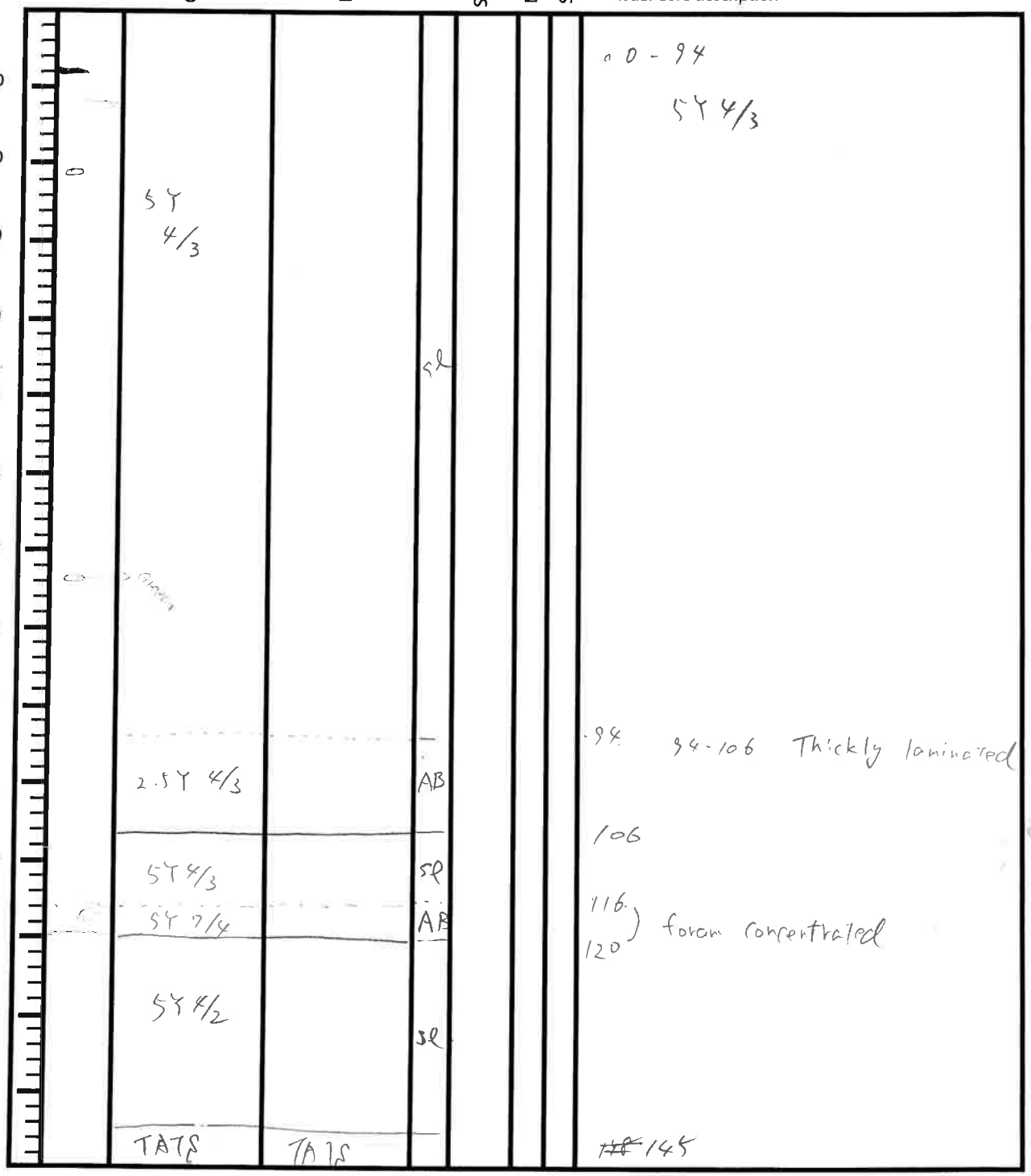
Expedition 323
Bering Sea

1341	C	1H	1	
Site	Hole	Core	Section	Top Depth

Major Lithology: Diatom ~~silty~~ clayey silt

Minor Lithology: Foram bearing diatom silty clay

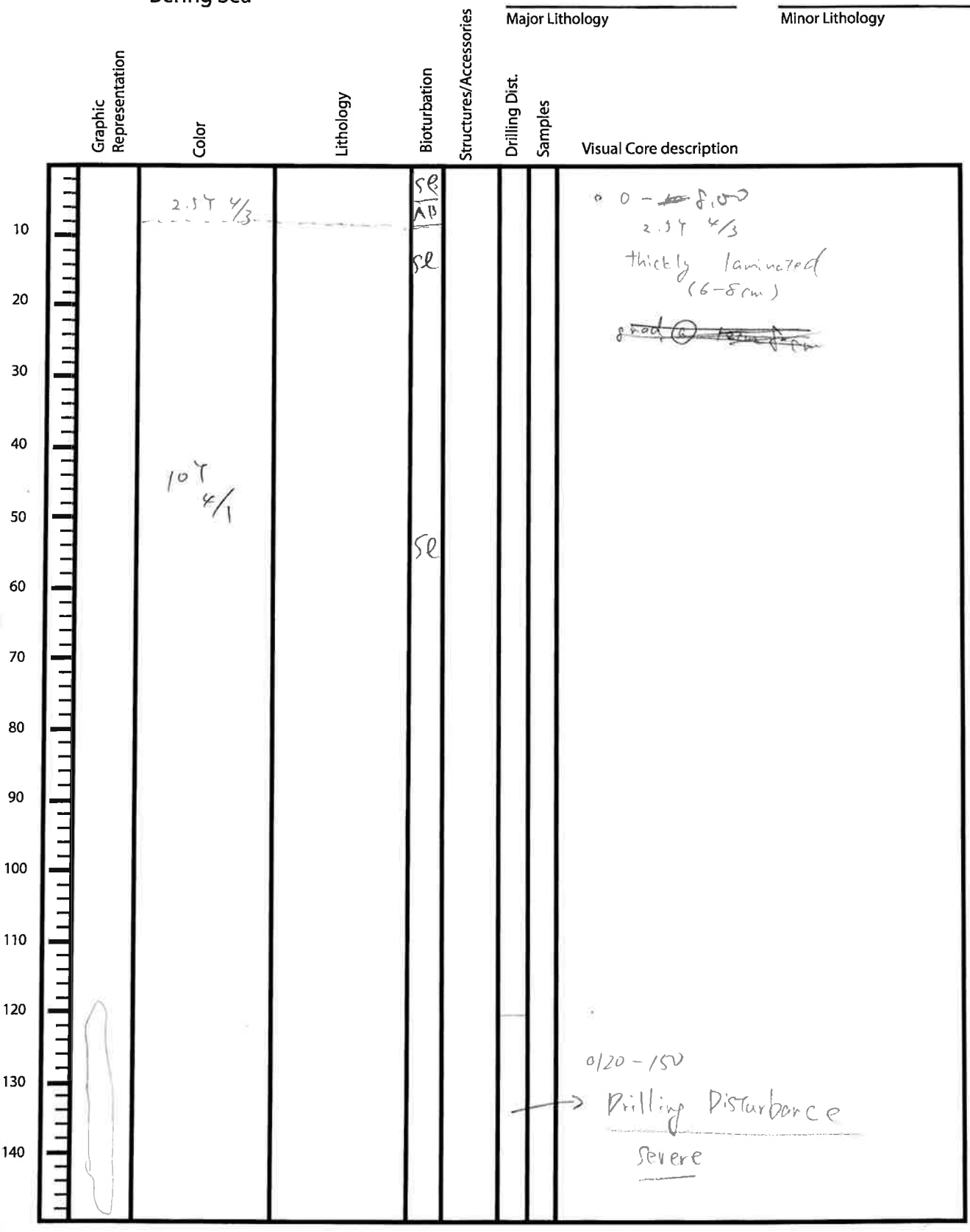


Observer: _____ Date: _____

1341 / C / 2H / 2 / ____
Site / Hole / Core / Section / Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

1341 Site | C Hole | ~~3~~ 14 Core | 3 Section | Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology

Depth	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Visual Core description
10								• 12 - 55
20		10Y 4/1	Foram - ~~Rich~~					Green Mottling • 100 - 140 cm Gree Mottling
30			bearing	Sl				• 45 - 81 pebble
40			Diatom silty					Subangular 1,0cm
50			clay					Black (N 2.5)
60								
70								
80								
90								
100								
110								
120								
130								
140								

