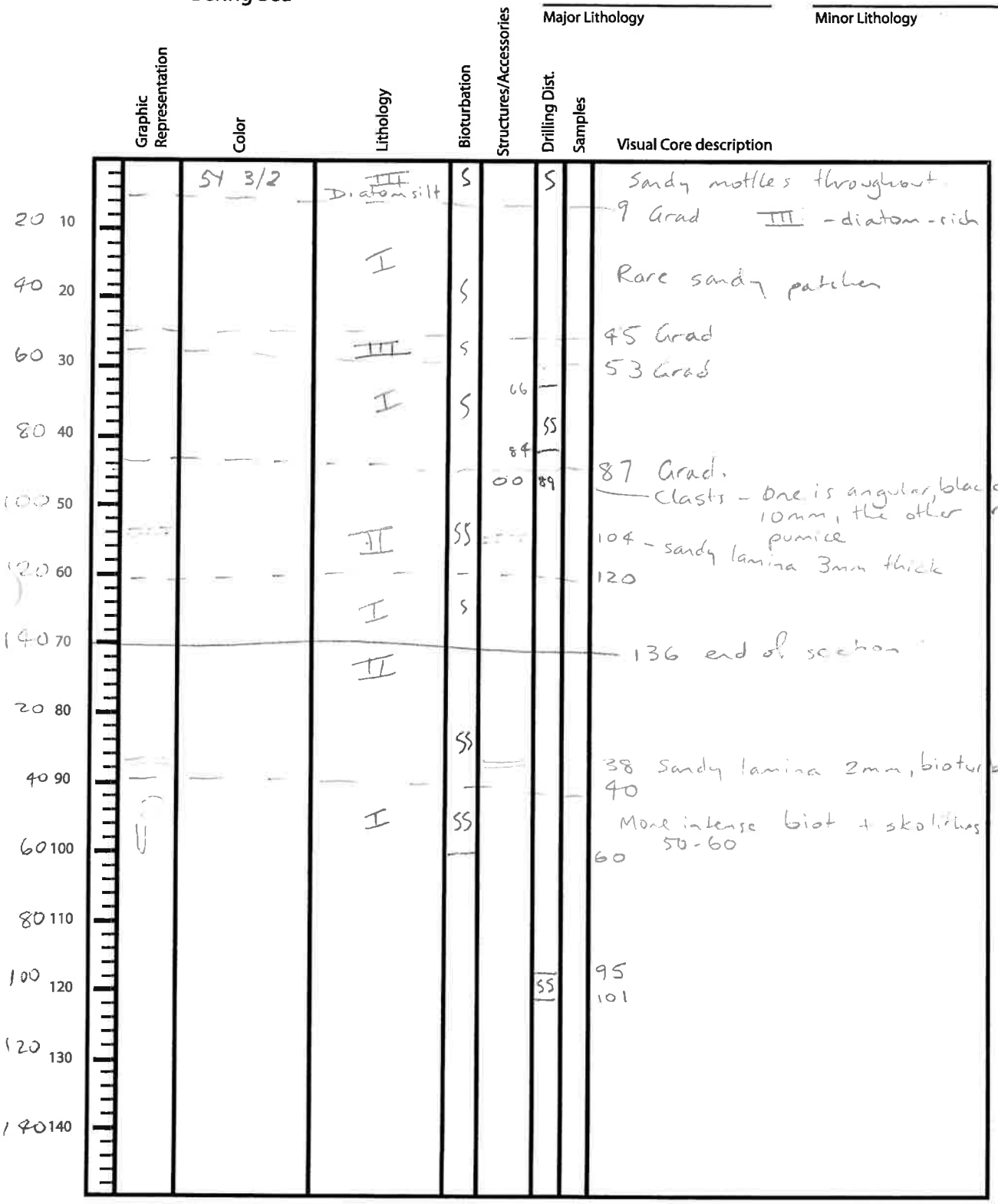


Observer: Kelsie Date: _____

1343 E 19 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



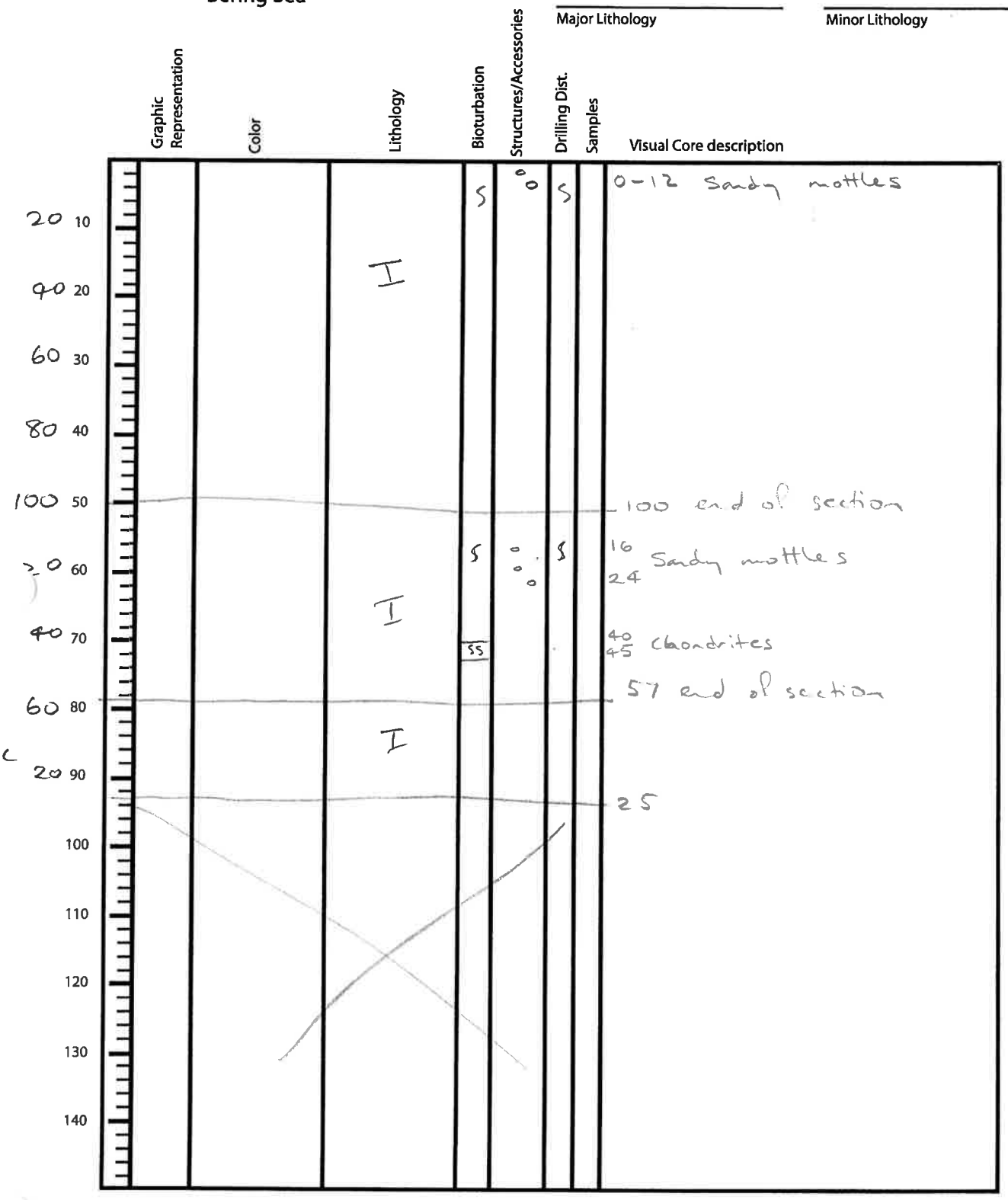
Observer: ____ Date: ____

1343 E 19 5,6+cc
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

√ SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	A	19		2	50	50

Sediment/Rock Name	Diatom. Silty Sand	Observer	

Percent Texture		
Sand	Silt	Clay
50	30	20
7	5	3

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 50%
38	Framework minerals
39%	Quartz 15
5%	Feldspar 2
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
2%	Rock fragments 1
	Accessory/trace minerals
8	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
1%	Ferromagnesium minerals 0.5
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5%	Pyrite 2
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 49%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30	Diatoms 49%
	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

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
			19H		3	4	4

Sediment/Rock Name	diatom-rich ~~&~~ silty clay

Observer	Hino

Percent Texture		
Sand	Silt	Clay
5	35	60

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~88~~
	Framework minerals
7064	Quartz 15
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
2	Biotite 0.5
	Muscovite
9	Clay Minerals 2
	Chlorite
	Glauconite
	Chert
	Zircon
4 ~~5~~	Ferromagnesium minerals /
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
9	Pyrite 2
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS ~~13~~ ~~15~~ 12
	Calcareous
	Foraminifera
2	D.C Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
2	D.C Spumellaria
	Nassellaria
	Diatoms
~~10~~ ~~8~~	2. 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

√ SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343		19		5	20	20

Sediment/Rock Name	Diatom-bearing silty Clay

Observer	Ifiro

Percent Texture		
Sand	Silt	Clay
10	30	60

Comments:

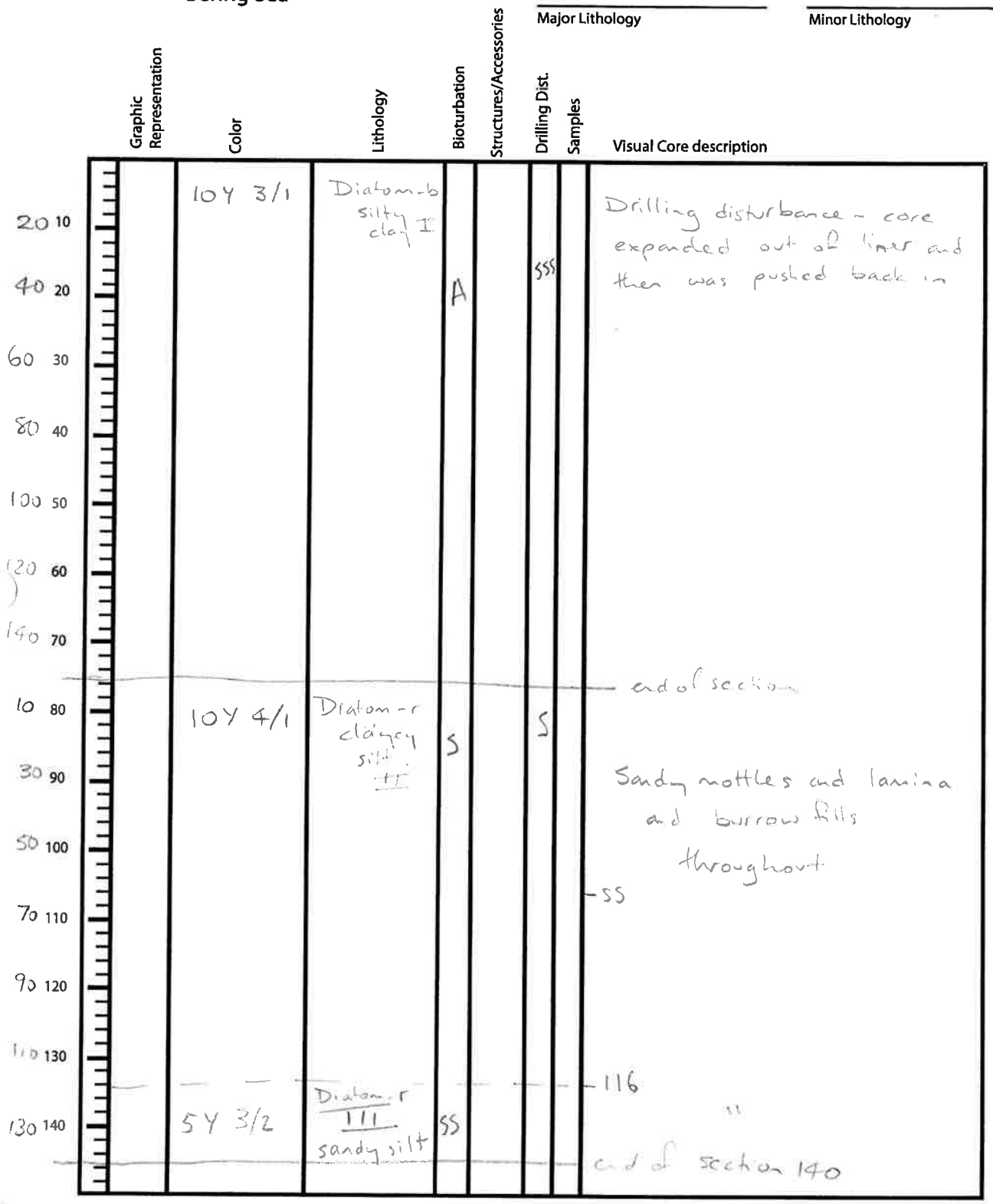
Percent	Component
	SILICICLASTIC GRAINS/MINERAL 92
	Framework minerals
~~75~~ 81	Quartz 30
3 ~~5~~ 2	Feldspar 1
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
5	Chlorite
	Glauconite
	Chert
	Zircon
5 ~~5~~	Ferromagnesium minerals 2
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3 ~~3~~	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 8
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
8	3 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

1343 | E | 20 | I + II
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology

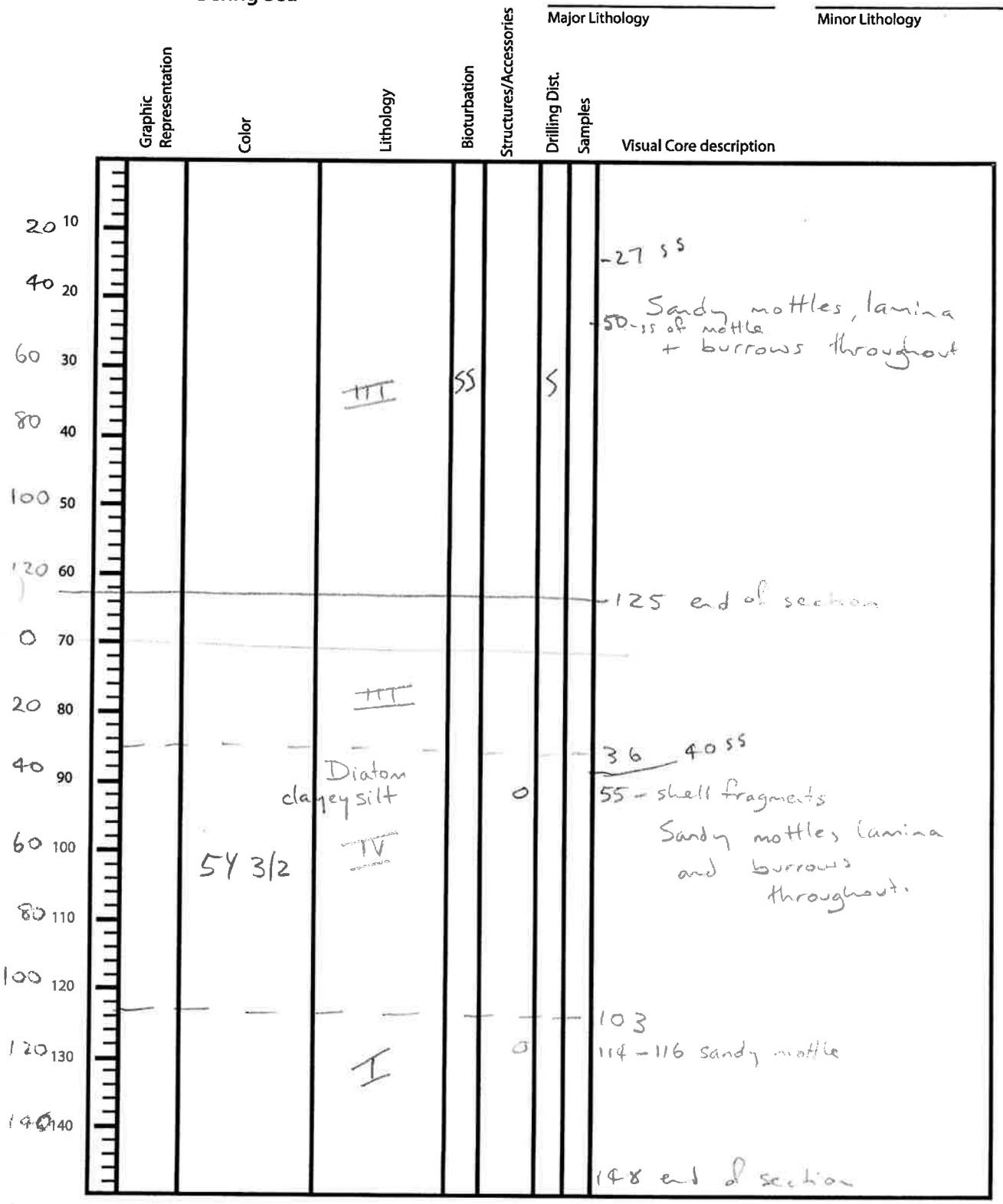


Observer: Kelsie Date:

1343 | E | 20 | 3+4 |
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology



Observer: _____ Date: _____

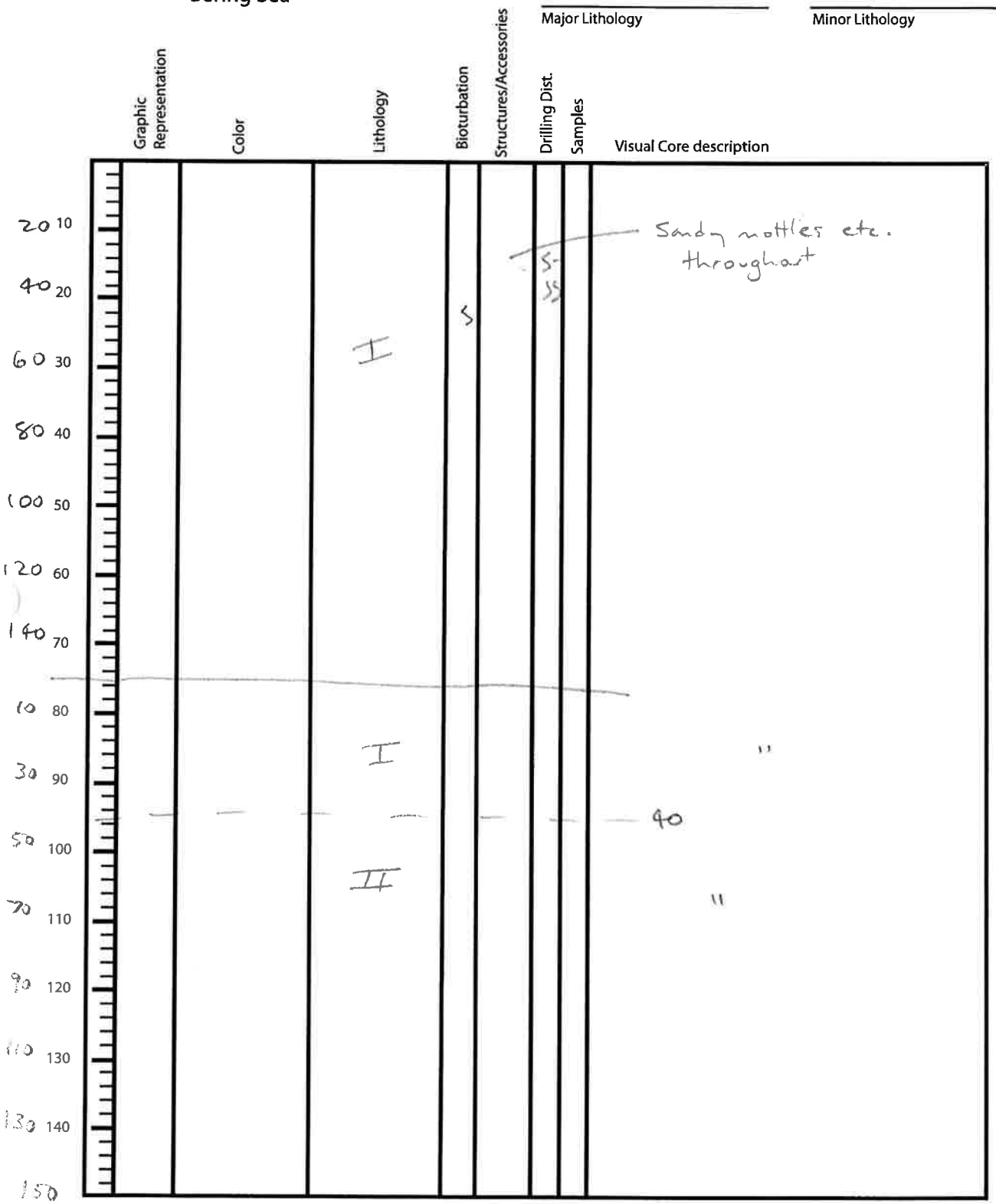
6-40

1343 (Site) E (Hole) 20 (Core) 5+6 (Section) +cc (Top Depth)