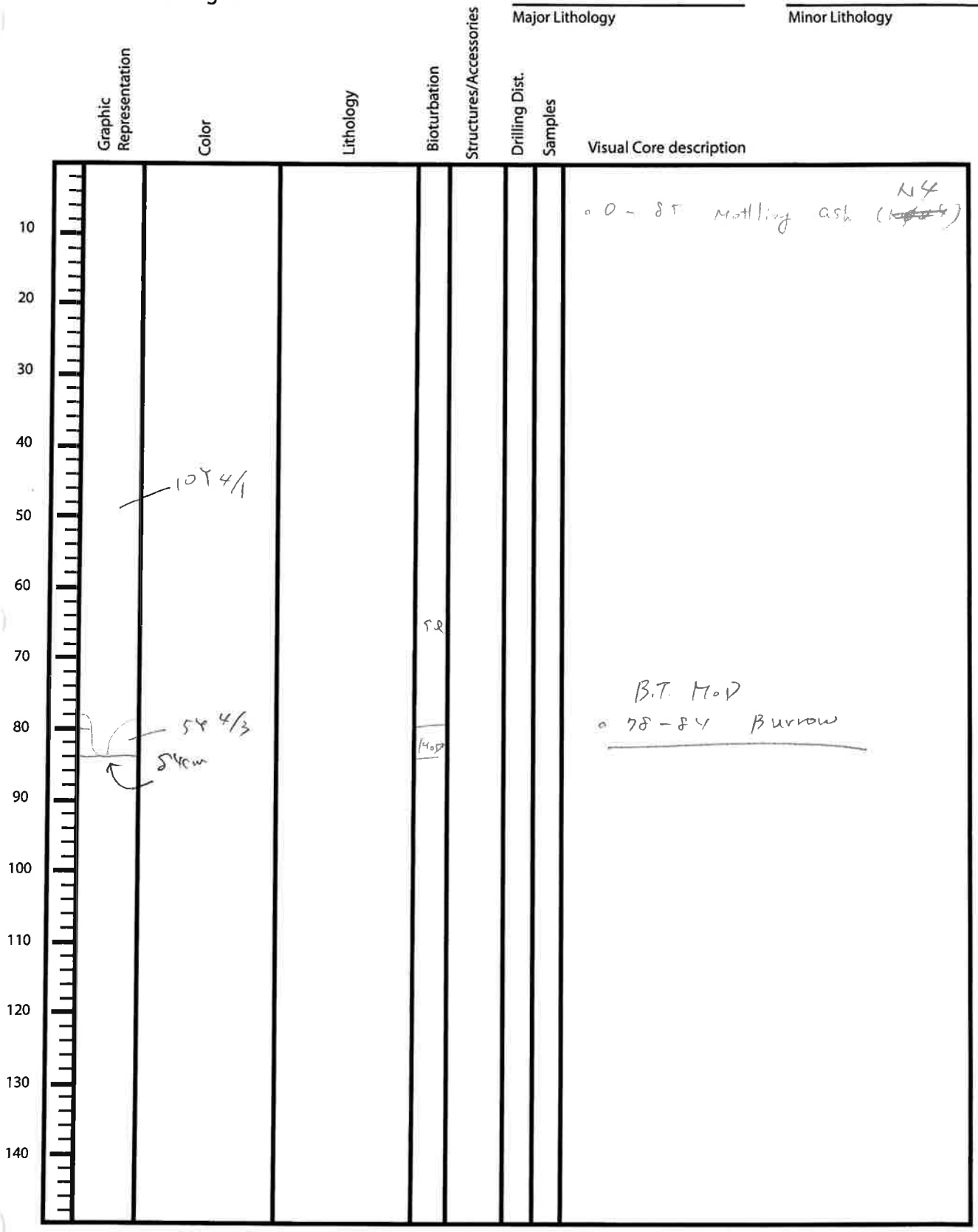
Observer: ____________ Date: ______

1341	C	4 1H	4	
Site	Hole	Core	Section	Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology

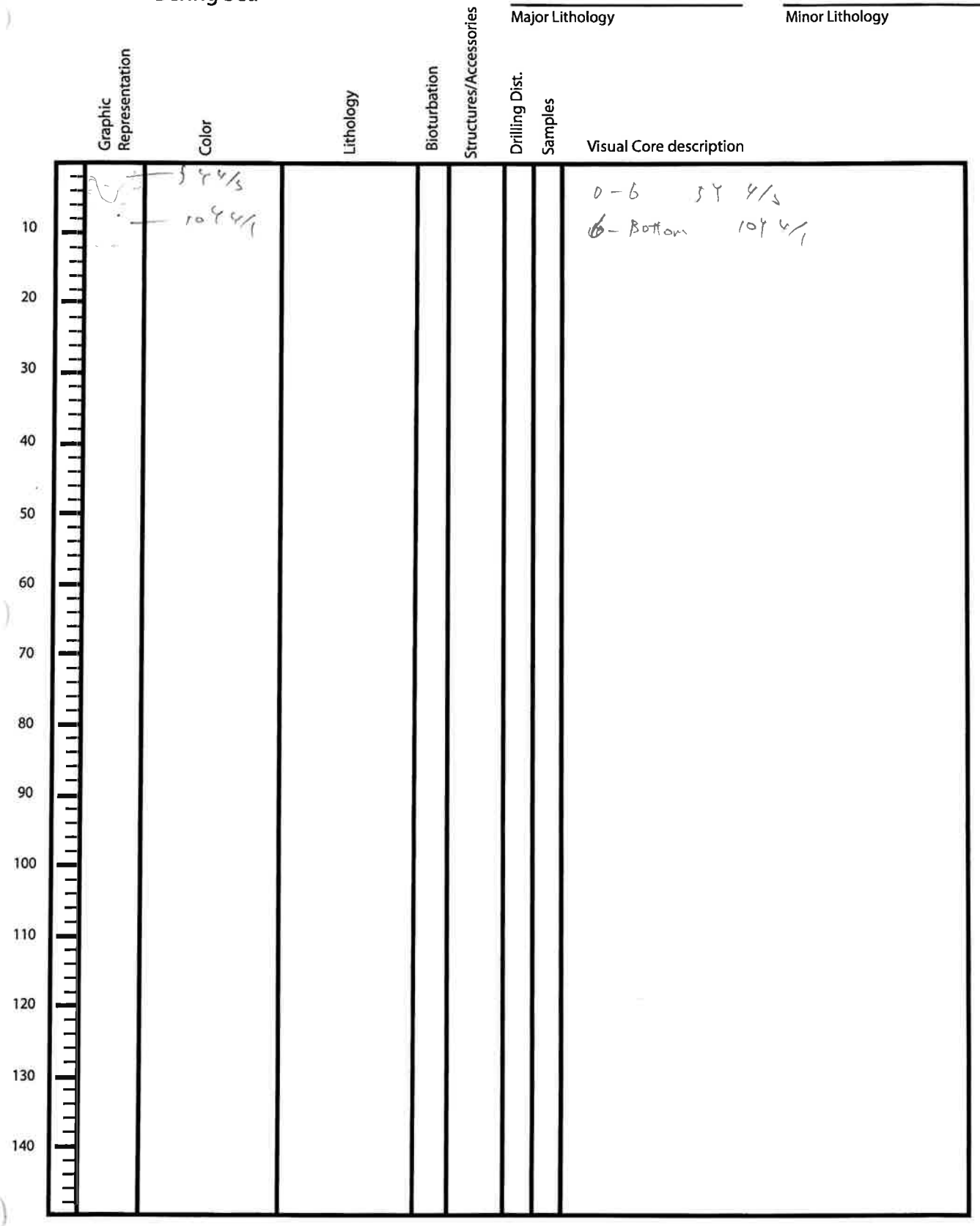


Observer: _____ Date: _____

1341 | C | 1H | 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	1341	C	1	H	1	60	60

Sediment/Rock Name	Diatom clayey silt	Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	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
	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
	Diatoms
40	Centric
10	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
2	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	1	H	1	121	121

Sediment/Rock Name	Foram ooze

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: thin white beds

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
2	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

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

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	1	H	3	60	60

Sediment/Rock Name	Foram-bearing Diatom silty clay

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology - greyish

Percent	Component
45	**SILICICLASTIC GRAINS/MINERAL**
	Framework minerals
10	Quartz
5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
1	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
5	**VOLCANICLASTIC GRAINS**
	Crystal grain
5	Vitric grain
	Lithic grain

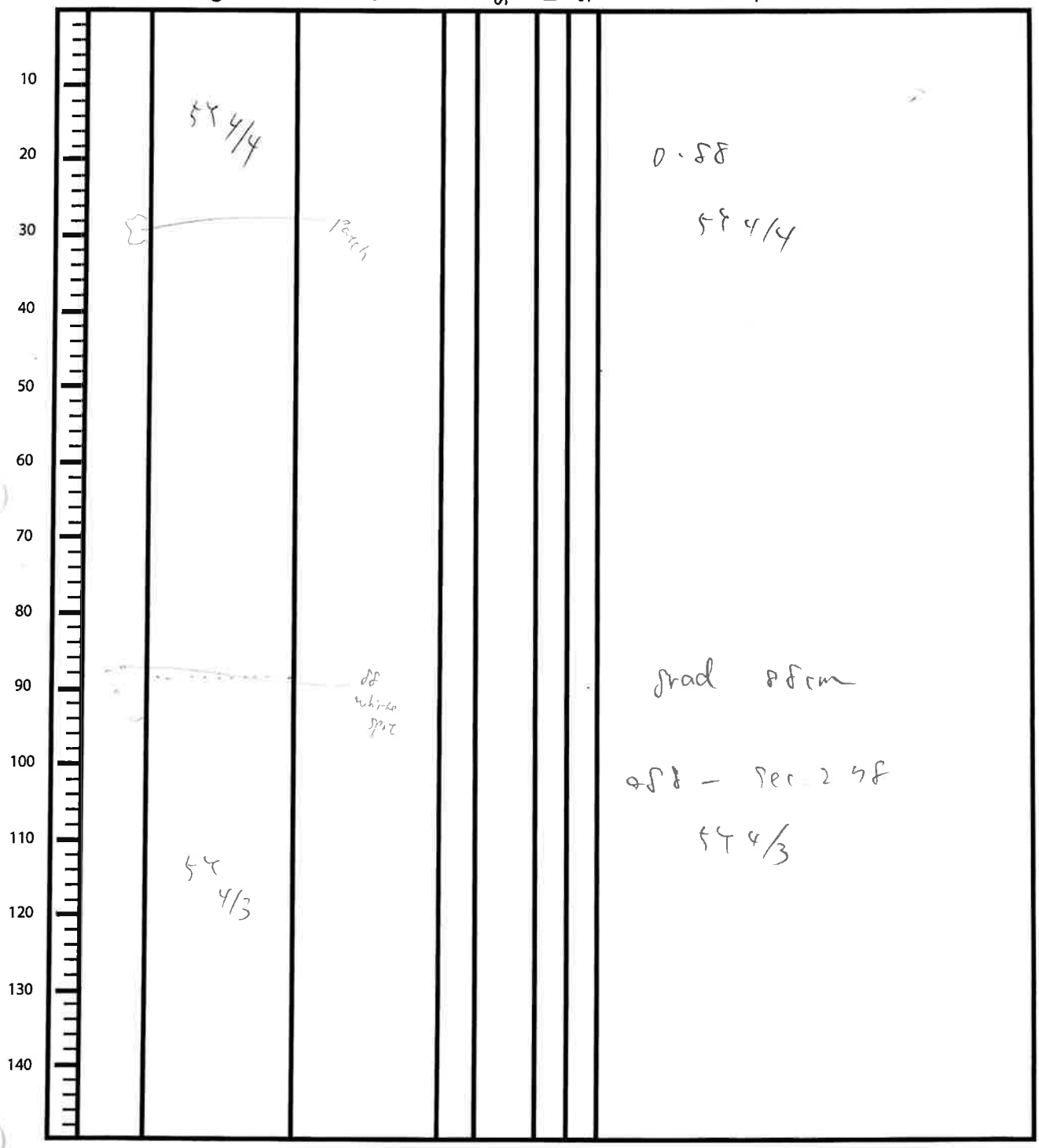
Percent	Component
50	**BIOGENIC GRAINS**
	Calcareous
5	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
2	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
30	Centric
10	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
2	Sponge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

1341 / C / 21H / 1 / ____
Site / Hole / Core / Section / Top Depth

Expedition 323
Bering Sea

Foram. bearing diatom clayey silt
Major Lithology / Minor Lithology

diatom clayey silt

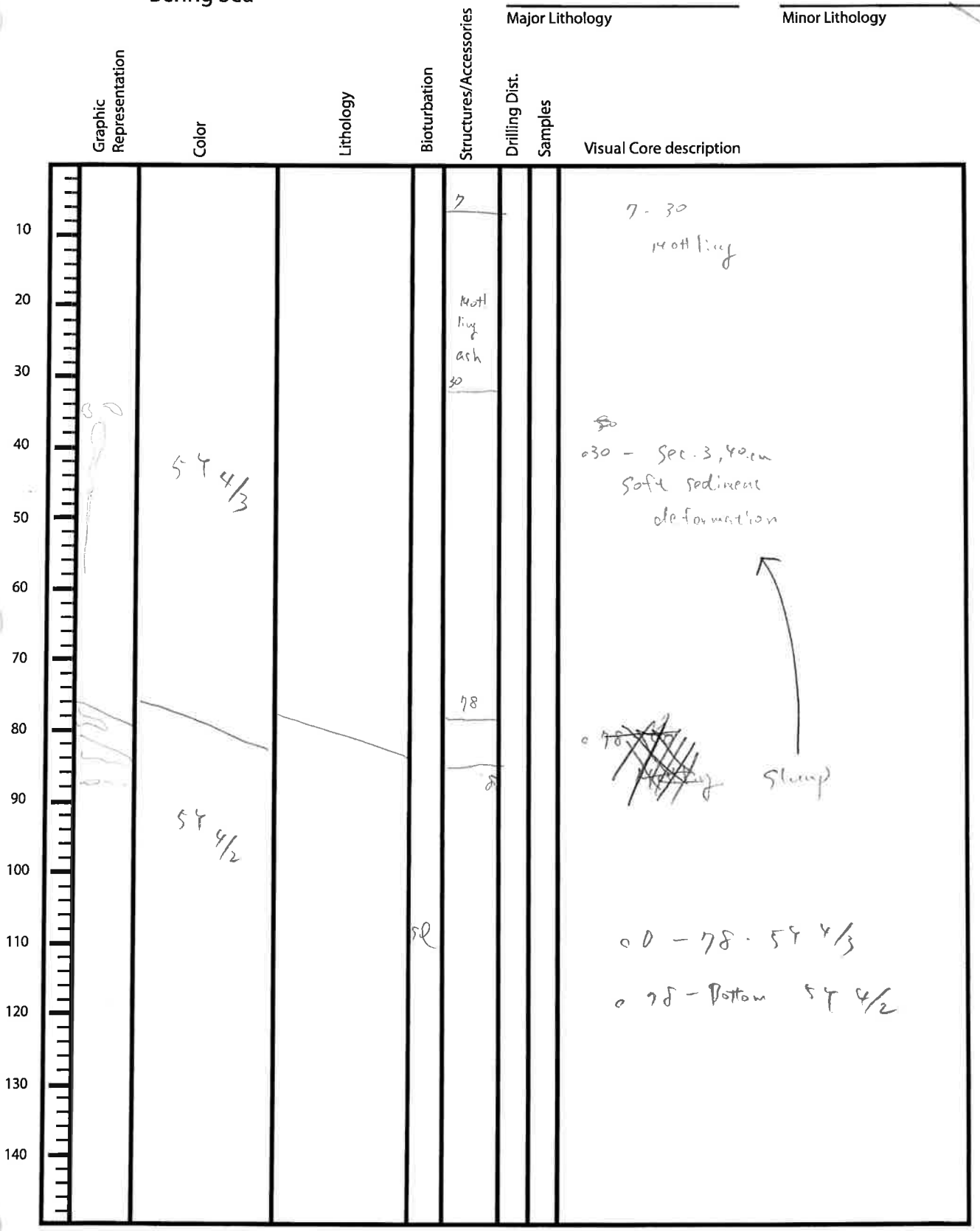


Observer: Hiro. A Date: ____

1341 C 21H 2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

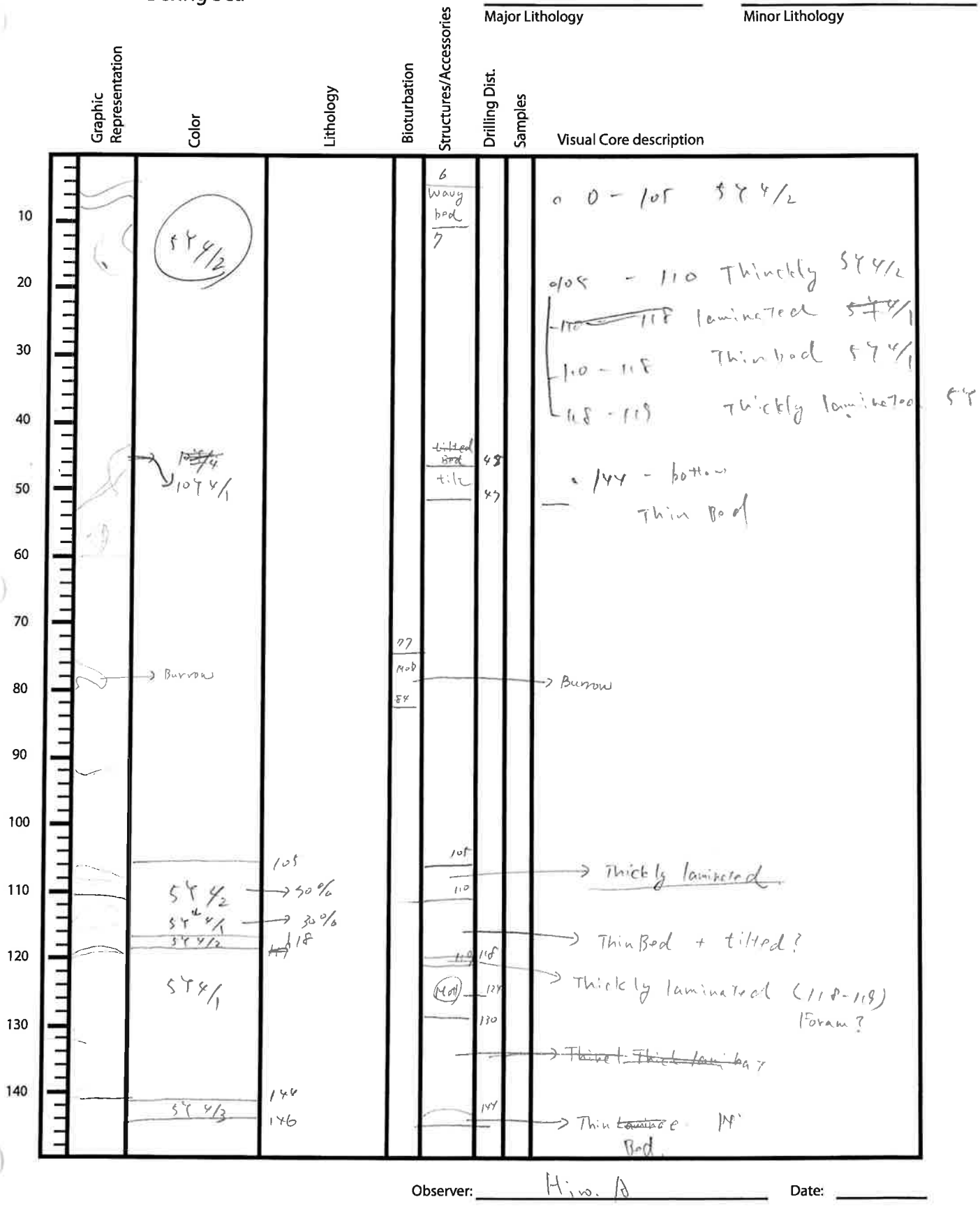


Observer: Hino-A Date: ____

1341 C 3214 3 _____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____ Minor Lithology _____



Observer: Hino. A Date: _____

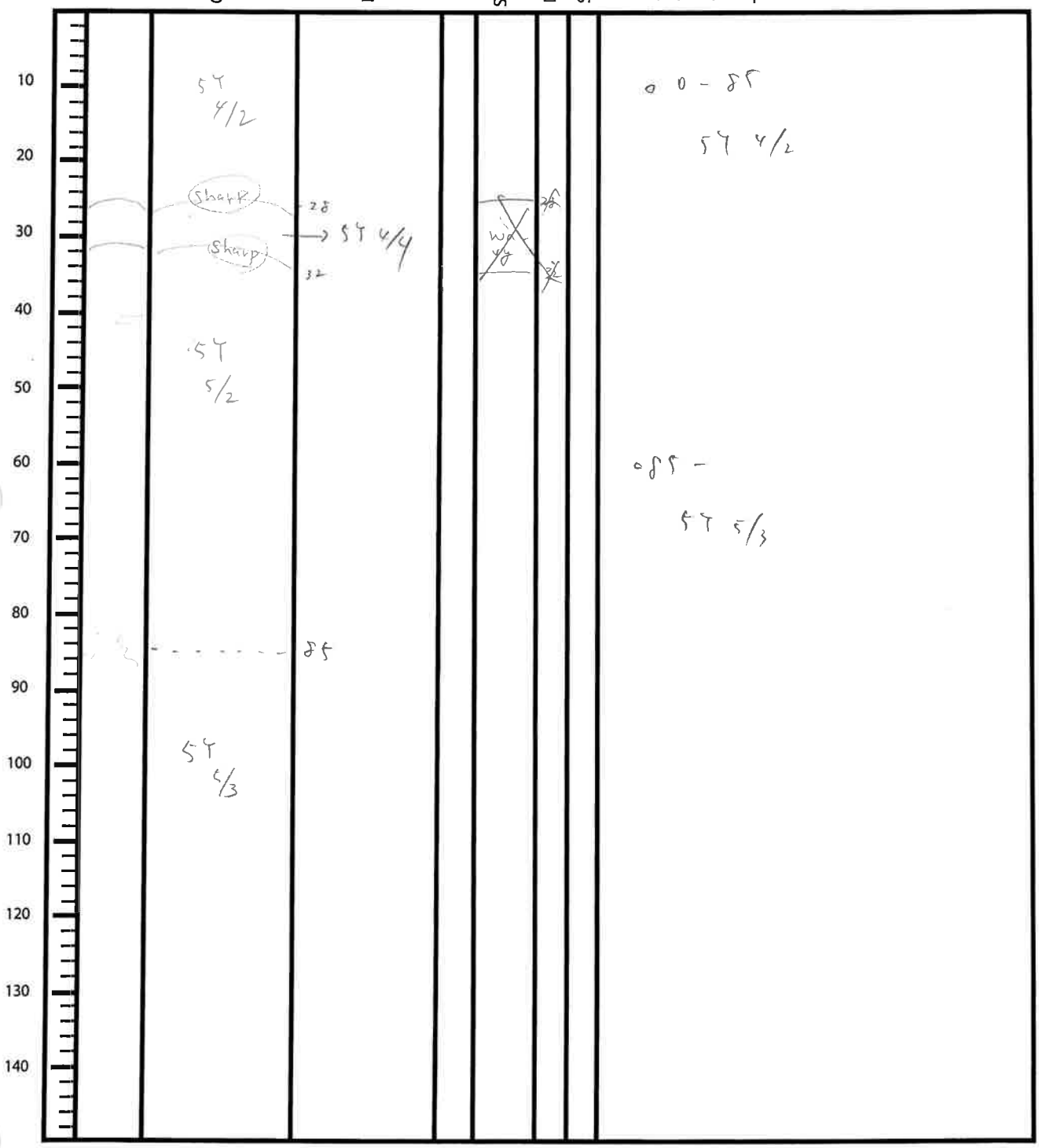
B411 | C | 2H | 4 | ____
Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