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



V

VI

+ CC to 26 cm

Observer: _____ Date: _____

✓SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	20H		2A	60	60

Sediment/Rock Name	diatom-rich clayey silt	Observer	Hiro

Percent Texture		
Sand	Silt	Clay
10	60	30

2 63μm 4μm

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 66%
	Framework minerals
45	Quartz 10
5	Feldspar /
10	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
6	Biotite
	Muscovite
14	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2	Pyrite 0.5
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
34%	**BIOGENIC GRAINS** 34%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
34%	Diatoms
23	5 Centric
9	2 Pennate
2	0.5 *Chaetoceros* Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1375	~~E~~	20H		3	27	29

Sediment/Rock Name	Diatom rich sandy silt

Observer	Hino

Percent Texture		
Sand	Silt	Clay
30	60	10

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 71
	Framework minerals
54	Quartz 20
3	Feldspar 1
1-	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5 (2	Rock fragments 2
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
0*	Clay Minerals
	Chlorite
3	1 Glauconite / Chlorite ? Green. Color
	Chert
	Zircon
8	Ferromagnesium minerals ≥ 3
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 27
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
29	Nassellaria
~~27~~ 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

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
			2014		3	50	50

Sediment/Rock Name	Diatom rich silt	Observer	If

Percent Texture		
Sand	Silt	Clay
10	80	10

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
50	Quartz ~~75~~ 10
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
25	Rock fragments 5
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
~~75~~ 80	Diatoms
~~75~~ 3	Centric 15
~~5~~ 1	Pennate 5
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
			20H		4	40	40

Sediment/Rock Name	Diatom ~~silt~~ clayey Silt	Observer	Mira

Percent Texture		
Sand	Silt	Clay
20	40	40

Comments:

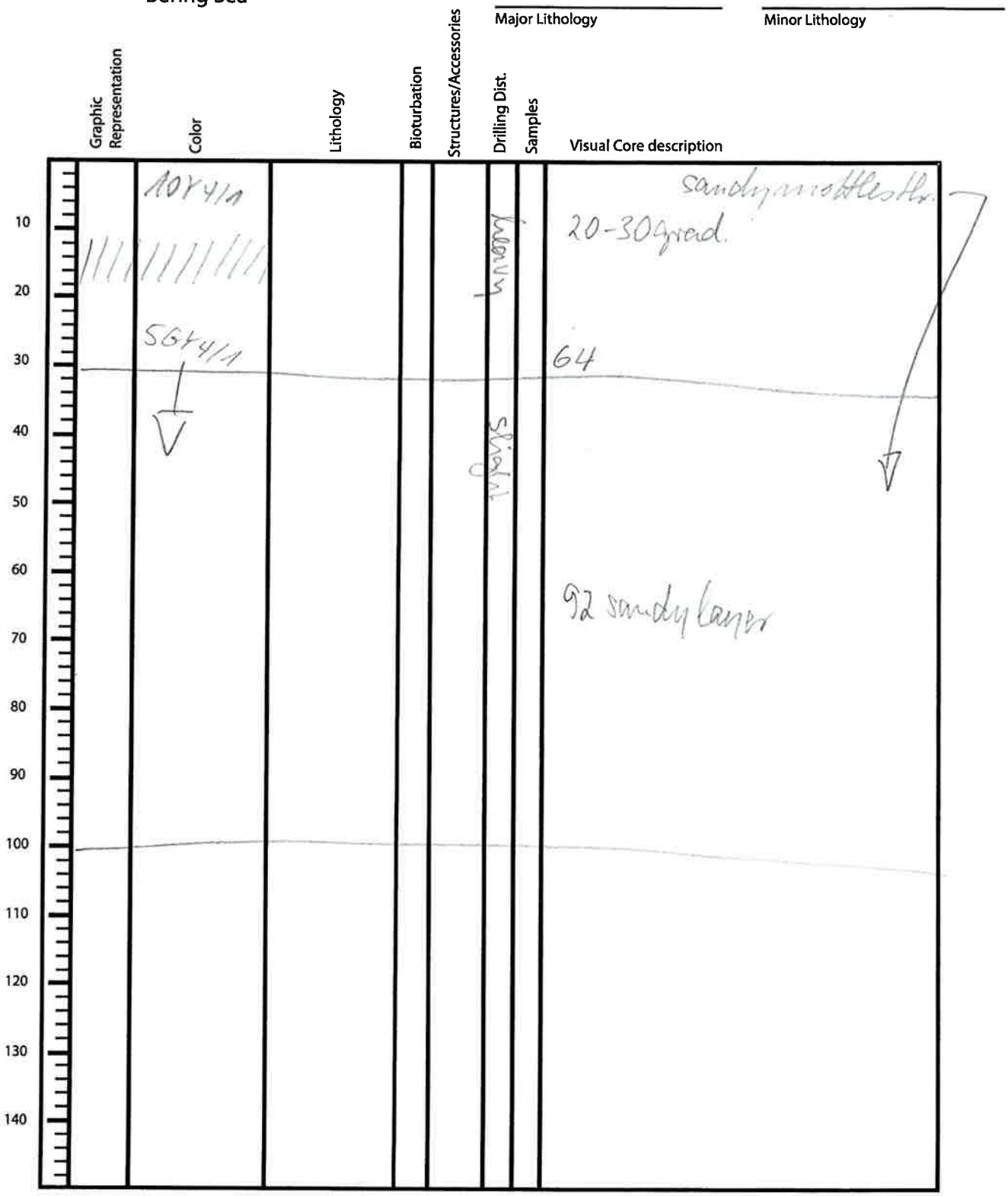
Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~30%~~ ~~20~~ 31%
	Framework minerals
24%	Quartz 7
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
4/3	Ferromagnesium minerals 1
	Authigenic minerals 0%
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3	Pyrite 1 %
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 69%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
52%	~~15~~ Centric
17%	5 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 E 2/1H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

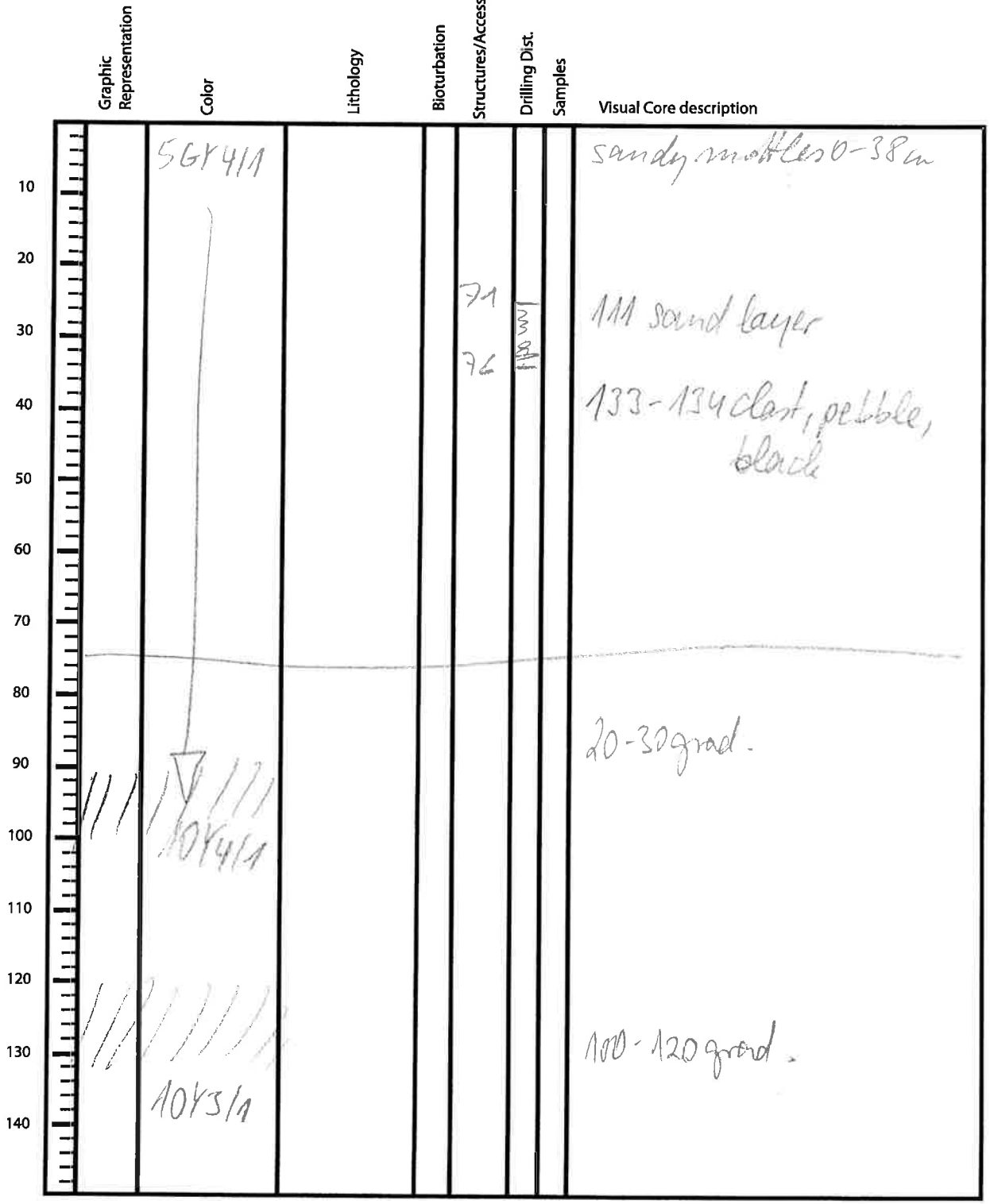


Observer: ____ Date: ____

1343 E 21H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

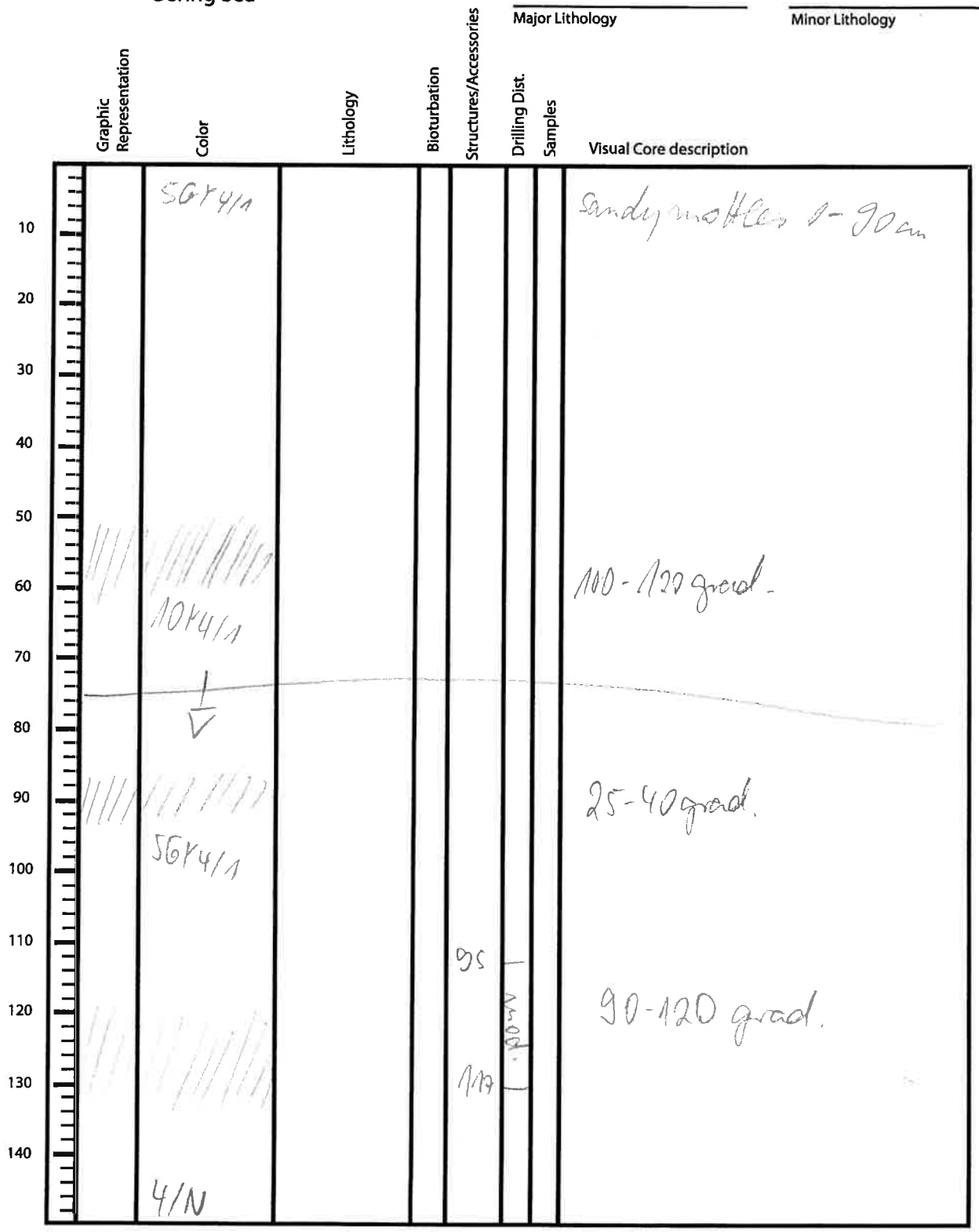


Observer: ____ Date: ____

1343 E 21H 5+6 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____

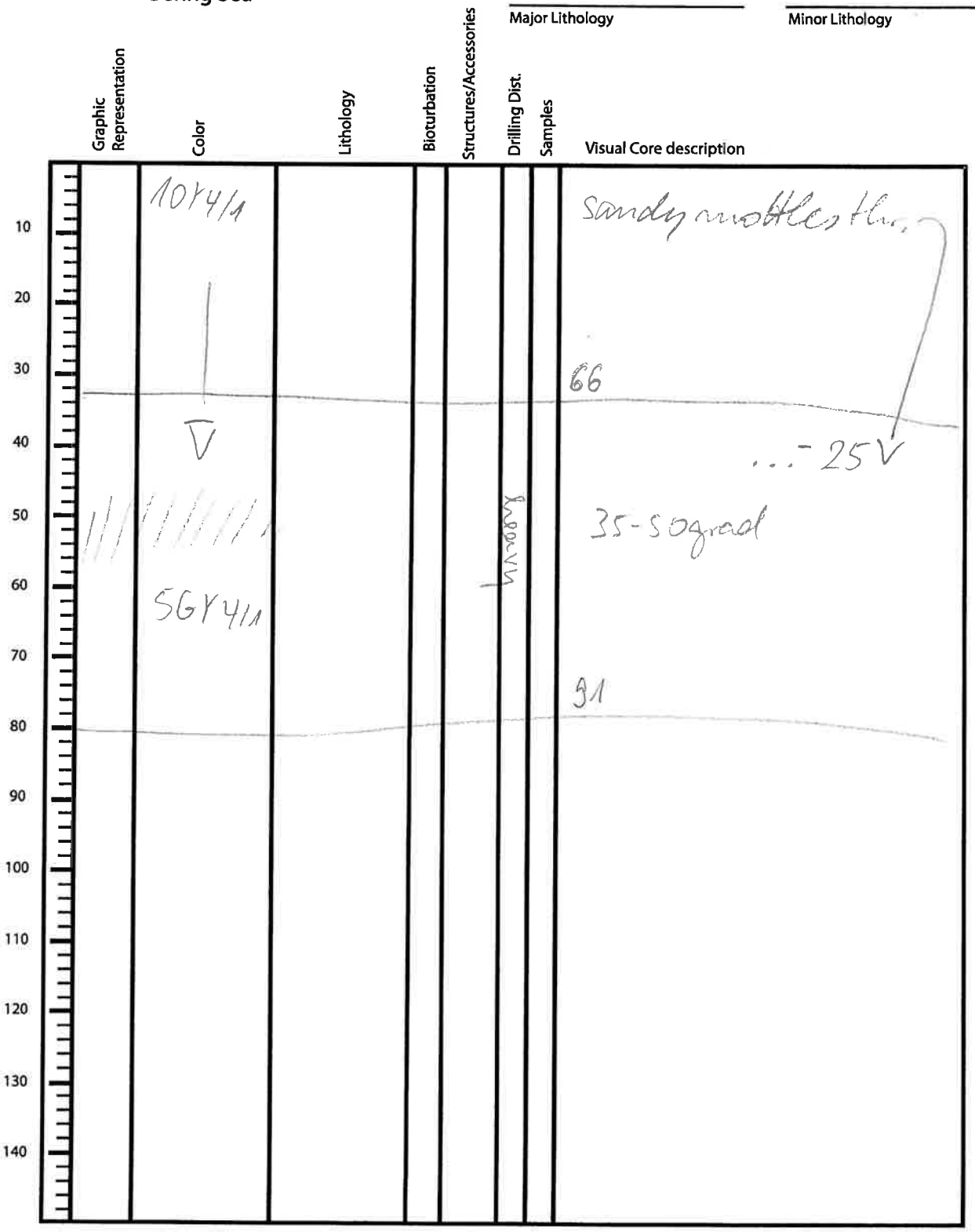


Observer: _____ Date: _____

1343 E 21H 7+8 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

✓SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1343	E	21H		7	26	26

Sediment/Rock Name	Diatom silty Clay

Observer	Hino A

Percent Texture		
Sand	Silt	Clay
10	40	50

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 41%
	Framework minerals
18	Quartz 3
3	Feldspar 0.5
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
35	Muscovite
12	Clay Minerals 2
	Chlorite
	Glauconite
	Chert
36	Zircon
3	Ferromagnesium minerals 0.5
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite 0.5
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain 1
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 59%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
59	Diatoms 70
	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
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	21H		3	100	100