foram bearing diatom
Major Lithology

Minor Lithology

clayey silt



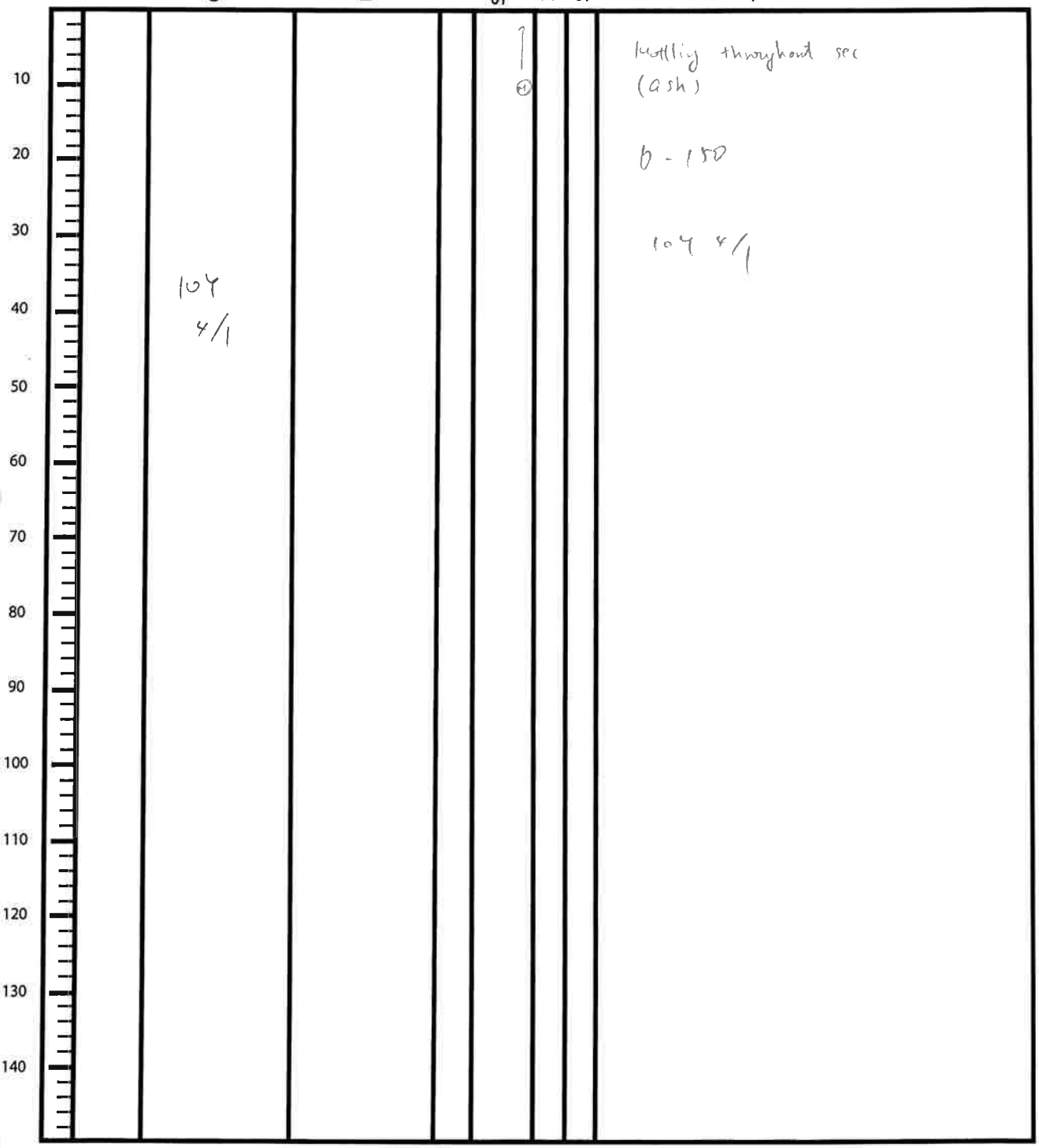
Observer: Him - A

Date: ____

B41 C 2H 5 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

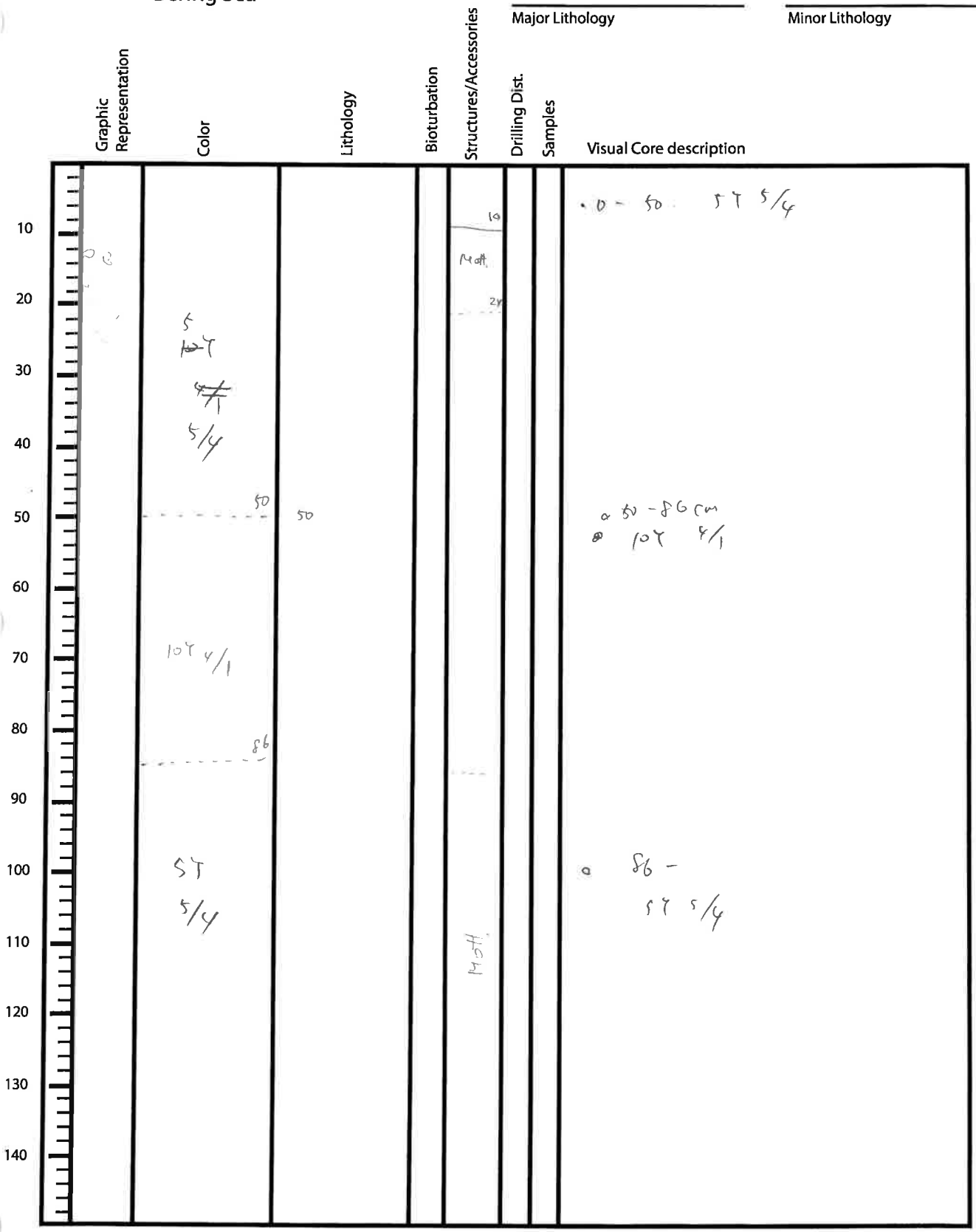


Observer: Hiv A Date: ____

1341 C 2H 6 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



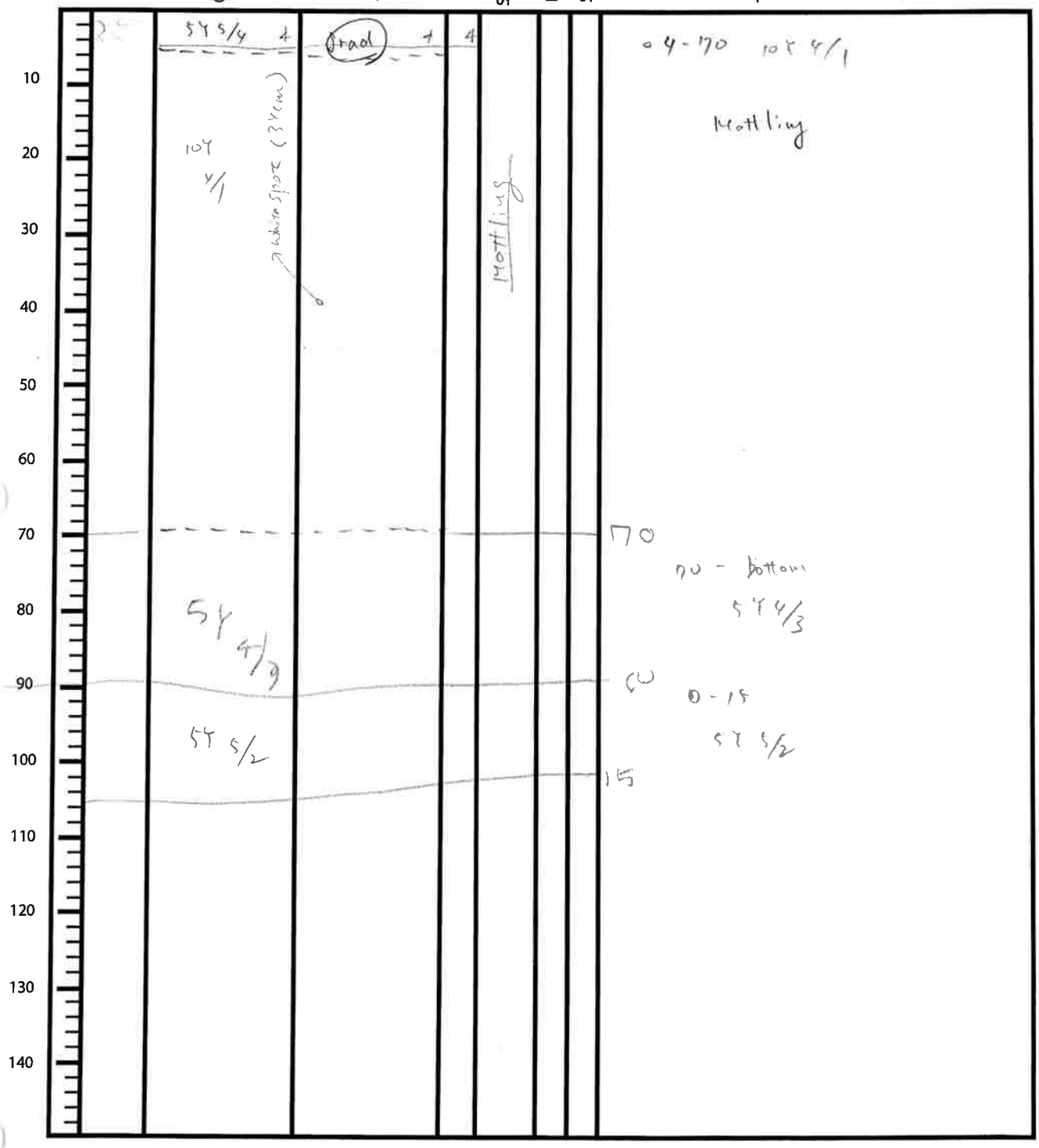
Observer: Hiro A Date: ____

1341	C	2H	7	
Site	Hole	Core	Section	Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: Min. S Date:

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1341	C	2	H	1	60	60

Sediment/Rock Name	Foram-bearing diatom clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
20	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
10	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

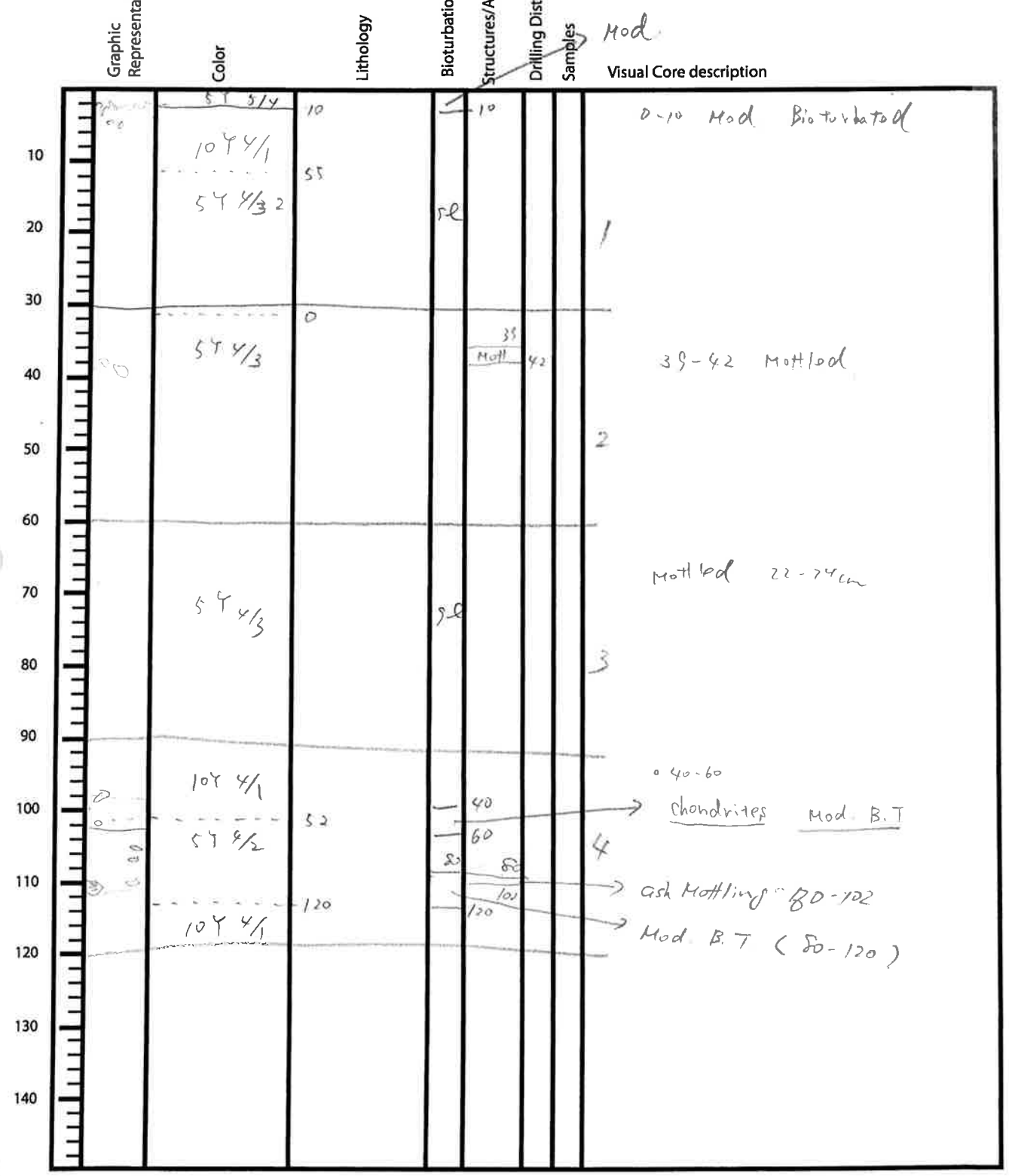
Percent	Component
	BIOGENIC GRAINS
10	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
30	Centric
20	Pennate
	Chaetoceros Resting Spores
1	Silicoflagellates
2	Sponge spicules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

Green Diatom Clay~~stone~~ ooze
Gray Foraminifer bearing diatom clayey silt

Expedition 323
Bering Sea

1341	C	31H	1-4	
Site	Hole	Core	Section	Top Depth

Major Lithology: Diatom Ooze
Minor Lithology: diatom clayey silt



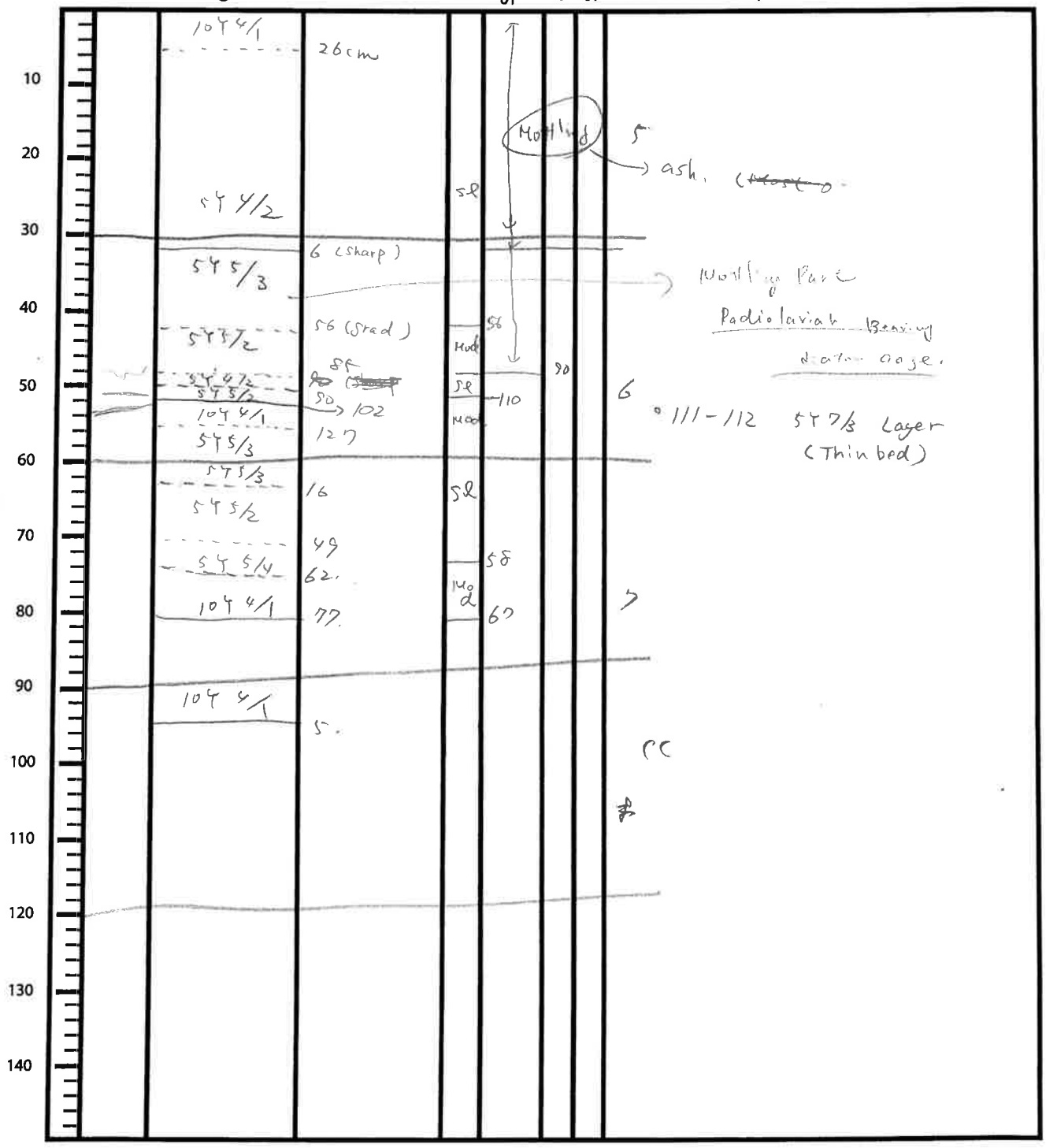
Observer: _____ Date: _____

1341	C	3H	5-R	
Site	Hole	Core	Section	Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: Hino

Date: _____

SM

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	3	H	2	100	100

Sediment/Rock Name	Diatom ooze

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology - green

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
2	Quartz
3	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
2	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
1	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	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
	Diatoms
50	Centric
35	Pennate
	Chaetoceros Resting Spores
2	Silicoflagellates
1	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	1341	C	3	H	4	45	

Sediment/Rock Name	Diatom Clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology - greyish

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20	Quartz
15	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
2	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
2	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
1	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
20	Centric
10	Pennate
	Chaetoceros Resting Spores
1	Silicoflagellates
2	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

SM

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	3	H	6	32	

Sediment/Rock Name	Rad-bearing diatom ooze

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Minor lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

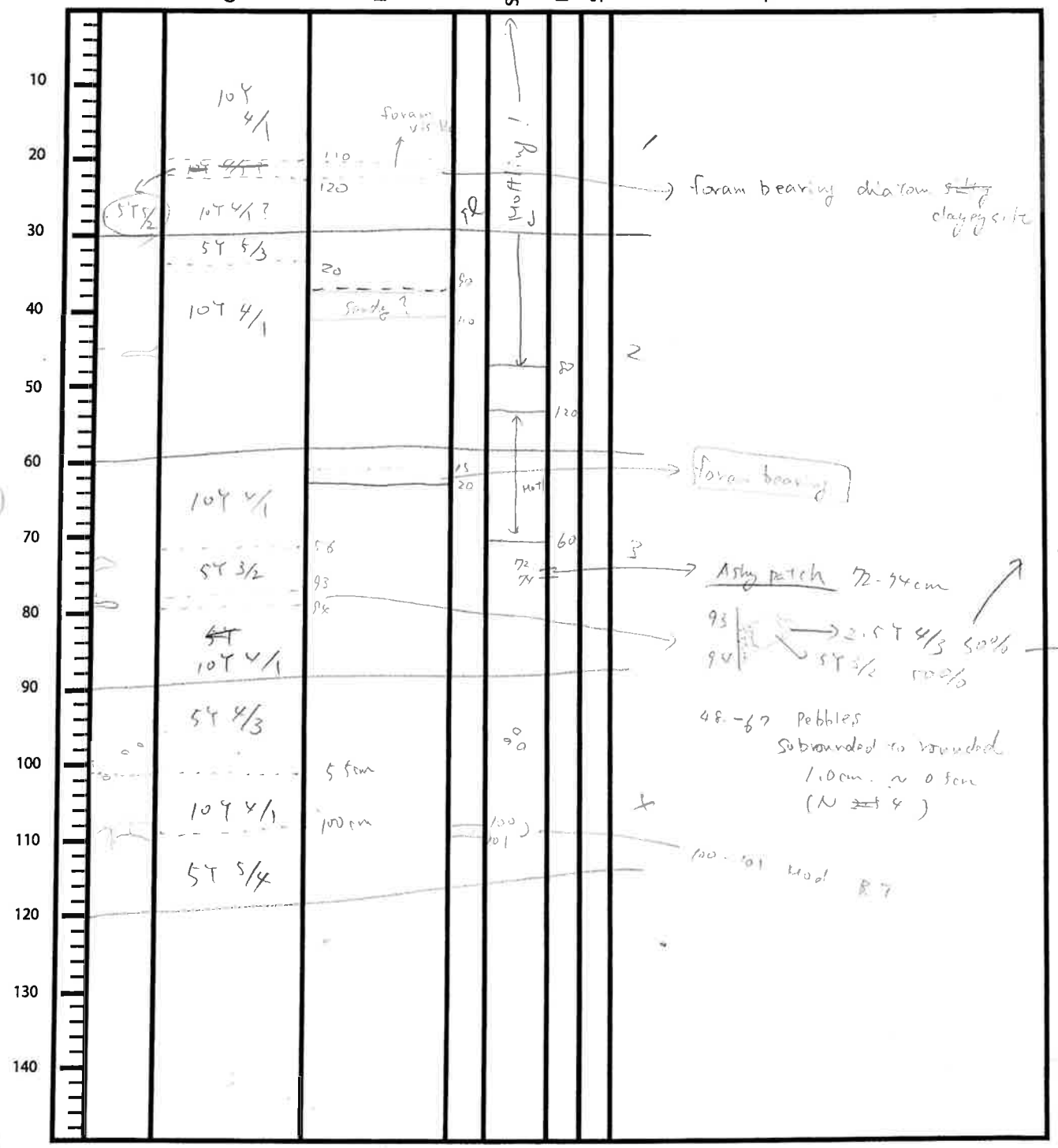
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
5	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
20	Centric
40	Pennate
	Chaetoceros Resting Spores
1	Silicoflagellates
2	Sponge spicules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

1341	C	4H	1-4	
Site	Hole	Core	Section	Top Depth

Expedition 323
Bering Sea

Diatom Ooze
Major Lithology

Minor Lithology



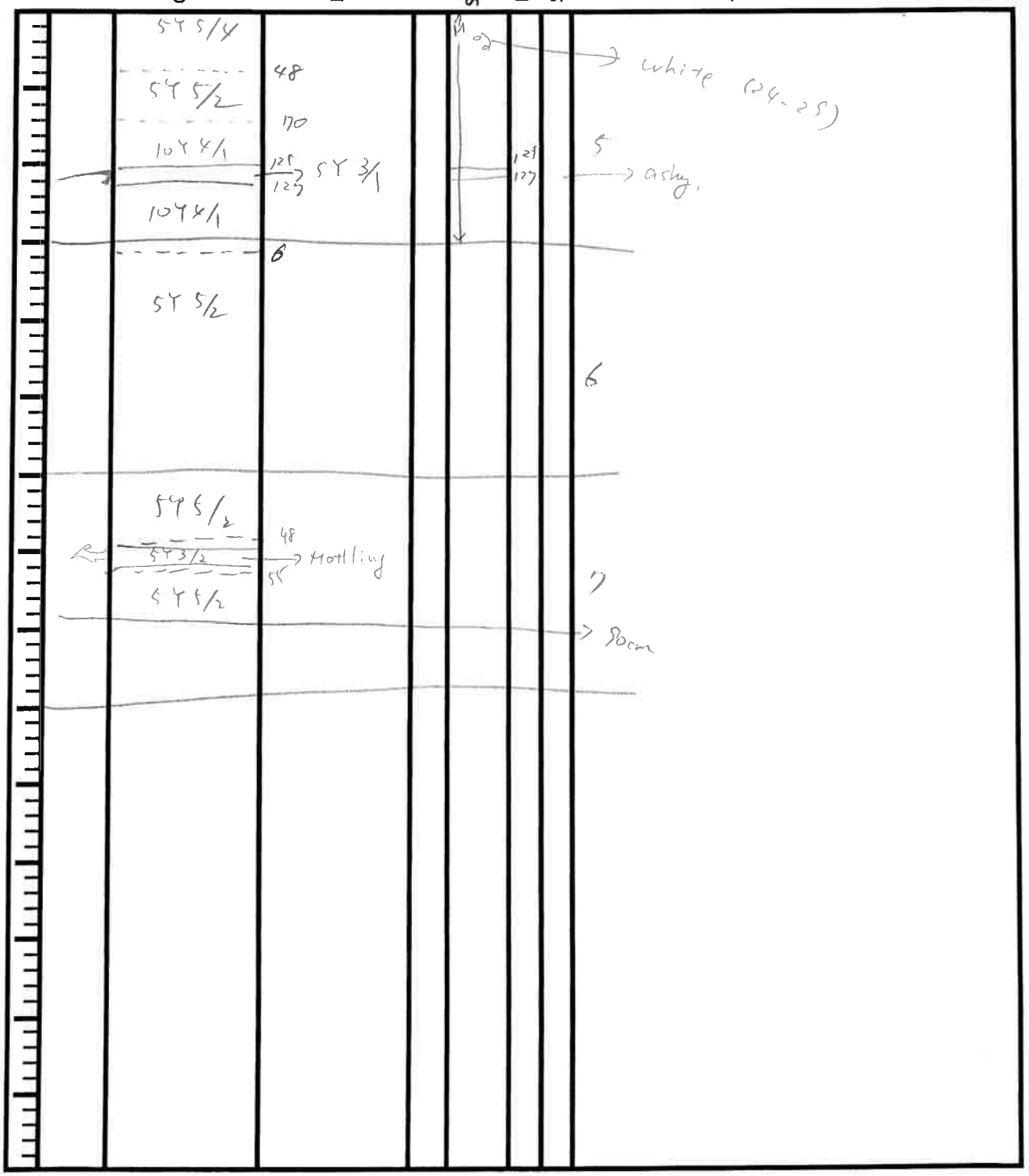
Observer: _____ Date: _____

1341 C 47 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	1341	C	4	H	1	70	70

Sediment/Rock Name	Diatom clayey silt	Observer	

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology - grey

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
30	Quartz
20	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
3	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
10	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
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30	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

SM

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	4	H	3	18	

Sediment/Rock Name	Foram-rich diatom-rich silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Sandy layer

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
10	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
10	Vitric grain
	Lithic grain

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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1341	C	4	H	3	94	

Sediment/Rock Name	Foram-rich diatom ooze	Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Sandy patch

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	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
1	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
1	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
20	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
1	Coccoliths
	Discoasters
	Pteropods
	Siliceous
1	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
50	Centric
10	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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	4	H	7	43	

Sediment/Rock Name	Diatom ooze

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
5	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