Sediment/Rock Name	Sponge Spicule-rich diatom Ooze

Observer	H.A

Percent Texture		
Sand	Silt	Clay
~~10~~ 5	~~40~~ 35	~~20~~ 60

Comments:

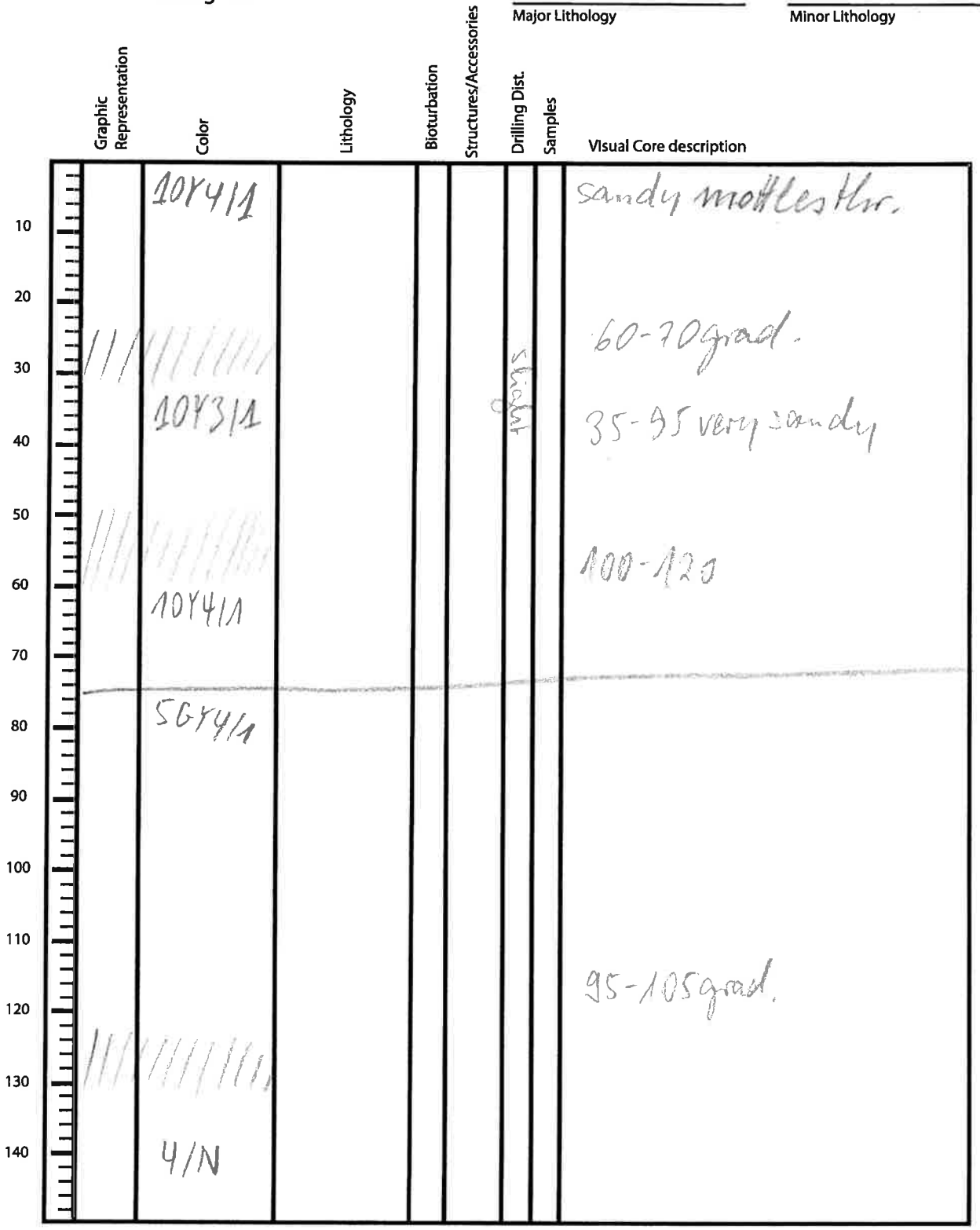
Percent	Component
	SILICICLASTIC GRAINS/MINERAL 30%
	Framework minerals
12%	Quartz 2
3%	Feldspar 0.5
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
12%	2 Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3%	Pyrite 0.5
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 70%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
~~2~~ ~~45~~	~~10~~ Diatoms 41%
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
5 ~~35~~	7 Sponge spicules 29%
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 E 22H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

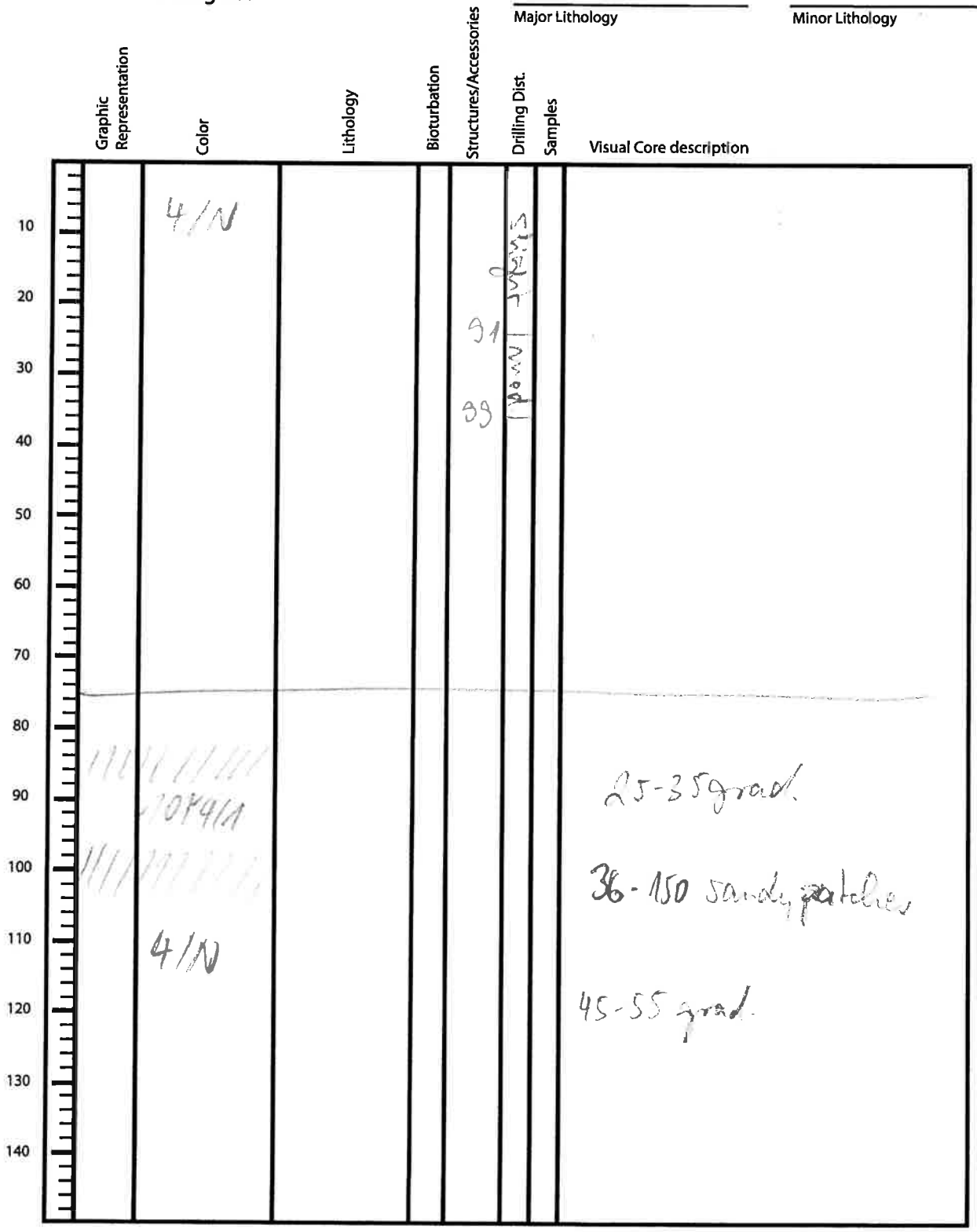


Observer: ____ Date: ____

1343 E 22H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



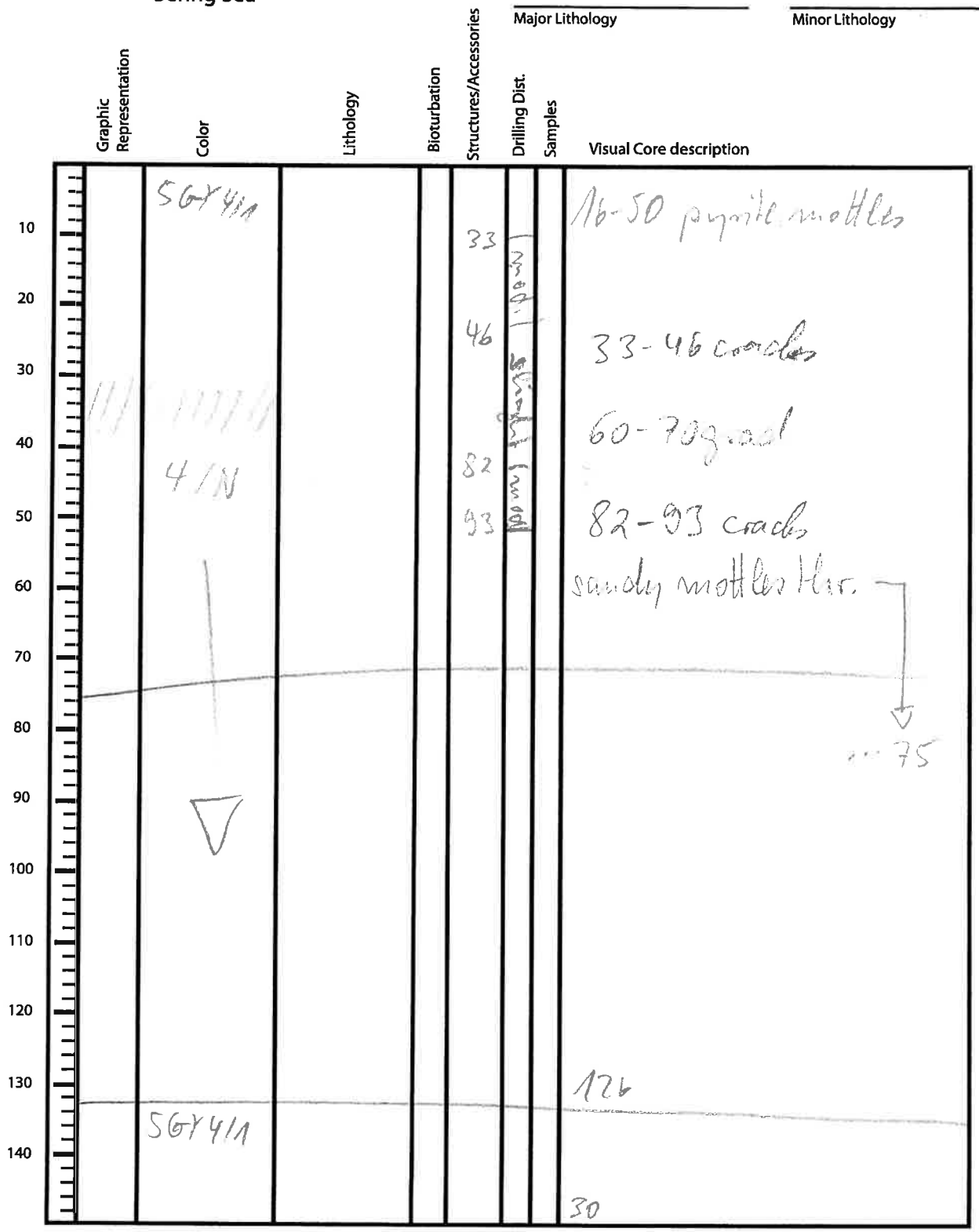
Observer: ____ Date: ____

1343 E 22H 5+6+CC
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

√SM1

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
			22		1	80	80

Sediment/Rock Name	diatom sandy silt

Observer	MA

Percent Texture		
Sand	Silt	Clay
~~10~~ 15	80	5

3 30 25 22

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 47
	Framework minerals
28	Quartz 10
3	Feldspar 1
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
6	Rock fragments 2
	Accessory/trace minerals
	Micas
38	Biotite
	Muscovite
1	Clay Minerals 0.5
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals 1
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
6	Pyrite 2
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS ~~57~~ 53
	Calcareous
3	Foraminifera 1
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
10	Nassellaria
	Diatoms ≠
~~42~~	41 Centric 15
8	Pennate 3
	Chaetoceros Resting Spores
	Silicoflagellates
1	Sponge spicules 0.25
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

√SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
		E 22	22		1	91	95

Sediment/Rock Name	Sand

Observer	Hino

Percent Texture		
Sand	Silt	Clay
100	0	0

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 90
	Framework minerals
25	Quartz 5
25	Feldspar 5
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
15	Rock fragments 3
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
25	Ferromagnesium minerals 5
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS 10
	Crystal grain
10	Vitric grain 2
	Lithic grain

Percent	Component
	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
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	22H		4	F2	F2

Sediment/Rock Name	diatom bearing silty Sand.	Observer	Hsu. A

Percent Texture		
Sand	Silt	Clay
~~20~~ ~~30~~ 40	~~40~~ 40	~~30~~ 20

Comments: Under cross polarization. tiny (<1um) shinny Heavy particle observed → seems to be frag. of Rocks or Minerals

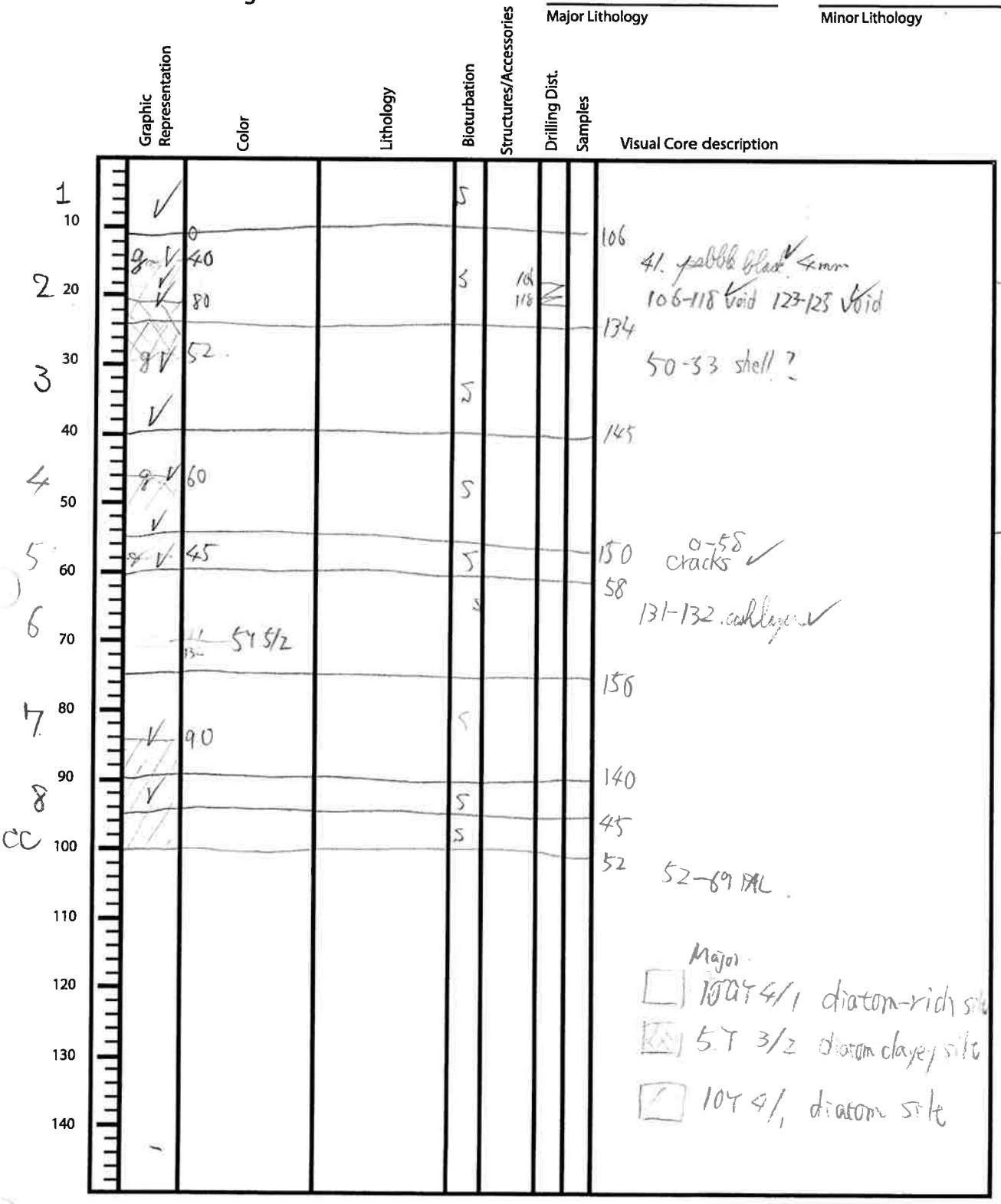
Percent	Component
	SILICICLASTIC GRAINS/MINERAL 85
	Framework minerals
10	Quartz 2
5	Feldspar 2 1
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
24 ~~28~~	Rock fragments 5
24 ~~28~~	Other. 5. (shiny particle under cross Nicole)
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
14	Clay Minerals 3
	Chlorite
	Glauconite
	Chert
	Zircon
~~10~~ 8	Ferromagnesium minerals 2
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite ~~28~~
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 15%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
10	2 Centric
5	1 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 E 23 ____ ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	23	H	2A	70cm	

Sediment/Rock Name	Diatom silt

Observer	Beth

Percent Texture		
Sand	Silt	Clay
2	98	

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
5	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
5	Plagioclase
10	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
10	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
5	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
15	Vitric grain
	Lithic grain

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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	23	H	4A	130 cm	

Sediment/Rock Name	diatom clayey silt

Observer	Beth

Percent Texture		
Sand	Silt	Clay
15	55	30

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
10	Plagioclase
10	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
15	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
5	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