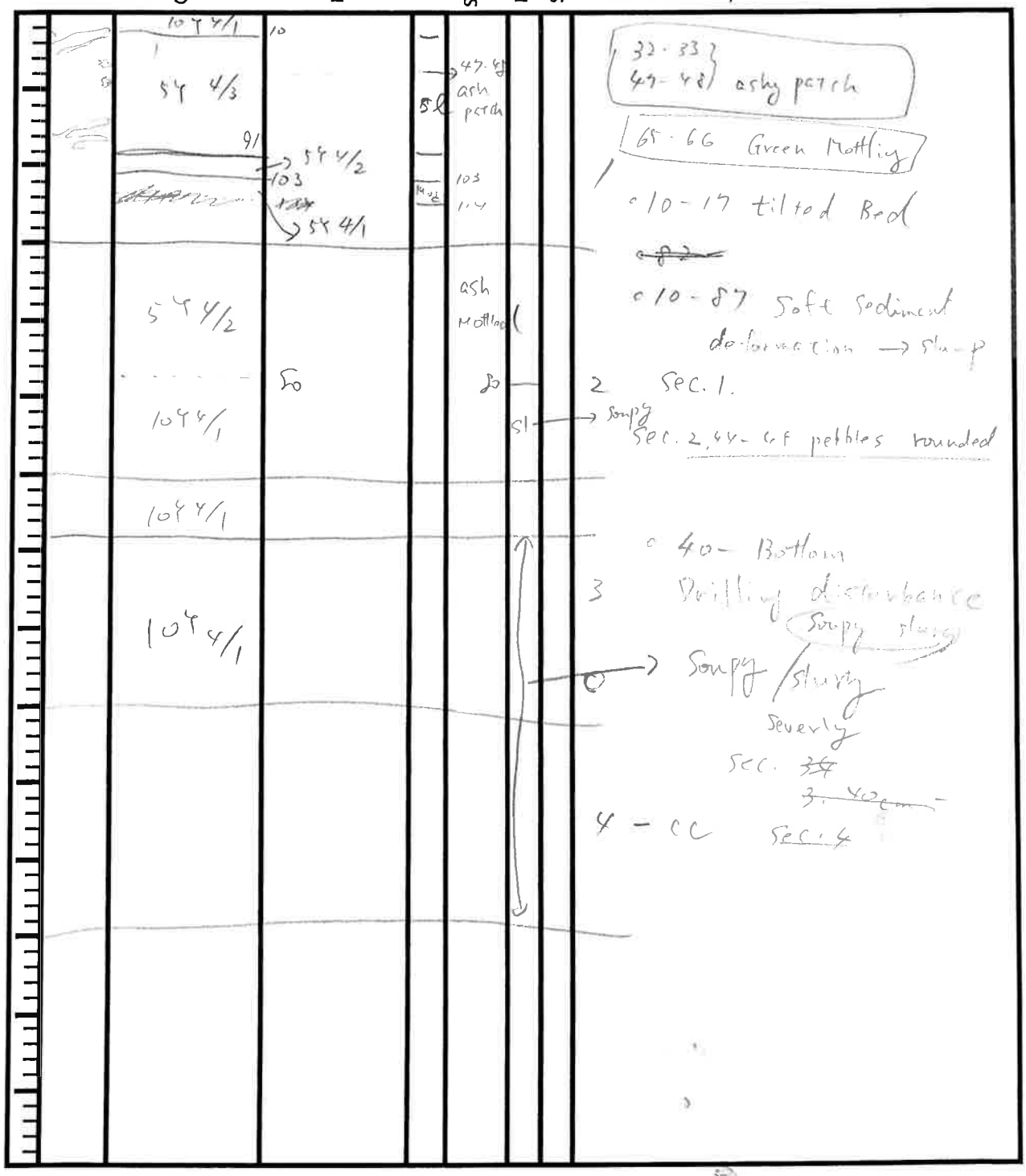
Percent	Component
	BIOGENIC GRAINS
	Calcareous
1	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
45	Centric
25	Pennate
	Chaetoceros Resting Spores
1	Silicoflagellates
1	Sponge spicules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

5Y 4/2

1371	C	5H	1-CC	
Site	Hole	Core	Section	Top Depth

Expedition 323
Bering Sea

diatom rich silty clay
Major Lithology — Minor Lithology



Observer: _____ Date: _____

SM

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	5	H	4	60	60

Sediment/Rock Name	Diatom-rich silty clay

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Soupy sediment

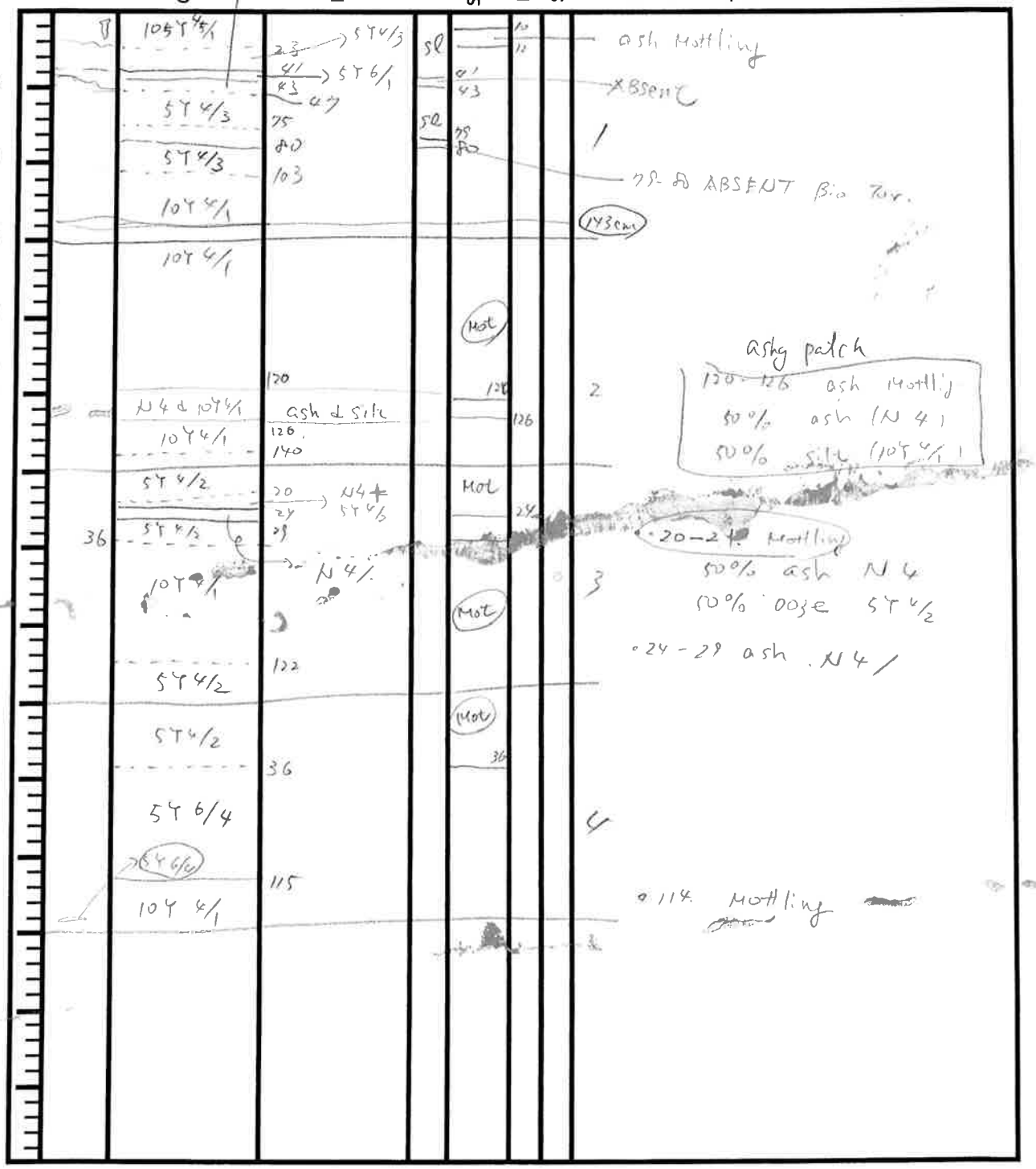
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
40	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic 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
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
1	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
20	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

1341 Site | C Hole | 6H Core | 1-4 Section | Top Depth

Expedition 323
Bering Sea

Major Lithology | Minor Lithology



Observer: _____ Date: _____

1341 C 6H 5-CC

Site | Hole | Core | Section | Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology

Depth	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Visual Core description
10		10Y 4/1	diatom ooze					
20								5
30								
40		10Y 4/1						
50		5Y 4/2	80					6
		10Y 4/1	110	MOD	104	105		→ 104-150 Mottling
		5Y 4/2	126	SL	114 Mot	150		137
60			26	MOD	23	17		→ Mott 17-38
70		10Y 4/1			30	38		
					MOT	68		7 Mot Sec 7 65-70
80						70		046-48 wood fragment
90								
100								CC ~~Spoke~~ whitish Sponge spot
110								Sec. 7 80, 60, 14-17
120								Sec. 6 Sec. 5, 60
130								Sec 4 NAN
140								

Observer: Hiro

Date:

SM

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	6	H	1	79	79

Sediment/Rock Name	~~Diatom clayey silt~~ diatom-rich fine-ash.

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Lighter area

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
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
4	Pyrite ✓ 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
65	Vitric grain ✓ 15
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
4	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30	✓ Diatoms 17
	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	1341	C	6	H	3	28	28

Sediment/Rock Name		Observer	Kelsie

fine ash

Percent Texture		
Sand	Silt	Clay

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
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
100	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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	6	H	4	80	80

Sediment/Rock Name	Foram-bearing diatom ooze	Observer	Kelsie

nannofossil-rich foram-rich diatom ooze

Percent Texture		
Sand	Silt	Clay

Comments: Lighter area.

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
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite ✓
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
3	Vitric grain 1
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
16	Foraminifera -3
	✓ Planktonic foraminifera
	Benthic foraminifera
17	Nannofossils - 5
	✓ Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
69	✓ Diatoms 20
	✓ 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	1341	C	6	H	5	90	90

Sediment/Rock Name	Diatom ooze	Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments: Main lithology

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
28	Quartz 7
	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
4	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
8	Vitric grain 2
	Lithic grain

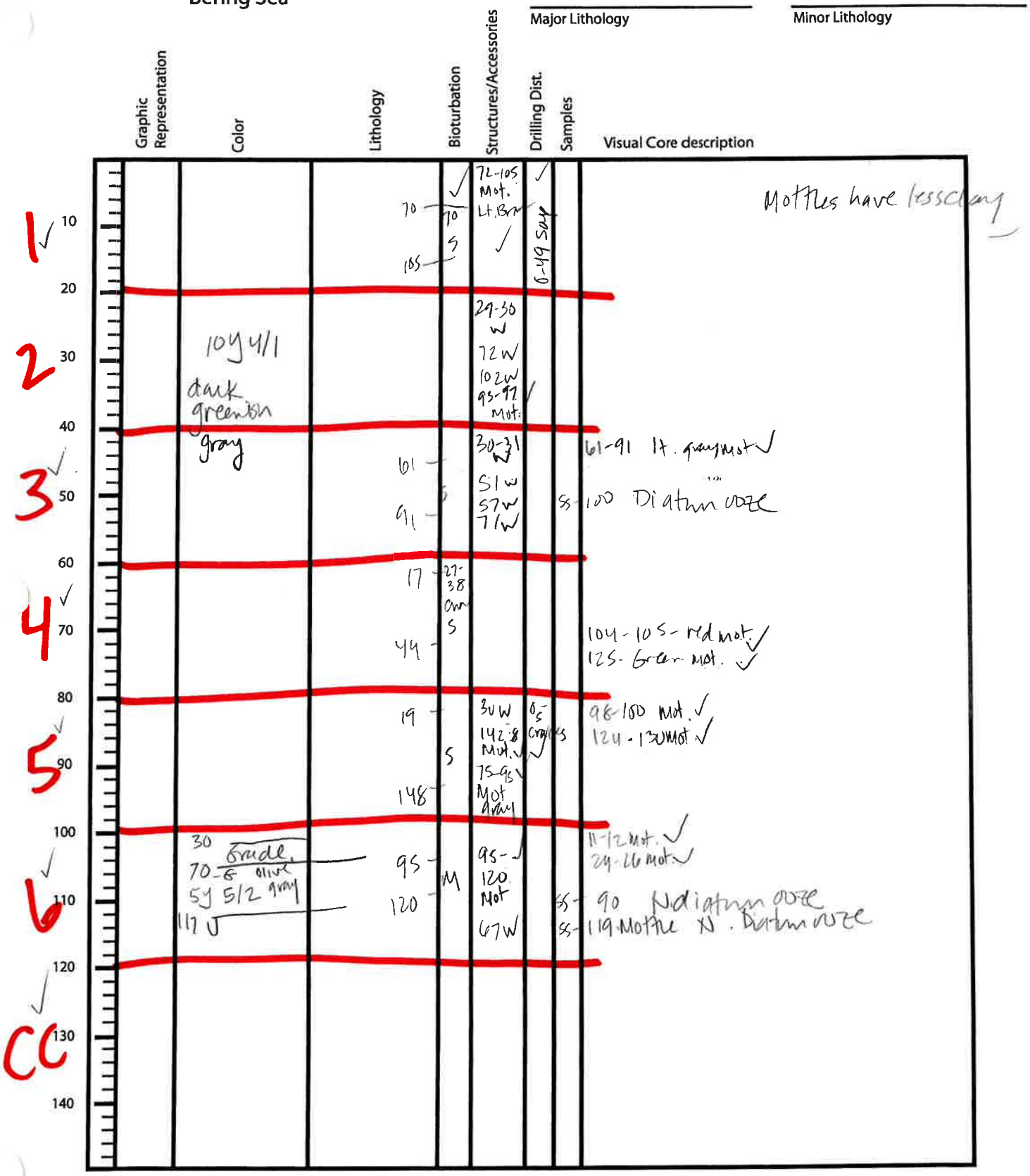
Percent	Component
	BIOGENIC GRAINS
	Calcareous
✓	Foraminifera 2
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
60	Diatoms 15
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
✓	Sponge spicules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