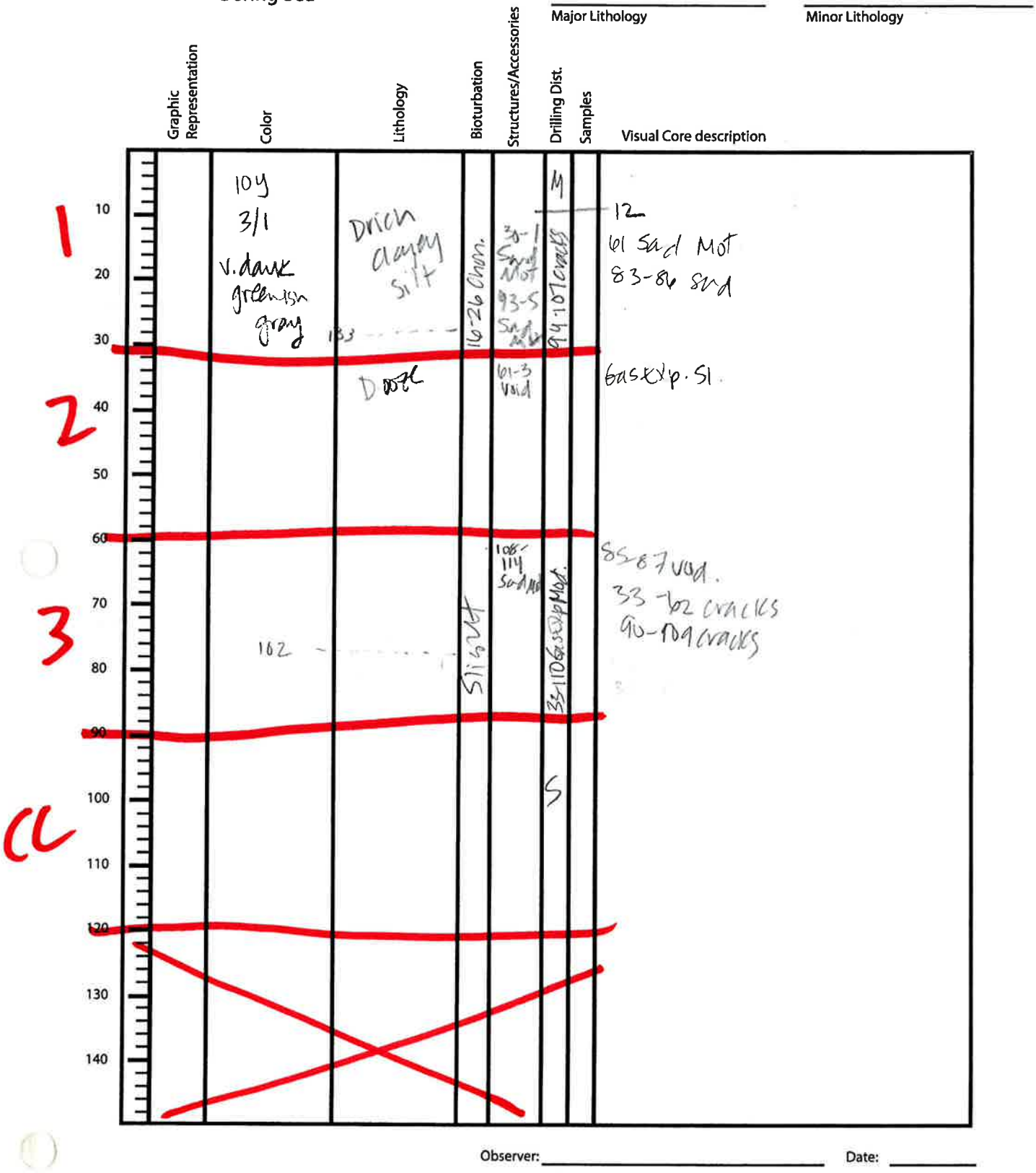
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
45	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules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

U1343 E 24H
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	24	H	1A	90cm	

Sediment/Rock Name	Diatom-rich clayey silt

Observer	BETH

B - 20
S - 68
V - 12

Percent Texture		
Sand	Silt	Clay
10	60	30

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
7	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
13	Rock fragments
	Accessory/trace minerals
3	Micas
	Biotite
	Muscovite
30	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
12	Vitric grain
	Lithic grain

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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	24	H	2A	110 cm	

Sediment/Rock Name	DIATOM OOZE!

Observer	BETH

S-29
V-S
B-66

Comments:

Percent Texture		
Sand	Silt	Clay

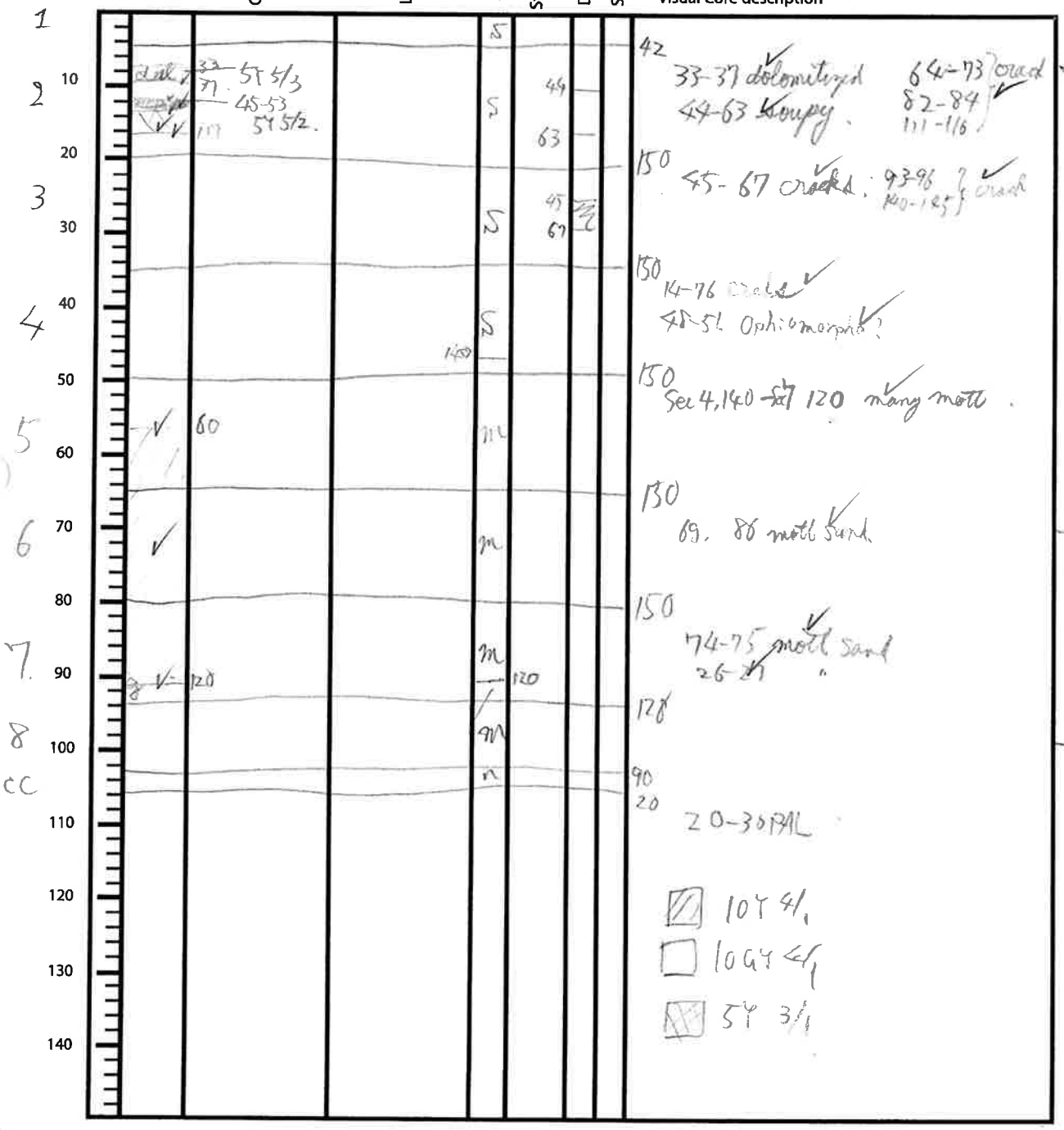
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
5	Quartz
6	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
10	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
1	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
2	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

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

1343 / Site | E / Hole | 25 / Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1343	C	25		6	58 cm	

Sediment/Rock Name	DIATOM RICH SILT

Observer	LWR

Percent Texture		
Sand	Silt	Clay
40%	30%	30%
7	5	5

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20%	5 Quartz
12%	3 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
12%	3 Rock fragments
	Accessory/trace minerals
4%	1 Micas
	X Biotite
	Muscovite
20%	5 Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
4	1 Pyrite
	Magnetite
	Fe-oxide
	Carbonates
8	2 Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

56%

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
20%	5 Diatoms
12%	3 Centric
8%	2 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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1343	E	25		8	40cm	

Sediment/Rock Name	SILTY CLAY

Observer	Lisa

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15%	5 Quartz
15%	5 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
6%	2 Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
39%	13 Clay Minerals
	Chlorite
	X Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3%	1 Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	5 Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

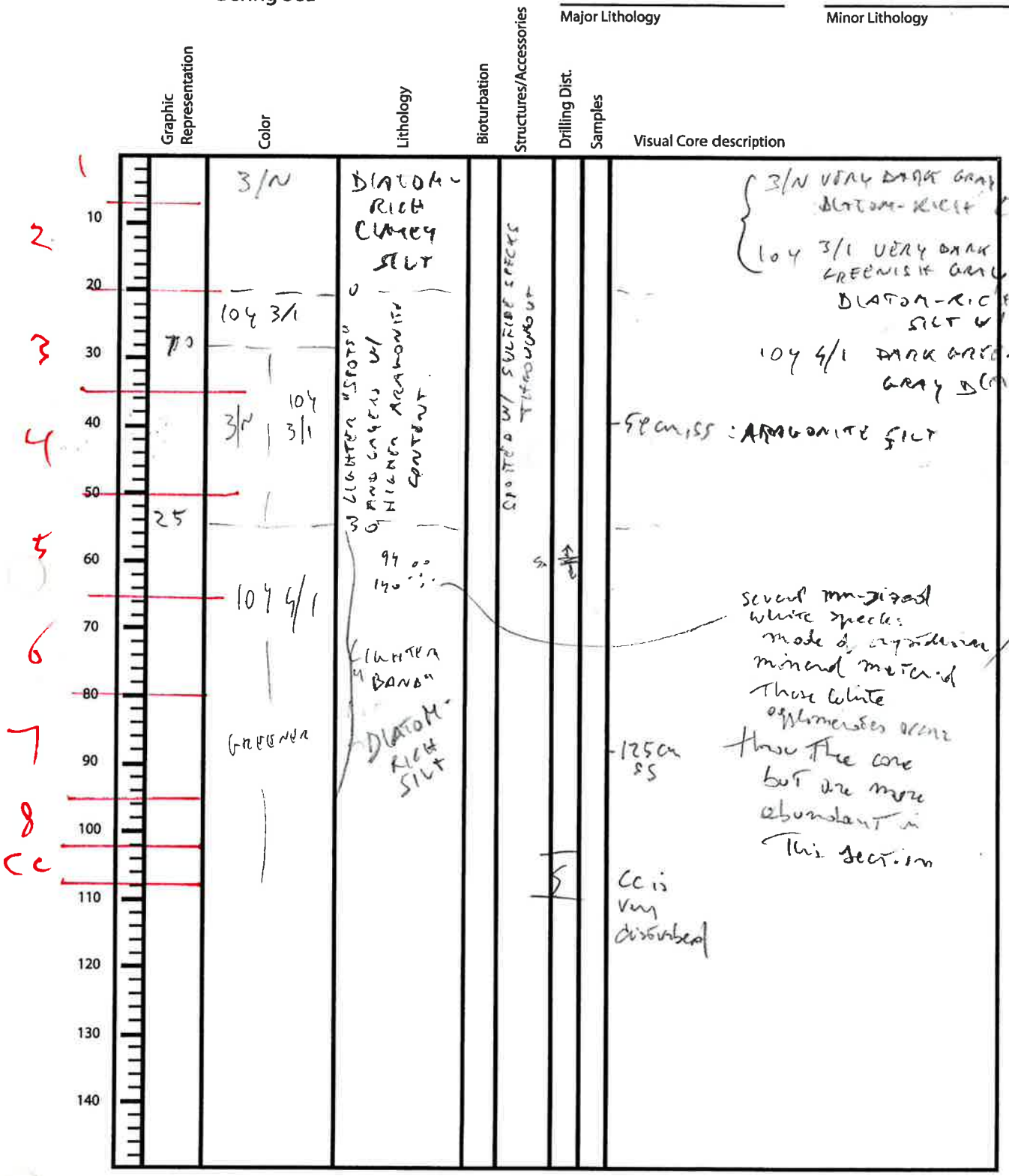
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	X Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
6%	2 Diatoms
3	1 Centric
3	1 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1334 E 26 ALL
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	26	H	4A	59cm	

Sediment/Rock Name	Aragonite silt

Observer	Beth

Percent Texture		
Sand	Silt	Clay

Comments:

Accessory

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
5	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
10	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
10	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
2	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
65%	Aragonite (?)

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

SM

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	26	H	4A	122cm	

Sediment/Rock Name	Diatom rich clayey silt

Observer	BETIT

Percent Texture		
Sand	Silt	Clay
15	45	40

B - 20
S - 75
V - 5

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
16	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
30	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
2	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
18	Centric
2	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	26	H	7A	70cm	

Sediment/Rock Name	DIATOM-RICH SILT	Observer	BETH

B - 40
S - 55
V - 5

Comments:

Percent Texture		
Sand	Silt	Clay
5	80	15

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
10	Centric
10	Pennate
15	*Chaetoceros* Resting Spores
5	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others
5	Aragonite?

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	26	H	7A	125cm	

Sediment/Rock Name	Diatom-rich Silt

Observer	Beth

Percent Texture		
Sand	Silt	Clay
10	85	5

Comments:
Blue Mottle

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
15	Plagioclase
10	Rock fragments
	Accessory/trace minerals
5	Micas
	Biotite
	Muscovite
10	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
10	Zeolite
	Opaque minerals
10	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
5	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

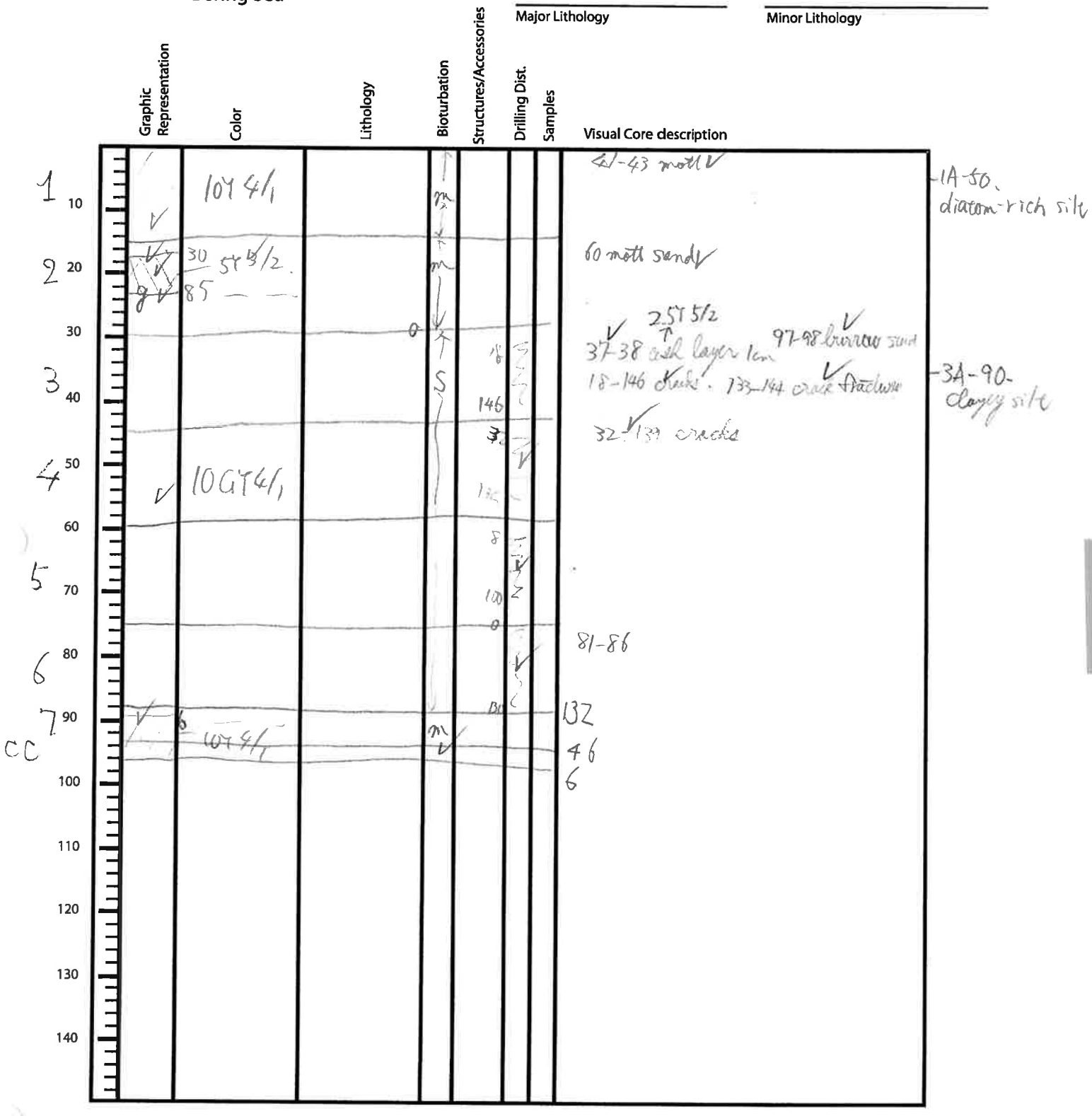
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
15	Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules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

1343 E 27
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1343	E	27	H	1	50 cm	

Sediment/Rock Name	Diatom. rich Silt

Observer	G.B.

Percent Texture		
Sand	Silt	Clay
	40	60

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
35	X Quartz
10	X Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
20	X Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	X Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30	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

65

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	U1340	E	27	H	3	90 cm	

Sediment/Rock Name	Clayey - Silt

Observer	G.B.

Percent Texture		
Sand	Silt	Clay
	30	70

Comments:

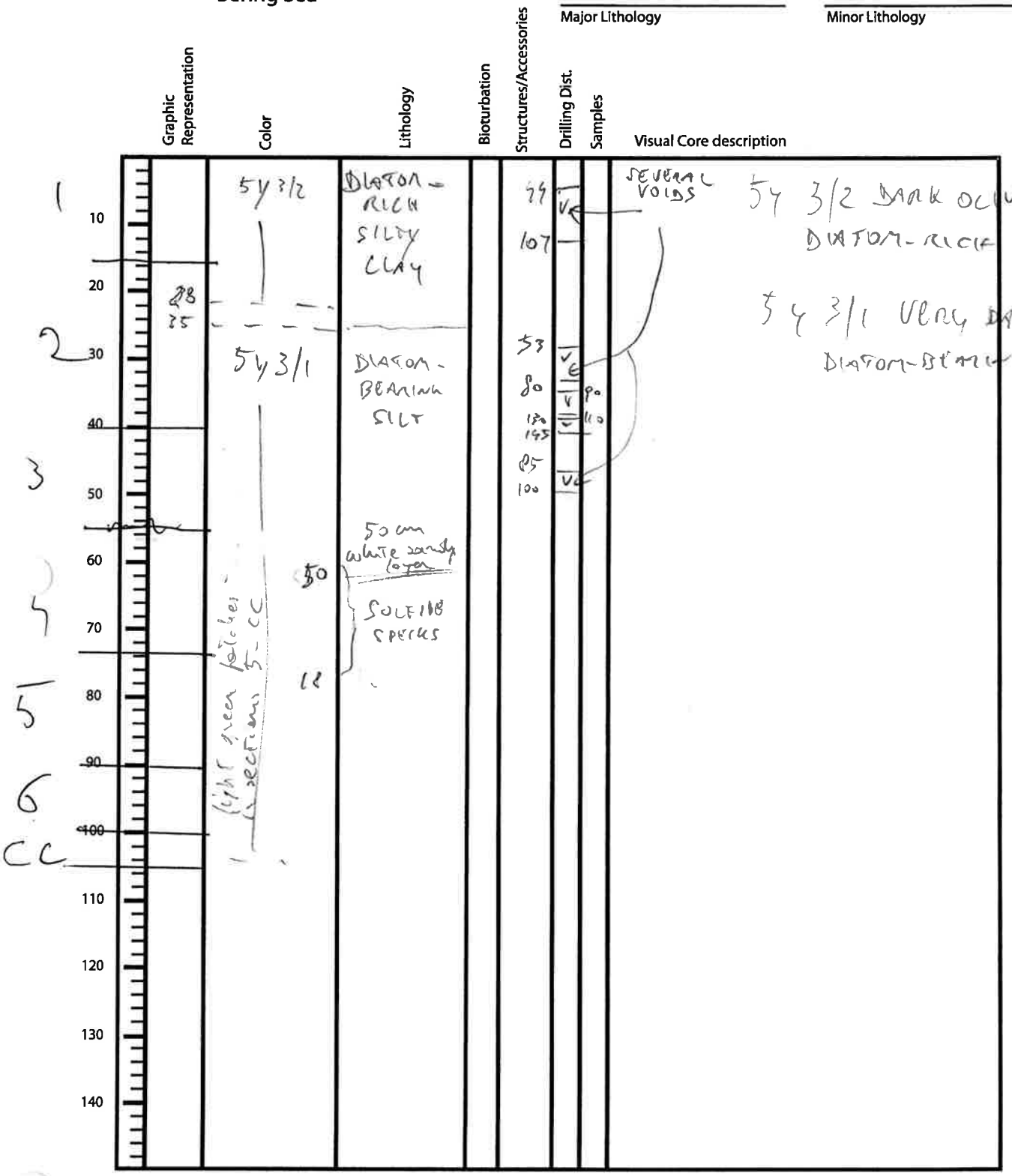
Percent		Component
SILICICLASTIC GRAINS/MINERAL		
		Framework minerals
30	X	Quartz
10	X	Feldspar
		K-feldspar (Orthoclase, Microcline...)
		Plagioclase
3	X	Rock fragments
		Accessory/trace minerals
		Micas
		Biotite
		Muscovite
25	X	Clay Minerals
		Chlorite
		Glauconite
		Chert
		Zircon
		Ferromagnesium minerals
		Authigenic minerals
		Barite
		Phosphorite/Apatite
		Zeolite
		Opaque minerals
20	X	Pyrite
		Magnetite
		Fe-oxide
		Carbonates
10	X	Calcite
		Dolomite
VOLCANICLASTIC GRAINS		
		Crystal grain
		Vitric grain
		Lithic grain

Percent		Component
BIOGENIC GRAINS		
		Calcareous
		Foraminifera
		Planktonic foraminifera
		Benthic foraminifera
		Nannofossils
		Coccoliths
		Discoasters
		Pteropods
		Siliceous
		Radiolarians
		Spumellaria
		Nassellaria
2		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

1343 E 28 ALL ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	28	H	3	80	

Sediment/Rock Name		Observer	

DIATOM-RICH SILTY CLAY
GREEN

Percent Texture		
Sand	Silt	Clay
14 → 12	50 → 53	36 → 35

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
12 13	Quartz 33
12 13	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
12 13	Rock fragments 3
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
38 30	Clay Minerals 7 8
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
27 30	Diatoms 7
	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	28	H	X3	80	

Sediment/Rock Name	Observer
~~Clayey~~ silt. diatom-bearing	Okada

Percent Texture		
Sand	Silt	Clay
0	50	50

3

Comments:

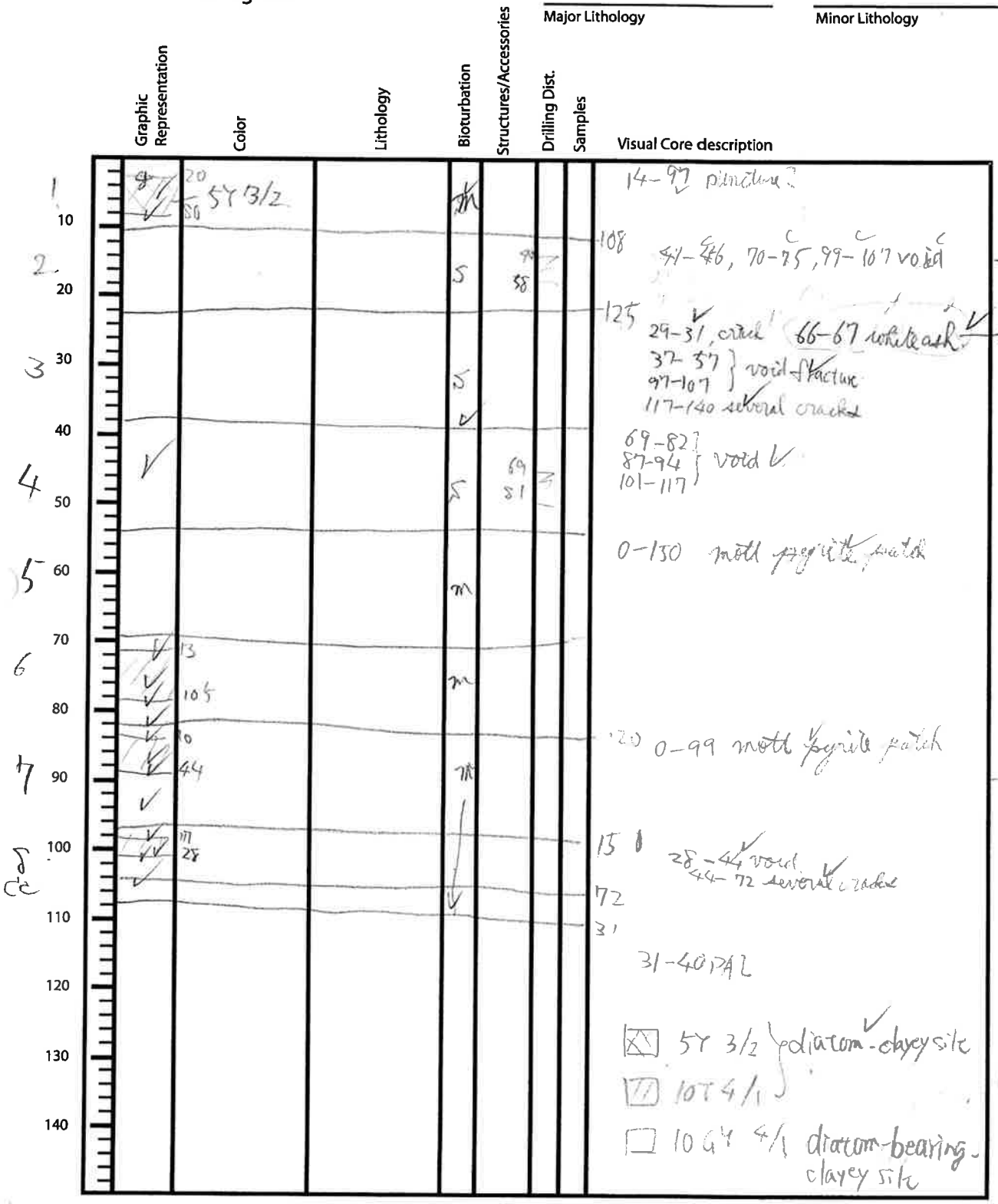
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
36	Quartz 17
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
15	Rock fragments 3
	Accessory/trace minerals
3	Micas 0.5
	Biotite
	Muscovite
15	Clay Minerals 3
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite 1
	Magnetite
	Fe-oxide
16	Carbonates 2
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
15	Diatoms 3 3
	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

1343 E 29 ____ ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

X

SM

IODP Expedition 323

SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1323	E	29		2	15cm	

Sediment/Rock Name	DIATOM-BEARING CLAYEY SILT

Observer	IWA

Percent Texture		
Sand	Silt	Clay
10	60	30

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15%	5 Quartz
45 30	10 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
30%	10 Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
9%	3 Pyrite
	Magnetite
	Fe-oxide
9%	3 Carbonates (dolomite?)
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
6%	2 Diatoms
3%	1 Centric
3%	1 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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

SM

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1343	E	29		1	22	w

Sediment/Rock Name	DIATOM CLAY SILT	Observer	JWA

Percent Texture		
Sand	Silt	Clay
5	45	50

Comments:

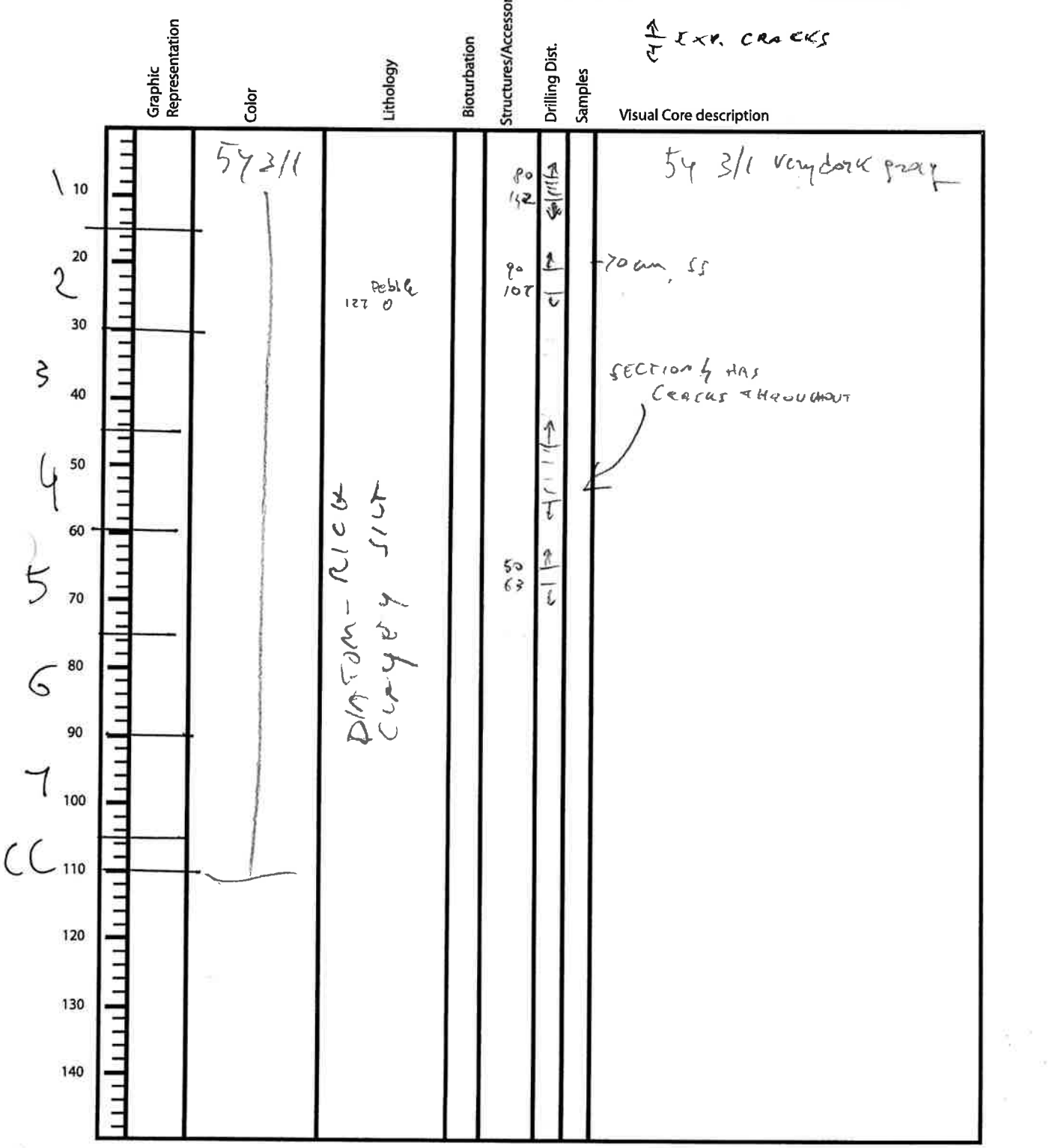
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
21% 15	Quartz
7% 5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
1% 1	Micas
	Biotite
	Muscovite
29% 20	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3% 2	Pyrite
	Magnetite
	Fe-oxide
3% 2	Carbonates ?
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
35%	35 Diatoms
21%	15 Centric
14%	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

1343 E 30 ALL
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology Minor Lithology



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1363	E	30	H	2A	70	

Sediment/Rock Name	diatom-rich clayey silt

Observer	Akira

Percent Texture		
Sand	Silt	Clay
14	~~56~~ 50	36
2	55	7.5

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
30	Quartz 27
13	Feldspar 3
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments 2
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
21 ~~23~~	Clay Minerals 5
	Chlorite
	Glauconite
	Chert
	Zircon
2	Ferromagnesium minerals 0.5
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
4	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

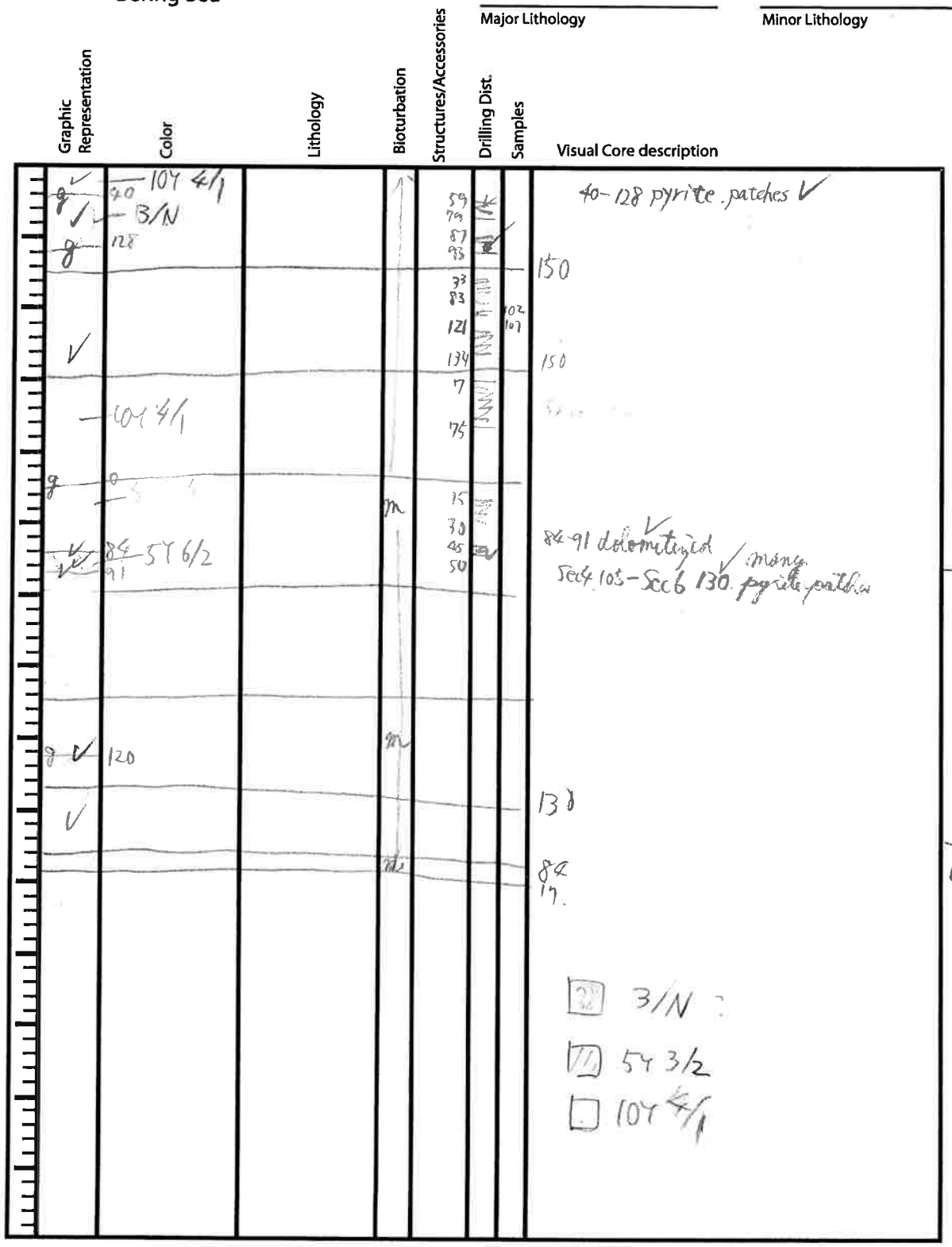
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
21	Diatoms 5
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules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

4A-120
7A-40

1343 E 31 ____ ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1343	E	31		4	130cm	

Sediment/Rock Name	DIATOM-RICH SILT

Observer	IWA

Percent Texture		
Sand	Silt	Clay
10	70	20

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
48% 20	Framework minerals
12% 5	Quartz
37% 15	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
12% 5	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2% 1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
36% 15	Diatoms
24% 10	Centric
12% 5	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1343	E	31	H	7	40 cm	

Sediment/Rock Name	DIATOM-RICH SILTY CLAY

Observer	LWA

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
15	Framework minerals
12%	8 Quartz
11%	7 Feldspar
28%	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5%	3 Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
38%	25 Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
3%	2 Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