323 U1341C 7H ALL
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology



Observer: _____ Date: _____

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	E	7	H	3	100 cm	

Sediment/Rock Name	DIATOM OOZE	Observer	IWA

Percent Texture		
Sand	Silt	Clay

Comments:

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
5–10%	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
X	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
85%	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	Bottom
	1341	C	7		6	90 cm	

Sediment/Rock Name	NANNO DIATOM OOZE	Observer	LWA

Percent Texture		
Sand	Silt	Clay

Comments:
Minor Lith

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

Percent	Component
	BIOGENIC GRAINS
5%	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
30%	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30%	Diatoms
20%	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	7	R	6	119 cm	

Sediment/Rock Name	NANNO DIATOM OOZE	Observer	LWT

Percent Texture		
Sand	Silt	Clay

Comments: MOTTLE

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

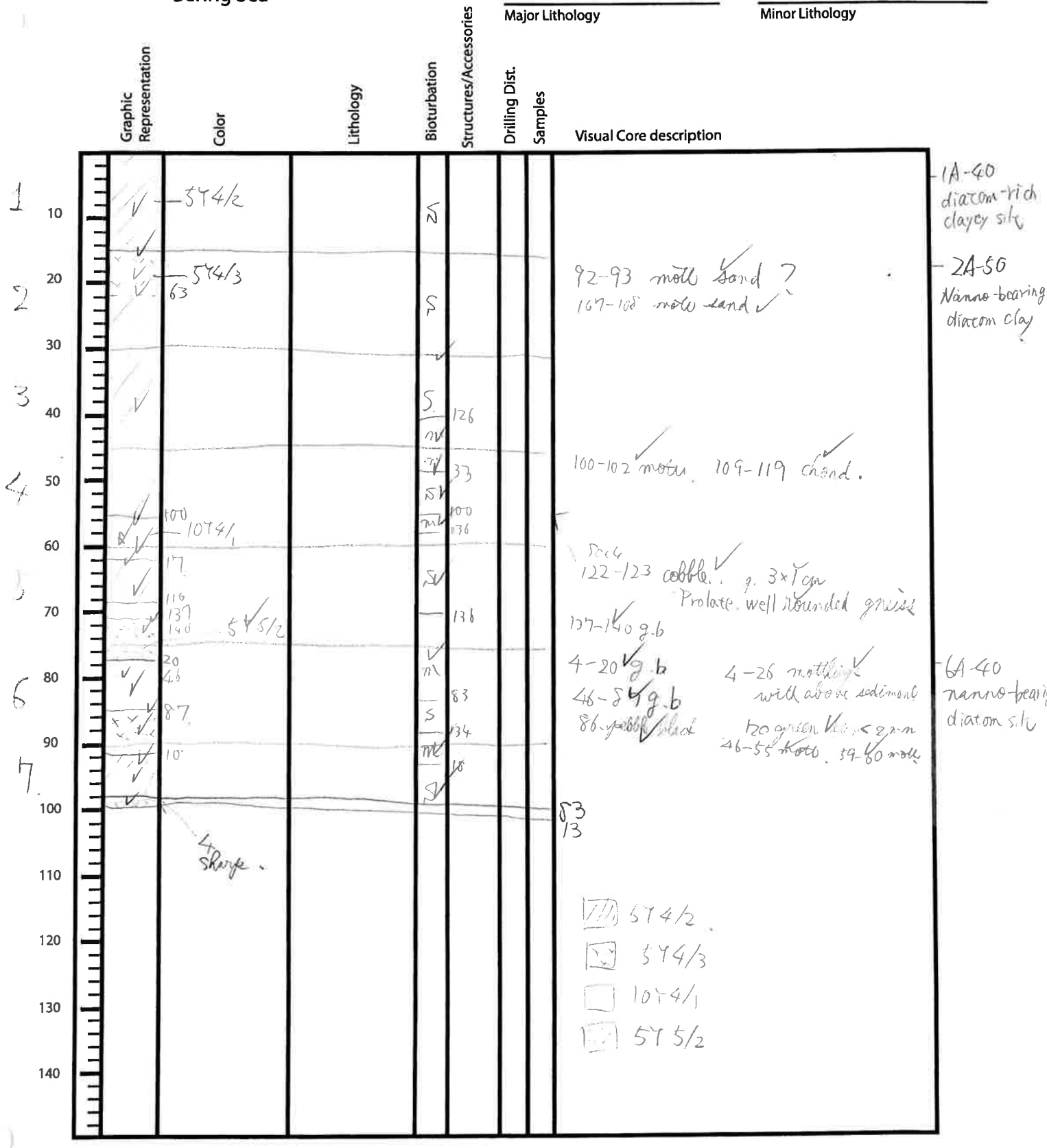
Percent	Component
	BIOGENIC GRAINS
	Calcareous
5%	5 Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
30%	20 Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30%	35 Diatoms
	20 % Centric
	15 % Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

gneiss

1341 / C / 8H / ___ / ___
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
	1341	C	8	2	•	58 cm	

Sediment/Rock Name	NANNO-BEARING DIATOM CLAY

Observer	LMA

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	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
5%	Pyrite
	Magnetite
	Fe-oxide
10%	Carbonates AUTHIGONIC?
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
5%	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
50%	Diatoms
40%	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

La. Oceanica

GS

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	8		2	92	

Sediment/Rock Name	DIATOM RICH FINE ASH	Observer	

Percent Texture		
Sand	Silt	Clay

Comments: Red Sandy Layer
Fe & Mn-oxyde rich

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
~~10~~	Quartz
~~15~~	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
2%	Fe-oxide → hematite?
	Carbonates
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
40%	Vitric grain
	Lithic grain

Percent	Component
BIOGENIC GRAINS	
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30%	Diatoms
20	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

Fig. F1. Worksheet used to determine the sediment lithology when examing smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	8		5	145	

FORAM-RICH

Sediment/Rock Name	NANNO RICH NANNO DIATOM OOZE	Observer	LWA

Percent Texture		
Sand	Silt	Clay

Comments: MINOR

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

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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	8		6	40 cm	

Sediment/Rock Name	NANNO-BEARING DIATOM SILT	Observer	ICM

Percent Texture		
Sand	Silt	Clay

Comments:

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
5%	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	8		7	40cm	

Sediment/Rock Name	DIATOM RICH CLAY & SILT	Observer	IWA

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15%, 20%	Quartz
10%	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	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
5%	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
15 10%	Vitric grain
	Lithic grain

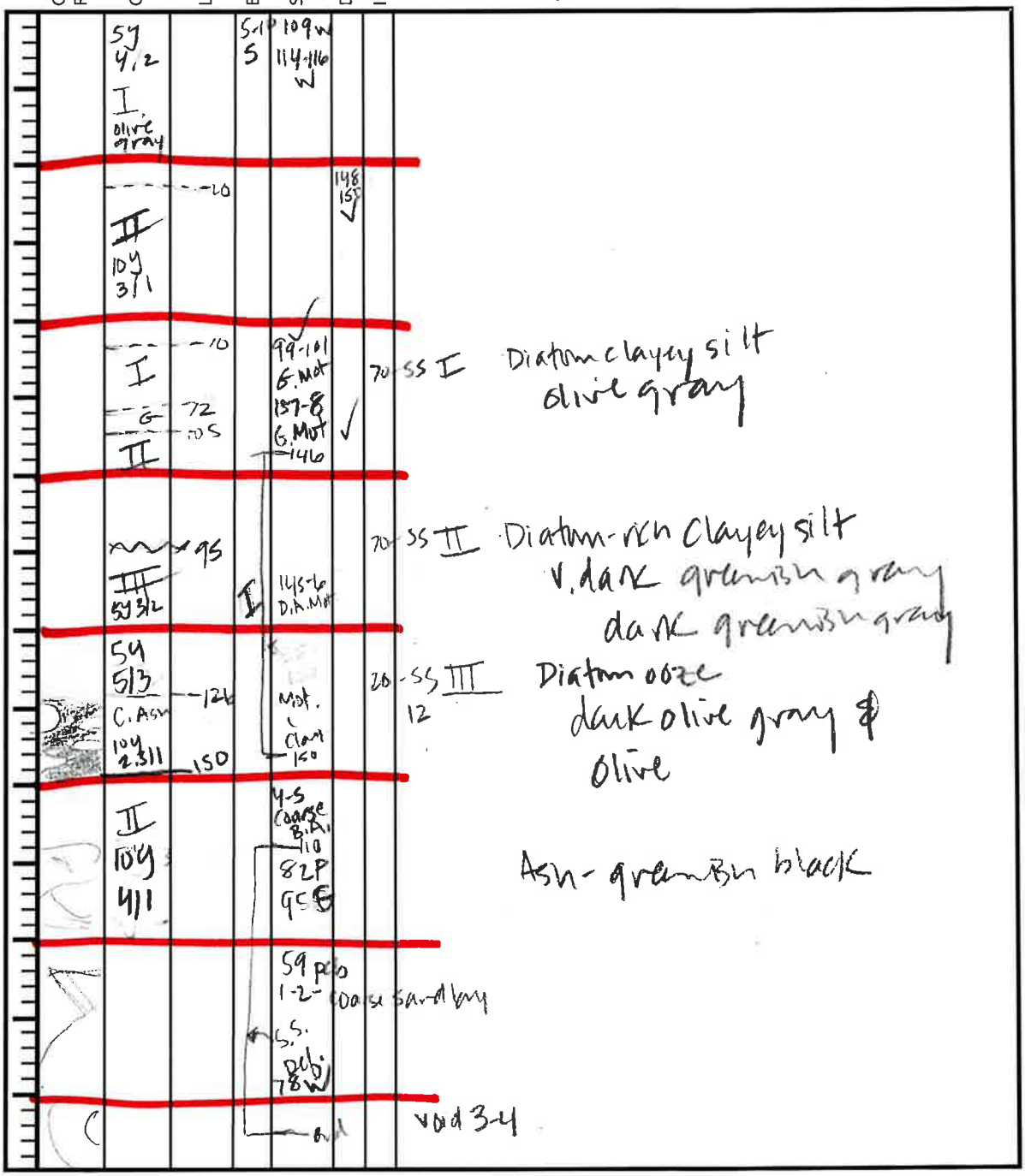
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
X	Radiolarians
	Spumellaria
	Nassellaria
30%	Diatoms
15%	Centric
15%	Pennate
	Chaetoceros Resting Spores
X	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

323U B41C 9H ALL ____ ____
Site Hole Core Section Top Depth Scale

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	9q		3	70cm	

Sediment/Rock Name	DIATOM CLAYEY SILT	Observer	LWA

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
20% 10	Quartz
10% 10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
X	Muscovite
15%	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2	Pyrite
	Magnetite
X	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	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
50%	Diatoms
30%	Centric
20%	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	9q		4	70 cm	

Sediment/Rock Name	DIATOM-RICH CLAYEY SILT	Observer	LWA

Percent Texture		
Sand	Silt	Clay

Comments:

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
5 10%	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
35%	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	9		5	20 cm	

Sediment/Rock Name	DIATOM OOZE	Observer	IWA

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
35%	Quartz
5%	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
10%	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
X	Vitric grain
	Lithic grain