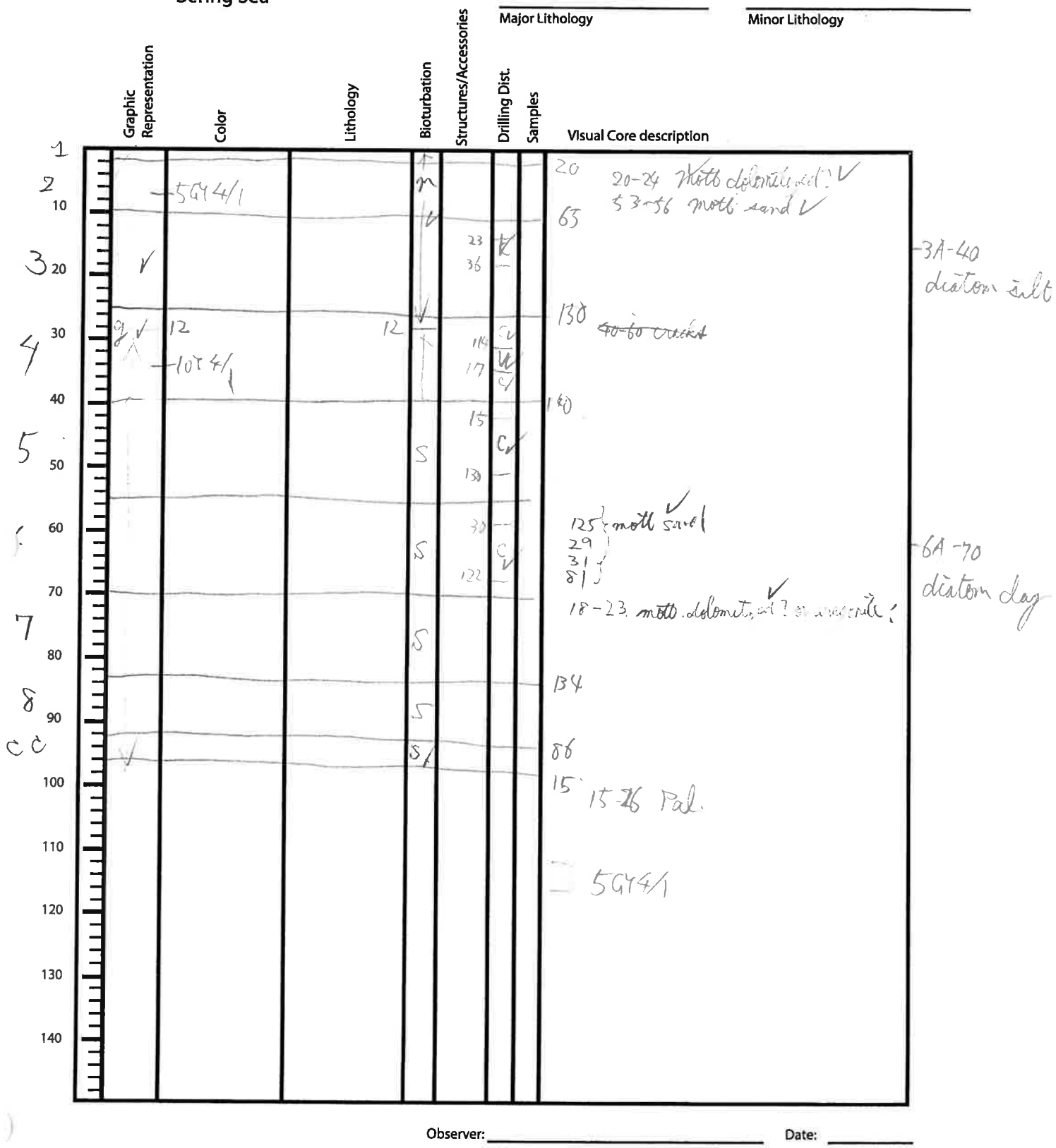
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
31%	20 Diatoms
23	15 Centric
8	5 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 E 32
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1343	E	32	H	3	40 cm	

Sediment/Rock Name	DIATOM SILT	Observer	IWA

Percent Texture		
Sand	Silt	Clay
20	40	40

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
7%	2 Quartz
18%	5 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
18%	5 Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
18%	5 Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
4	Opaque minerals
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
36% 28	10 Diatoms
28	8 Centric
7	2 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1343	E	~~33~~ 32		6	70 cm	

Sediment/Rock Name	DIATOM CLAY

Observer	LWA

Percent Texture		
Sand	Silt	Clay

Comments:

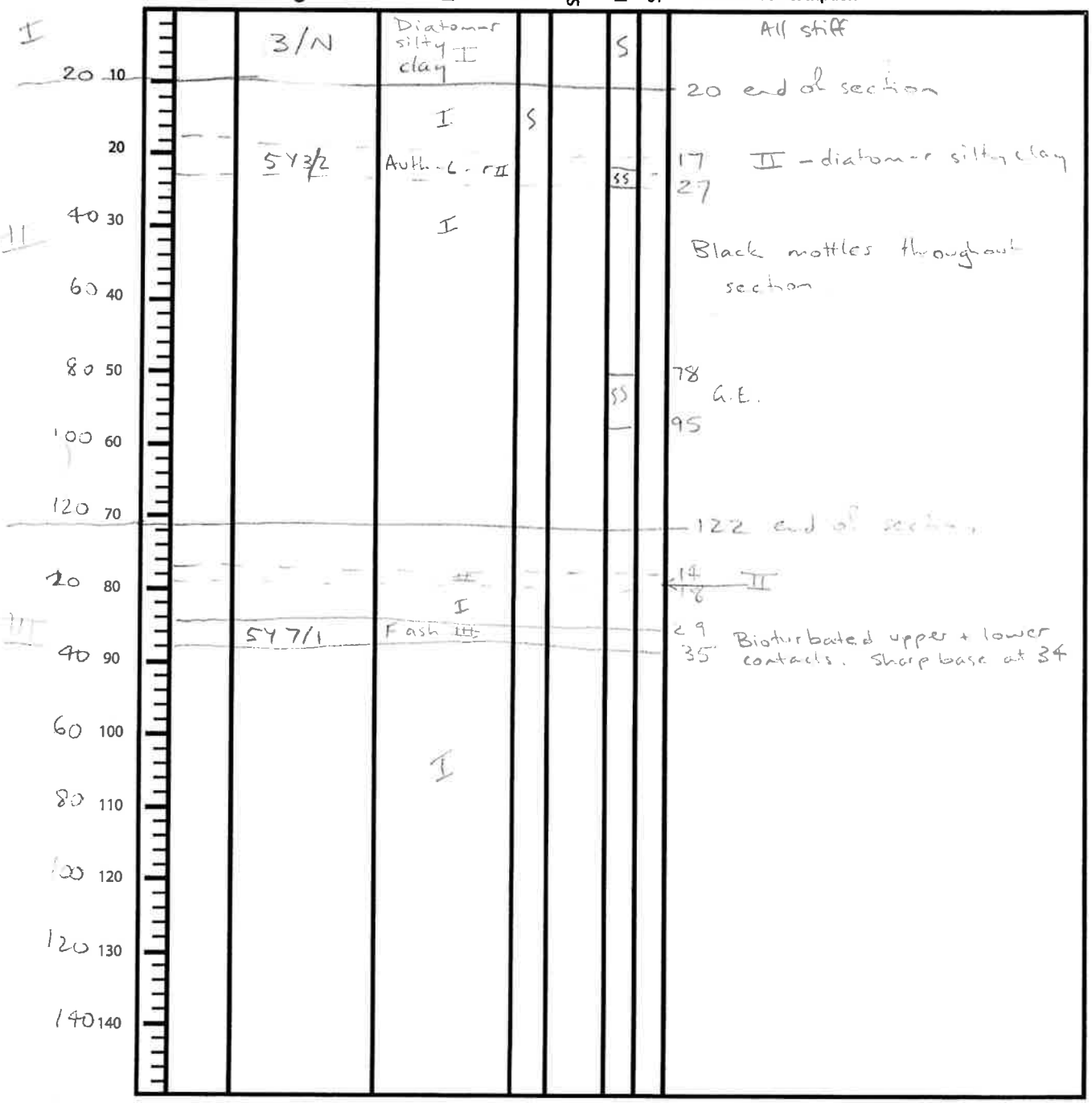
Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
4%	2 Quartz
2%	1 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
39%	20 Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
4%	2 Zeolite
	Opaque minerals
4%	2 Pyrite
	Magnetite
	Fe-oxide
	Carbonates
2%	1 Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
BIOGENIC GRAINS	
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
45%	Diatoms
39%	20 Centric
6%	3 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 | E | 33 | 1-3 | _____
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____

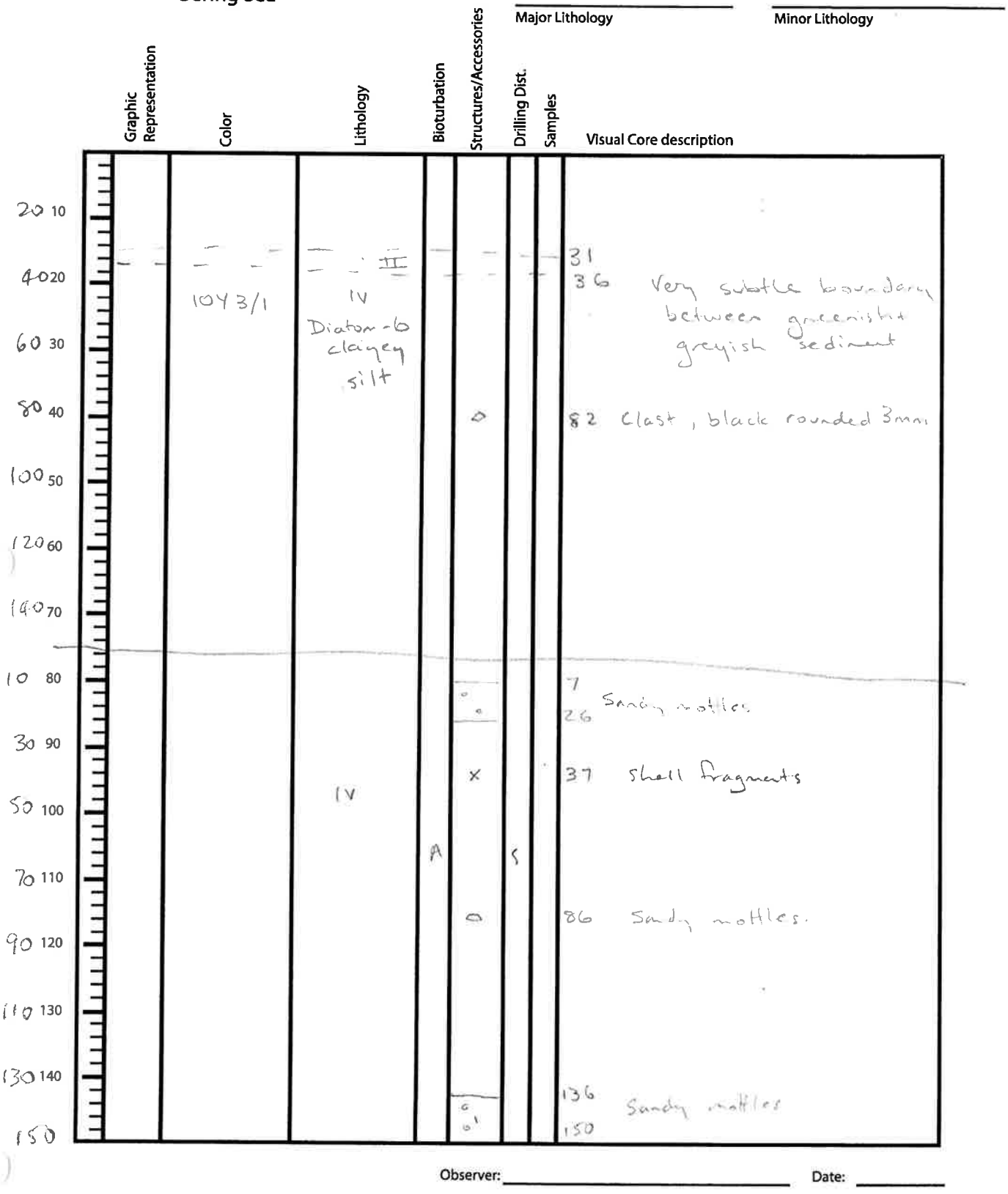


Observer: Kelsie Date: _____

1343 | E | 33 | 4+5
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology



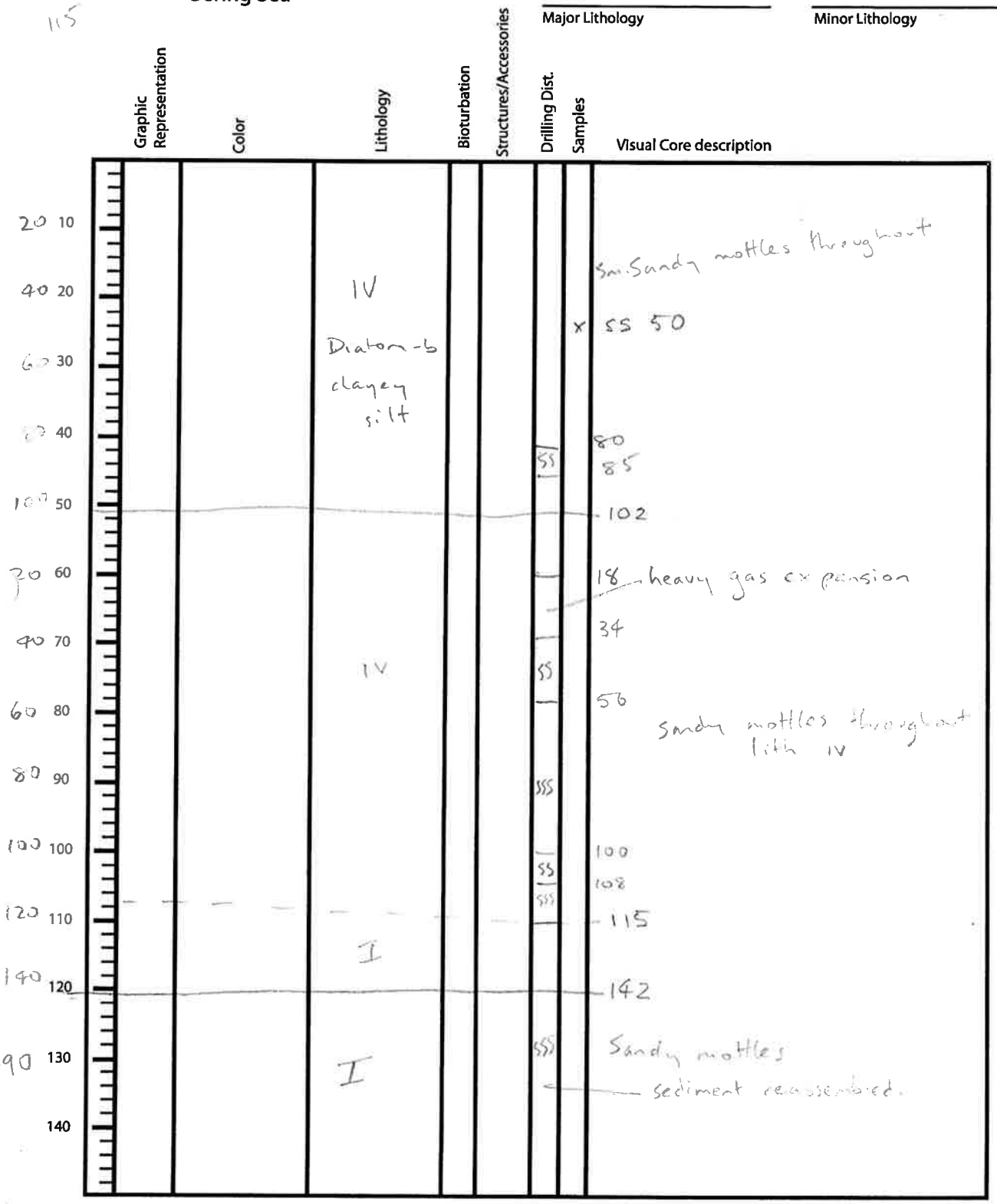
Observer: _____ Date: _____

1343 E 33 6+7+cc
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

115

Major Lithology _____ Minor Lithology _____



VI

VII

CC 0-90

Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	33H		2A	60	50

Sediment/Rock Name	Diatom-rich Silty Clay

Observer	Hino. A

Percent Texture		
Sand	Silt	Clay
15	40	45
3	10	10

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 69
	Framework minerals
32-37%	Quartz 5
6%	Feldspar 1
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
4	Muscovite
18%	Clay Minerals 3
	Chlorite
	Glauconite
	Chert
0.1	Zircon
6%	Ferromagnesium minerals 1
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
1	
	Opaque minerals
6%	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 31%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
31%	5 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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1343	E	33		4	35	35

Sediment/Rock Name	Diatom rich Silty Clay

Observer	Hiro A

Percent Texture		
Sand	Silt	Clay
5	25	70

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 69
	Framework minerals
45	Quartz 10
	Feldspar = Ø
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
4	Rock fragments 1
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
15	Clay Minerals 3
	Chlorite
	Glauconite
	Chert
	Zircon
4	Ferromagnesium minerals 1
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
1	Vitric grain 0.25
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 31
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
31	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	33H		6	50	50

Sediment/Rock Name	Diatom-bearing clayey silt

Observer	Hiro.

Percent Texture		
Sand	Silt	Clay
5	70	25
/	25	10

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 92%
	Framework minerals 20
51	Quartz
3	Feldspar /
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
3	Micas /
	Biotite 1
	Muscovite
25	Clay Minerals 10
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals /
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
7	Pyrite 3
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

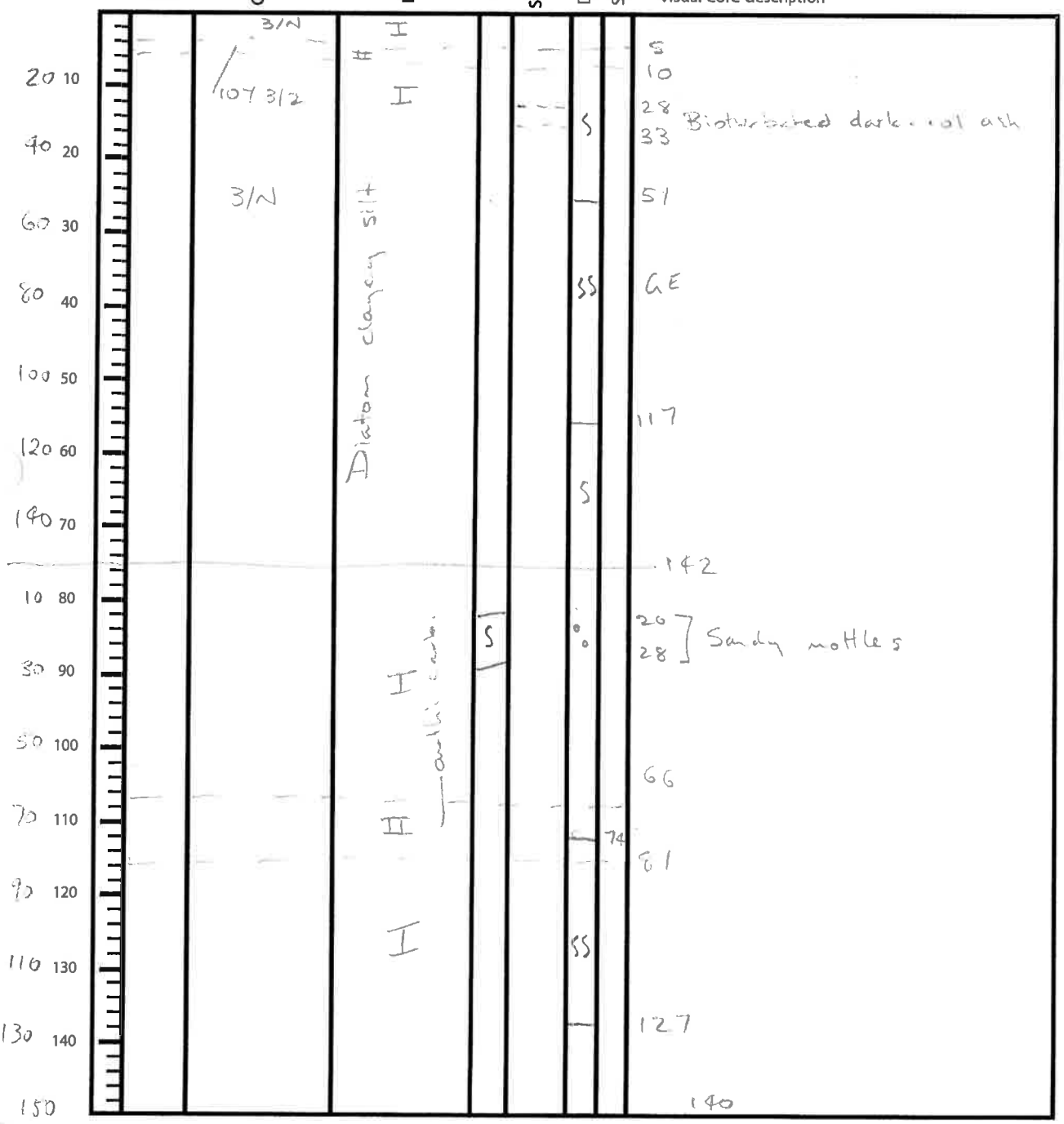
Percent	Component
	BIOGENIC GRAINS 8%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
8	3 Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

1343 | E | 34 | 1+2 | _____
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____

Black mottling throughout Lith II

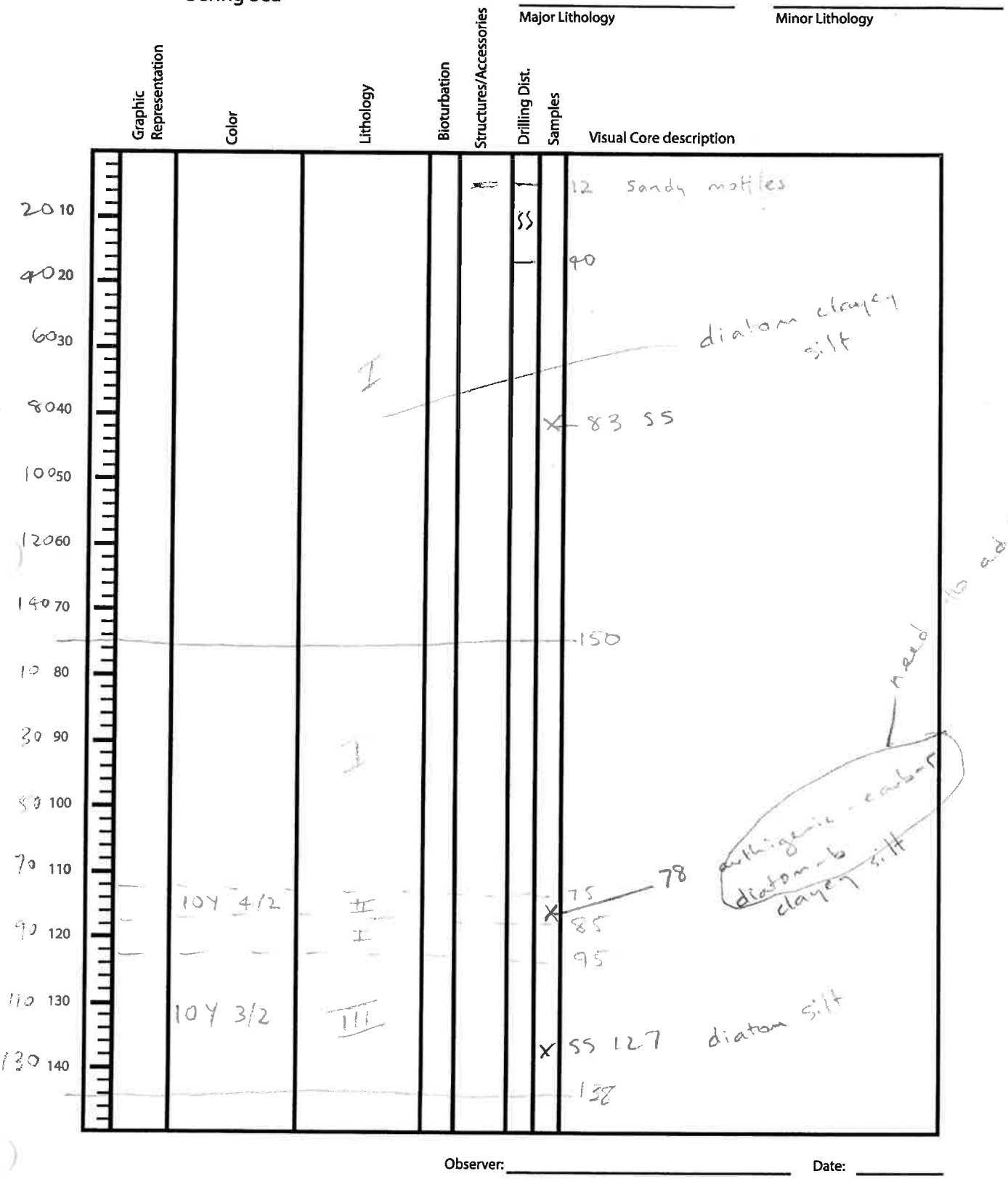


Observer: Kelsic Date: _____

1343 Site | E Hole | 34 Core | 3+4 Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology

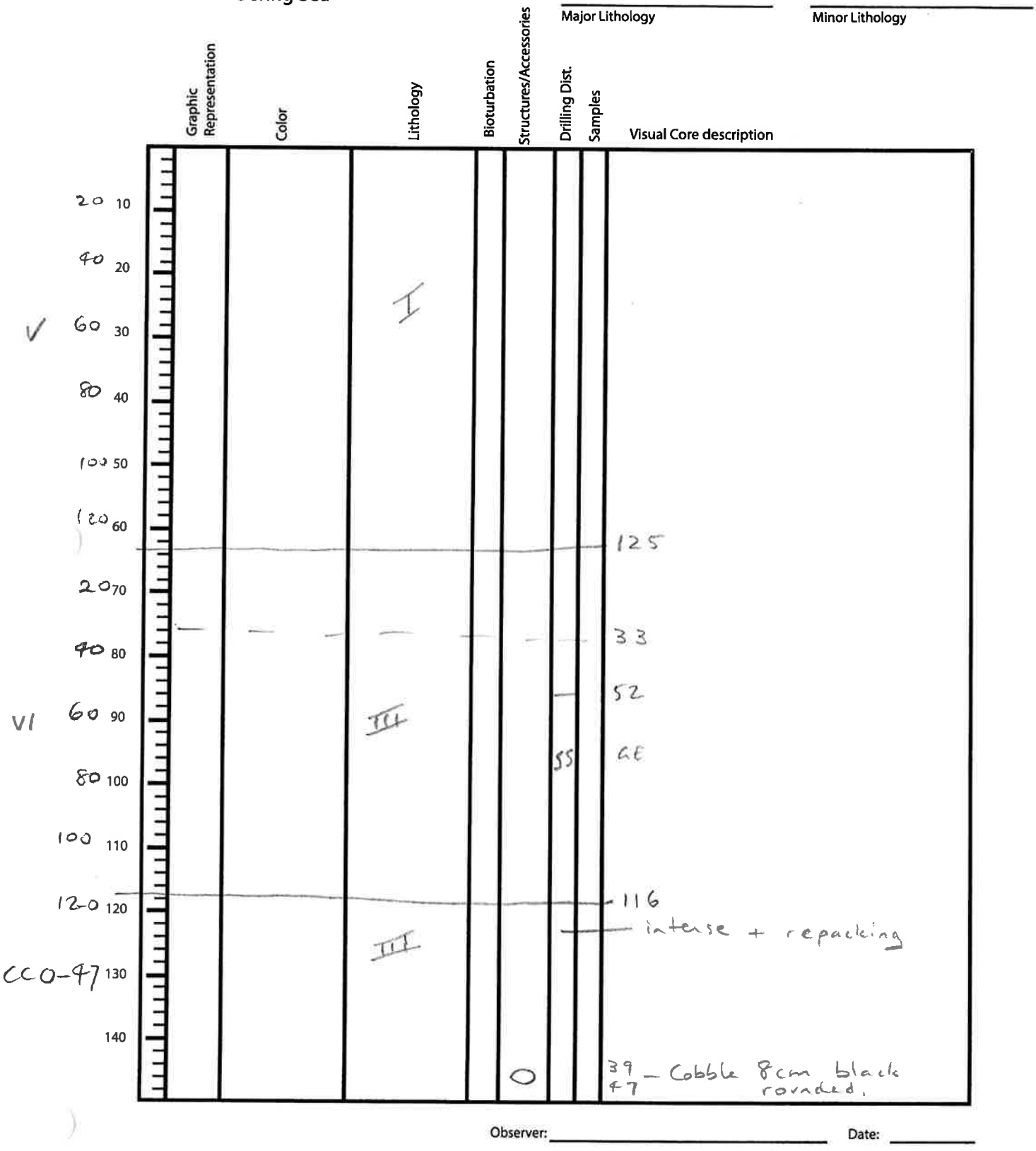


Observer: _____ Date: _____

1393 / E / 34 / 5+6+CC / ____
Site / Hole / Core / Section / Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____



Observer: _____ Date: _____

514

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	34H		3A	83	83

Sediment/Rock Name	Diatom ~~clay~~ clayey silt

Observer	Marie

Percent Texture		
Sand	Silt	Clay
5	60	35

Comments: Main lith., gray

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
35	Framework minerals
20	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
20	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
5 ~~10~~	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
?	Diatoms
35 ~~30~~	Centric
5	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
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	34	H	4	78	78

Observer: Mare

Sediment/Rock Name: Auth. carbonate-rich diatom-bearing clayey silt

Percent Texture		
Sand	Silt	Clay

Comments: lighter layer

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
8	Quartz
4	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
5	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
75	Carbonates (fine silt-sized, elongate, uniform size dist.)
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
8	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scal
	Bryozoans
	Bivalves
	Others

SM.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	34	H	4	127	129

Sediment/Rock Name	Diatom silt

Observer	

Percent Texture		
Sand	Silt	Clay
10	80	10

Comments: Main lith., dark greenish gray

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
3~~4~~5	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
5	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

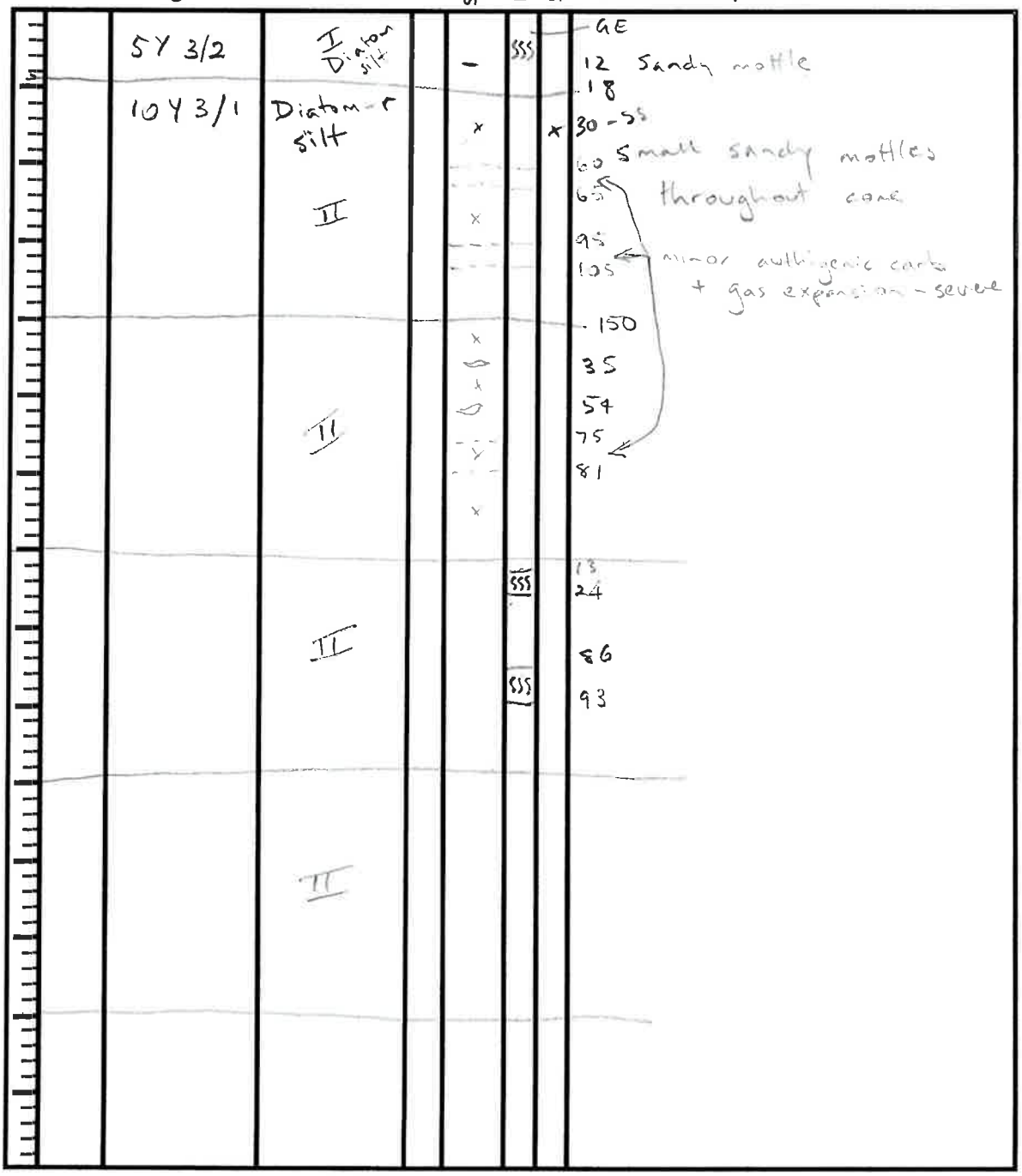
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
50	Centric (Fragments)
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge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

1343 | E | 35 | 1-5 | ____
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

Firm throughout

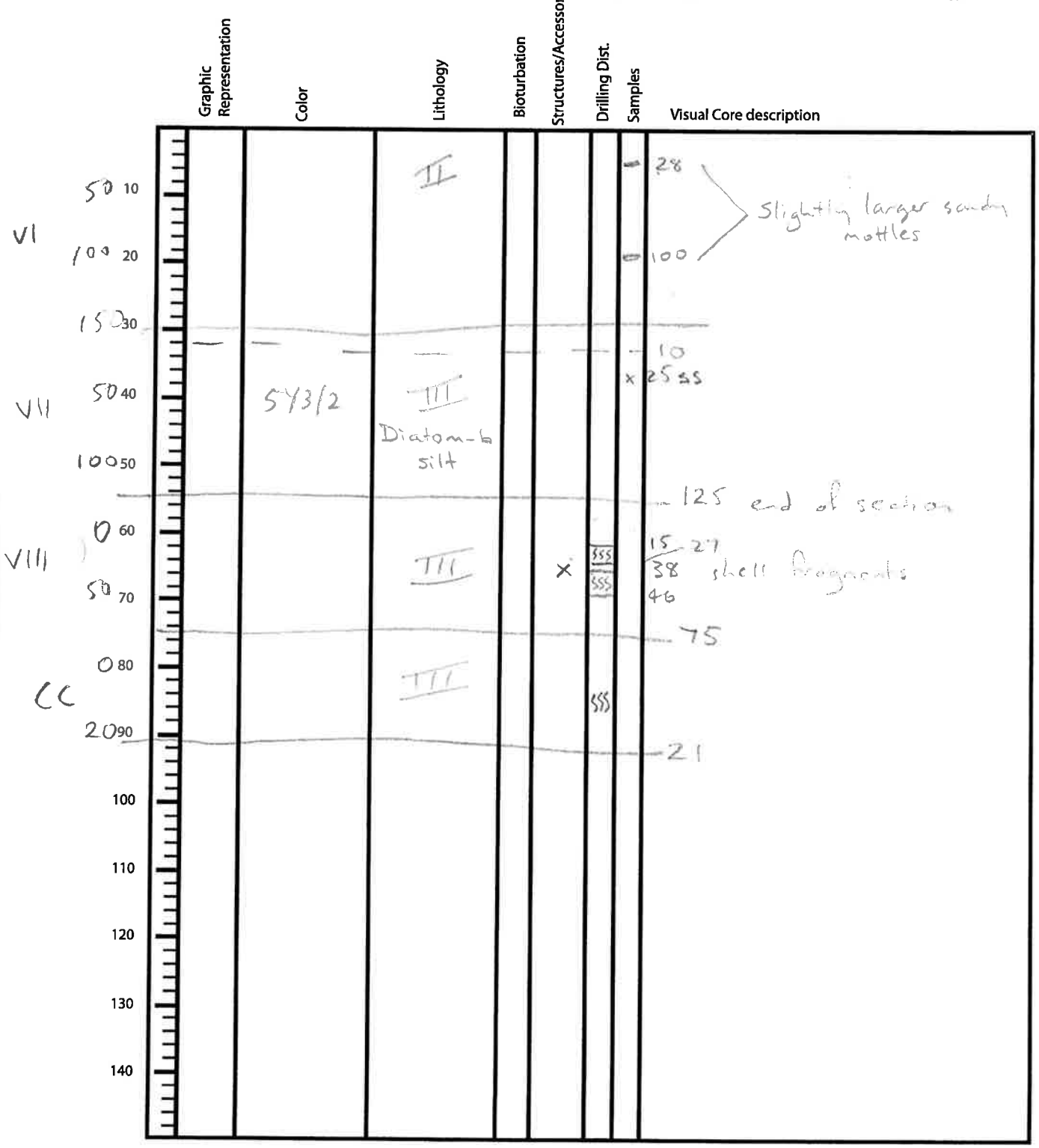


Observer: Kelsie Date: ____

1343 | E | 35 | VI-CC | Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology



Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	35	H	2	30	30

Sediment/Rock Name	Diatom ~~silt~~ - rich silt

Observer	Maïz

Percent Texture		
Sand	Silt	Clay
5	80	15

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
~~30~~	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
~~35~~ 30	Centric
5	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	35	H	7	25	25

Sediment/Rock Name	Diatom-bearing Silt

Observer	Marz

Percent Texture		
Sand	Silt	Clay
15	80	5

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
70	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
10	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

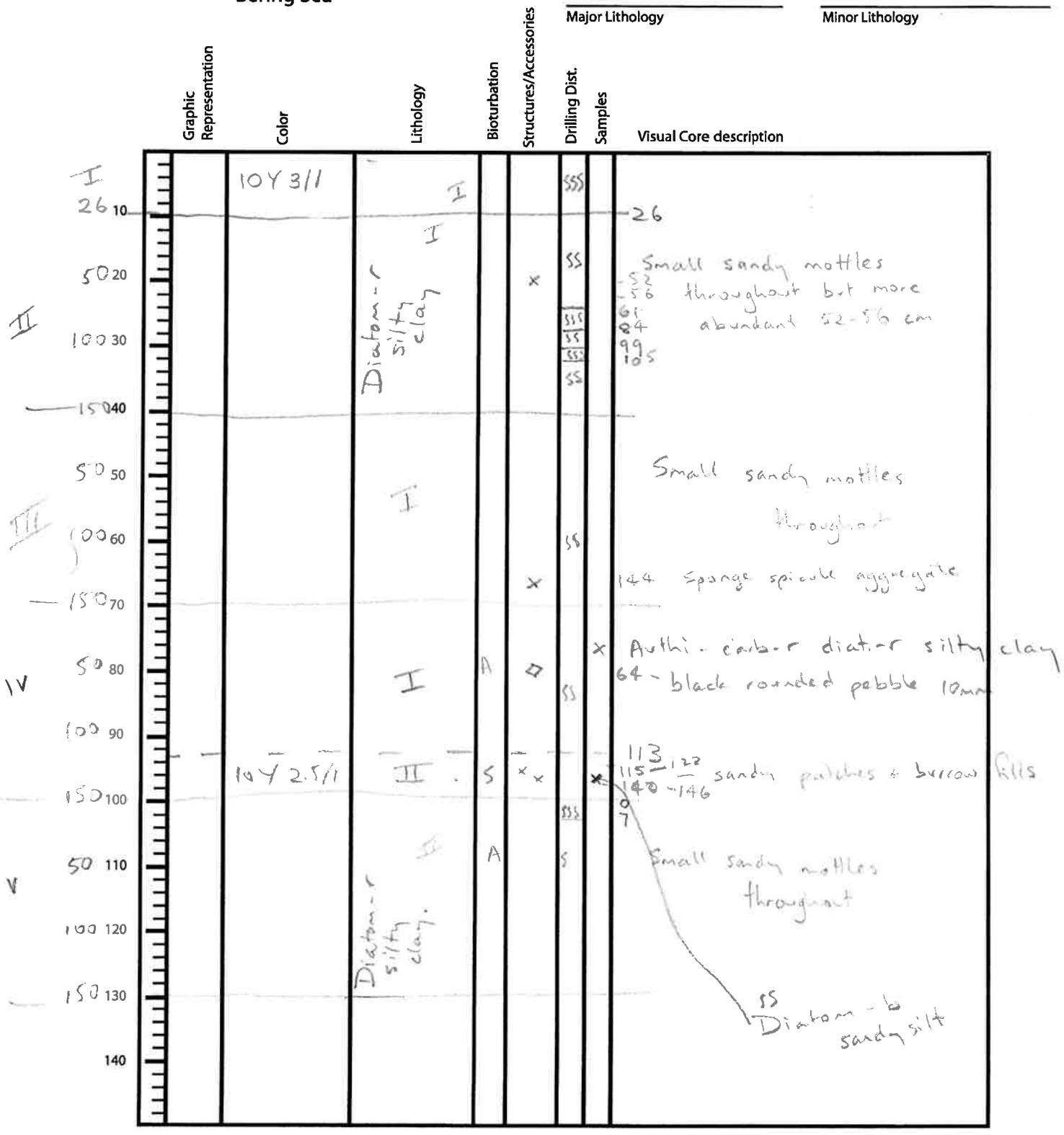
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
10	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules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

1343 E 36 Sections I-V
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology

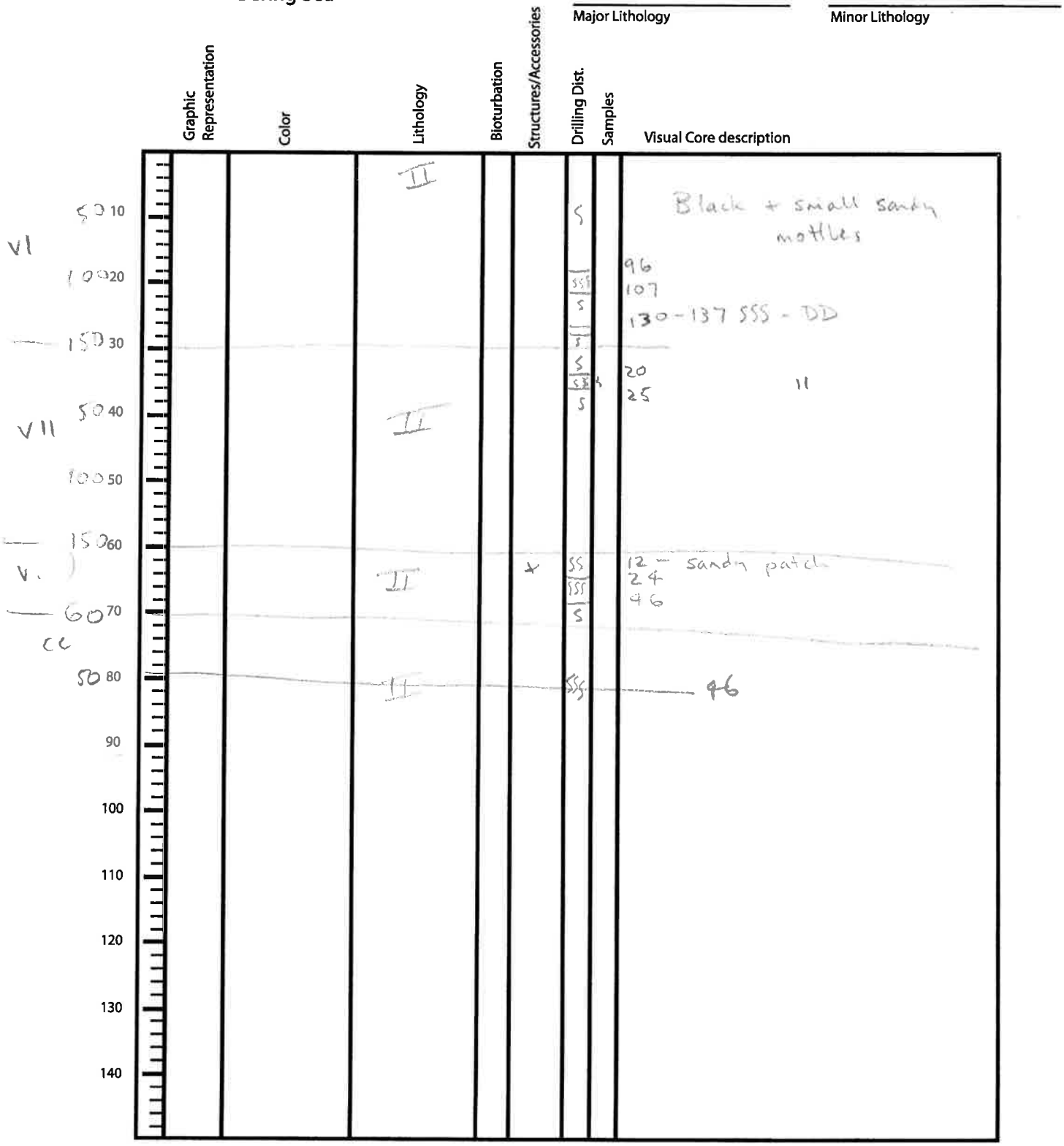


Observer: Kelsie Date:

1383 E 36 6-CC
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____



Observer: _____ Date: _____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	36	H	3	30	30

SM

Sediment/Rock Name	Observer
Authigenic Carbonate-rich diatom rich silty Clay	M.A

Percent Texture		
Sand	Silt	Clay
10	30	60

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~26~~ 54
	Framework minerals
26	Quartz 10
5	Feldspar 2
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
8	Clay Minerals 3
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals 1
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
8	Pyrite 3
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
24 ~~25~~	Dolomite 10
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 26
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
26	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	36	H	7	70	90

Sediment/Rock Name	Diatom rich ~~silt~~ clayey silt	Observer	L.A

Percent Texture		
Sand	Silt	Clay
~~70~~ 20	~~20~~ 45	~~10~~ 35

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 82
	Framework minerals
48	Quartz 10
10	Feldspar 2
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
24	Clay Minerals 5
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite *
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 18
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
18	Diatoms
4	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	36	H	4	135	135

Sediment/Rock Name	Diatom bearing Sandy Silt	Observer	Hiwa

Percent Texture		
Sand	Silt	Clay
35	50	15

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 94%
	Framework minerals
56 55%	Quartz 20
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
64	Accessory/trace minerals
	Micas
	Biotite
~	Muscovite
8 4%	Clay Minerals 3
	Chlorite
	Glauconite
	Chert
	Zircon
28 ≥5%	Ferromagnesium minerals 10
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2 3%	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
6 3%	2+ 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

S.M

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	36H		5	134	

Sediment/Rock Name	Diatom ~~clay~~ -rich Silty Clay

Observer	H.m.

Percent Texture		
Sand	Silt	Clay
5	40	55
1	7	10

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 87
	Framework minerals
67	Quartz 3 10
7	Feldspar 1
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
13	Clay Minerals 2
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

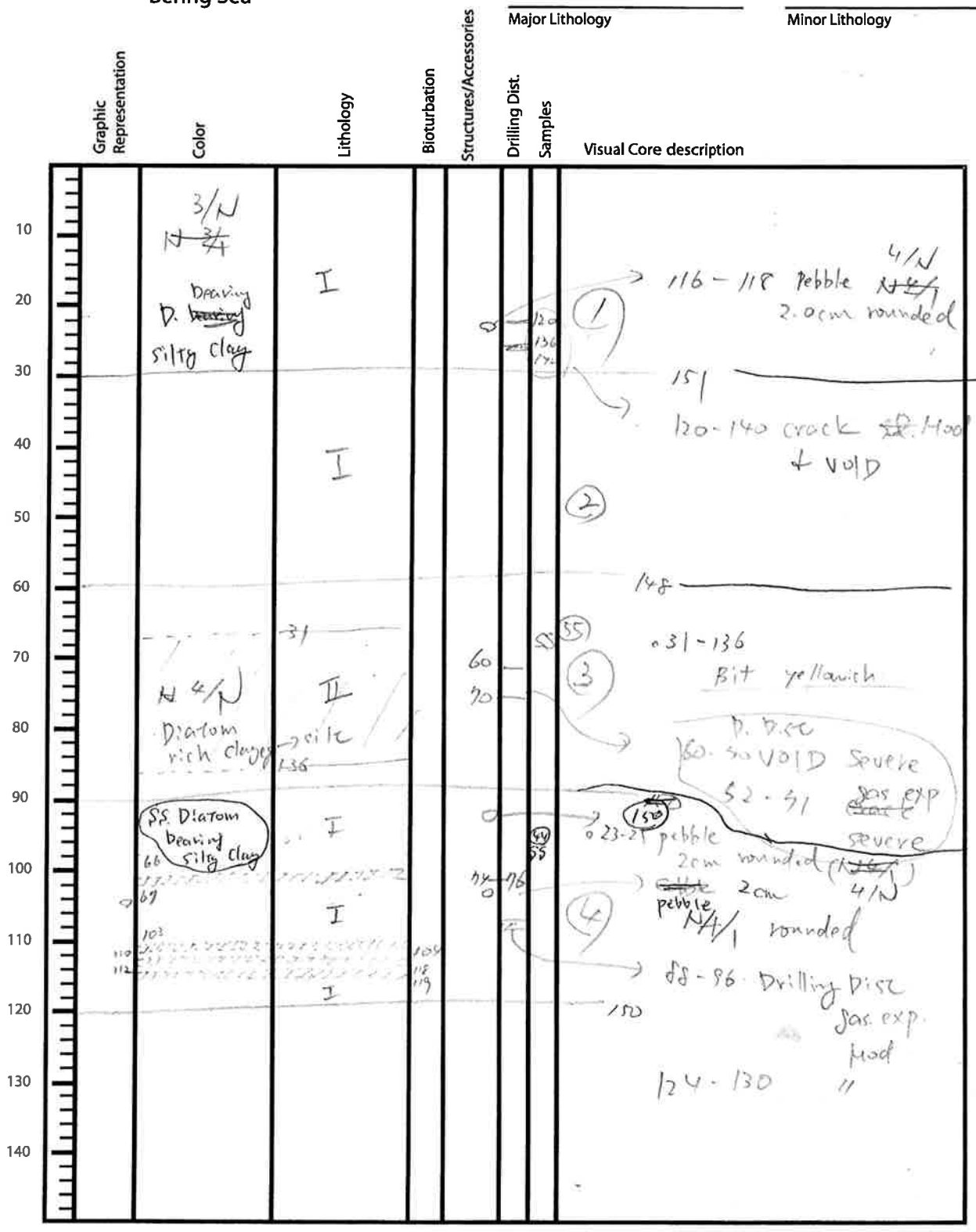
Percent	Component
	BIOGENIC GRAINS 13
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
13	2 Diatoms
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

82 shell

1343 Site | E Hole | 37 Core | 1-4 Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology

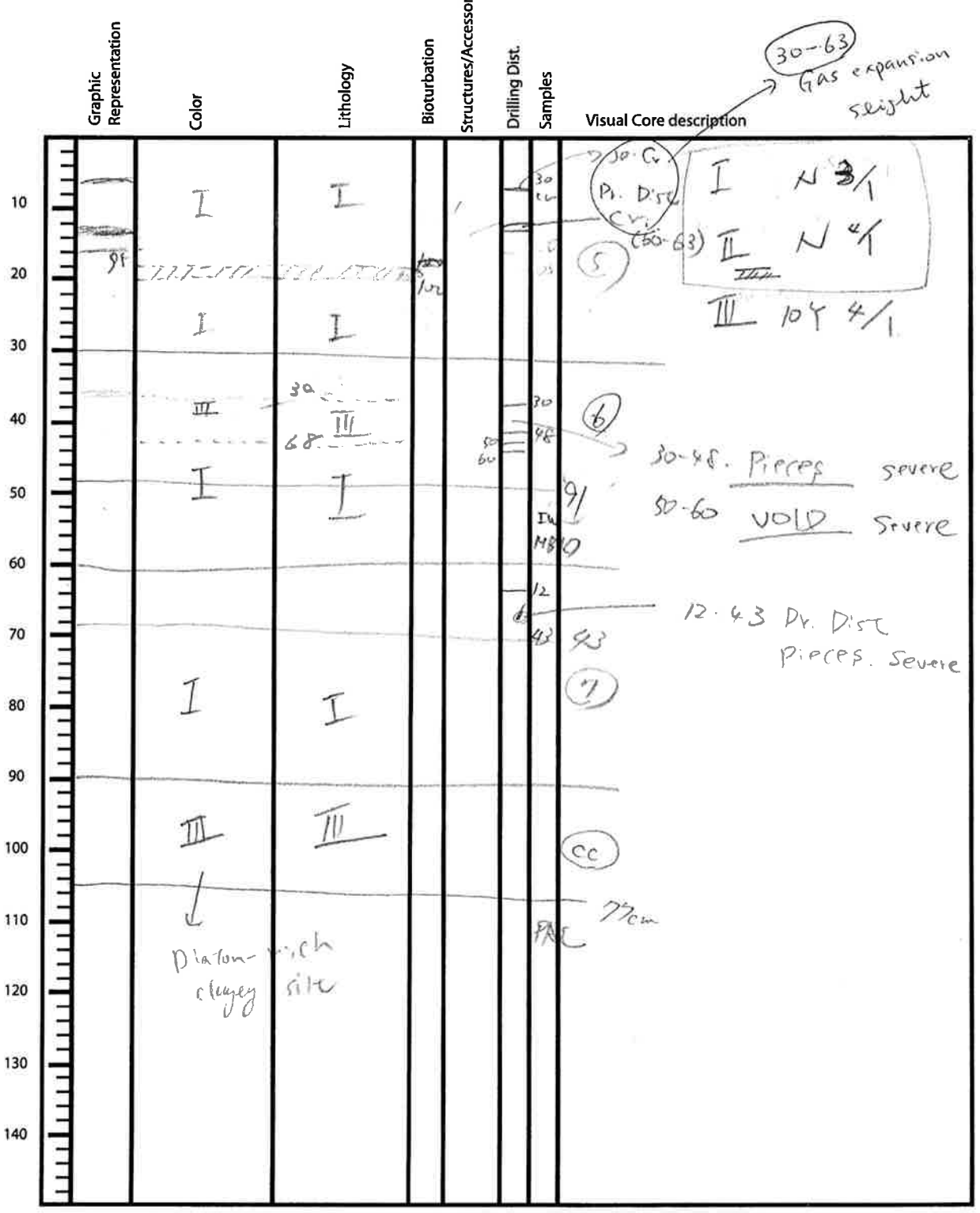


Observer: [illegible] Date:

1343 | E | 37 | 5-CC | _____
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____



Observer: Hino. K Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	37	H	3	55	55

Sediment/Rock Name	Diatom-rich clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay
2	68	30

Comments: Slightly greener layer

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
3	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
40	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

5H

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	37	H	4	44	

Sediment/Rock Name	Diatom-b silty clay

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay
10	40	50

Comments: Main lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15	Quartz
15	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
15	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
40	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
1	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous ?
5	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	E	37	H	CC	15	15

Sediment/Rock Name	Diatom-rich clayey silt

Observer	

Percent Texture		
Sand	Silt	Clay
10	60	30

Comments: Slightly greener lithology

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
15	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
20	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
2	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
BIOGENIC GRAINS	
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
45	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

Site: 1343 Hole: E Core: 38H Section: 1-4 Top Depth: ______

Expedition 323
Bering Sea

Major Lithology ______ Minor Lithology ______

Graphic Representation | Color | Lithology | Bioturbation | Structures/Accessories | Drilling Dist. | Samples | Visual Core description

10 20 30 40 50 60 70 80 90 100 110 120 130 140

Color: 10Y 4/1 — Lithology: I

I. 10Y 4/1 D. rich clayey silt

Clay ~ Silt

① 80-90, 100-130] VOID

146 ~~80-110~~ Sa ~~~ pieces ~~5/1 Gray~~

X → 23. puncture. sl.

SS 43cm. Diatom-rich clayey silt

Color: 10Y 4/1 — Lithology: I

②

150

14-30 → g. exp. 14-30 sl

Lithology: I — Structures: throughout; Mottles

③ 121 122 → 105 pebble 3.0cm rounded

→ g. exp. sl.

150 5/1 Gray

(120.0)

Structures: Sandy

Color: 10GY 4/1 — Lithology: II

④ II. ~~10~~ 10GY 4/1

150 D. bearing silty clay

Clay ~ silt.

→ whitish sandy Mottling (~1mm size)

Observer: Hiro. A Date: ______

Site	Hole	Core	Section	Top Depth
1343	E	~~5-CC~~ 38H	5-CC	

Expedition 323
Bering Sea

Major Lithology:

Minor Lithology:

Depth	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Visual Core description
10								→ D. b. Silty Clay
20		10GY 4/1	II				SS	(5) 102 Diatom bearing Silty Clay
30							SS	132 → white patch (sandy) → Auth. C. ?
40		~~10GY~~ 52 (10GY 4/1)	II		Thryphont 54 65		SS	64 → white patch (sandy) → sandy silt → crack se.
50							86	(6) → g. exp se. 117
60		IW + M	BIO		Mottling			
70			II					
80					Sandy			(7) 82
90								
100			II					CC 24 D-24 D. Dist. puncture Mod
110								
120								Diatom rich clay ~ Diatom ~~rich~~ clayey silt
130								
140								gradual changes

Observer: Hiro. A

Date:

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	C	38	H	2	47	

Sediment/Rock Name	Diatom-rich clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
22	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
2	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
1	Radiolarians
	Spumellaria
	Nassellaria
30	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	C	38	H	5	102	102

Sediment/Rock Name	Diatom-bearing silty clay

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lith.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
45	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
10	Calcite -auth. ?
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
1	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1343	C	38	H	5	132	

Sediment/Rock Name	Dolomite

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: White spot

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
3	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
96	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	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

S14

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1343	E	38	H	6	64	

Sediment/Rock Name	Sandy silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay
30	70	

Comments: sandy patch

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
30	Quartz
30	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
30	Rock fragments
	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
	VOLCANICLASTIC GRAINS
	Crystal grain
5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
1	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
3	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