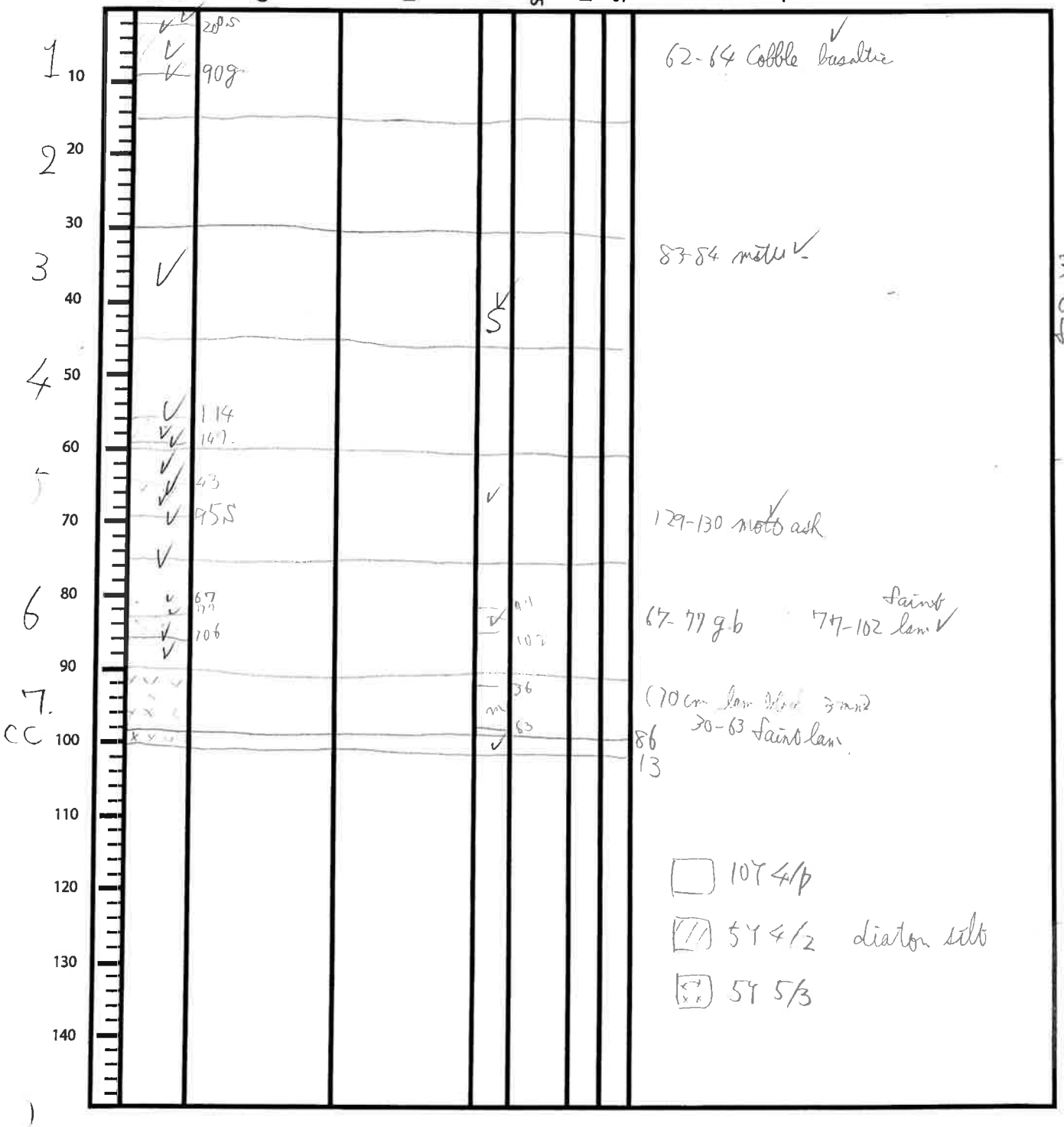
Percent	Component
BIOGENIC GRAINS	
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
5%	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
75%	Diatoms
45%	Centric
30%	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

1341 C 10 ____ ____
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	1341	C	10	H	3	50	

Sediment/Rock Name	diatom-rich ± fine-ashy site.	Observer	akira

Percent Texture		
Sand	Silt	Clay

Comments: Myr vitm

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
22	Quartz 5
13	Feldspar 3
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
9	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
4	Crystal grain 1
22	Vitric grain 5
	Lithic grain

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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	10	H	4	130	

Sediment/Rock Name	diatom silt	Observer	

Percent Texture		
Sand	Silt	Clay

Comments: Mjr Lith

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

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
54	Diatoms 25
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules 0.5
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	134	C	10	H	7	68	

Sediment/Rock Name	diatom ooze.	Observer	

Percent Texture		
Sand	Silt	Clay

Comments: Mjr Lith

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
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
4	Pyrite 2 1
	Magnetite
	Fe-oxide
	Carbonates
13	Calcite 3
	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
83	Diatoms 20
	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

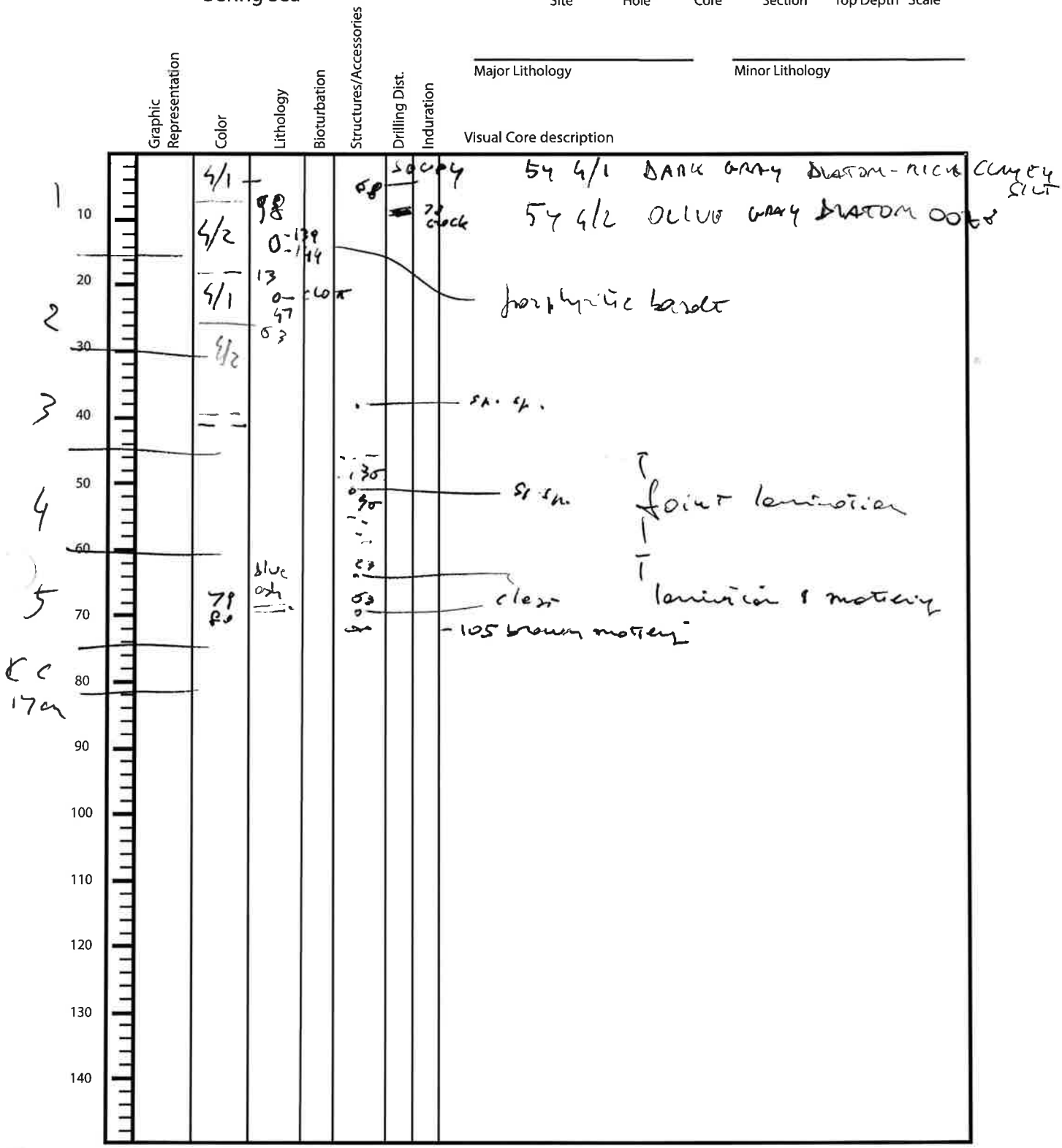
Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

Site	Hole	Core	Section	Top Depth	Scale
1341	C	11	OCC		

Major Lithology

Minor Lithology



Observer: _____ Date: _____

X

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	11	H	1	80	

Sediment/Rock Name	diatom ooze	Observer	Okada

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
9	Quartz 2
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
5	Micas 1
	Biotite
	Muscovite
	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
9	Vitric grain 2
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
5	Foraminifera 1
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
78	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	11	H	4	80	

Sediment/Rock Name	diatom-rich clayey silt	Observer	Alex

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
26	Quartz 5
16	Feldspar 3
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
16	Clay Minerals 3
	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
11	Vitric grain 2
	Lithic grain

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

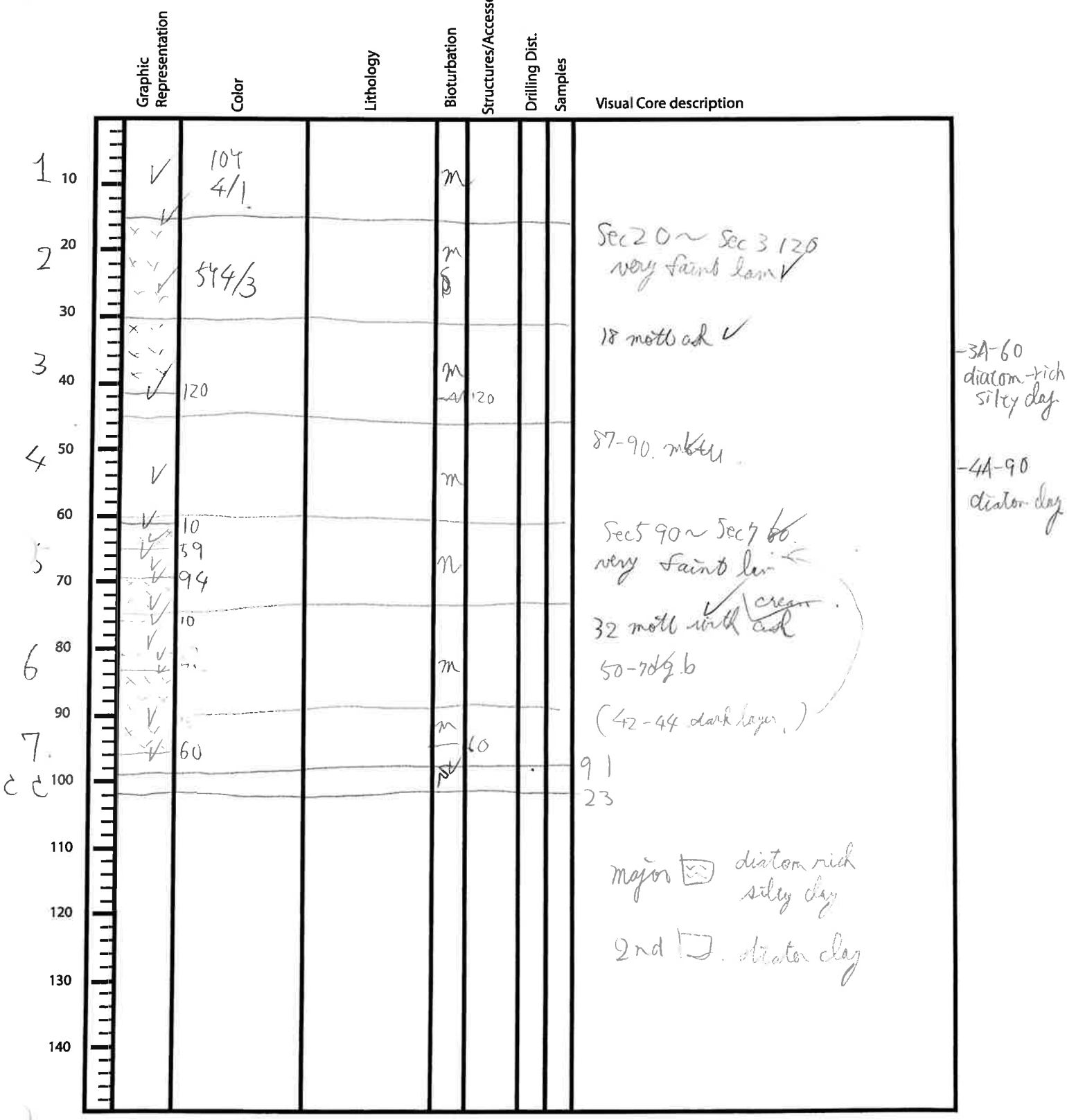
Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

1341 C 12 — 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
	1341	C	12		3	60 cm	

Sediment/Rock Name: DIATOM-RICH SILTY CLAY

Observer: IWA

Percent Texture		
Sand	Silt	Clay

Comments: MAIN LITHO.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
15% 20	Quartz
	Feldspar
10% 10	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
30% 30	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
5% 10	Zeolite
	Opaque minerals
5% 5	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
2% 5	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
2% 5	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
30% 30	Diatoms
	20 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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	12		4	90cm	

Sediment/Rock Name	DIATOM CLAY	Observer	IWF

Percent Texture		
Sand	Silt	Clay

Comments: MAIN LITHO

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

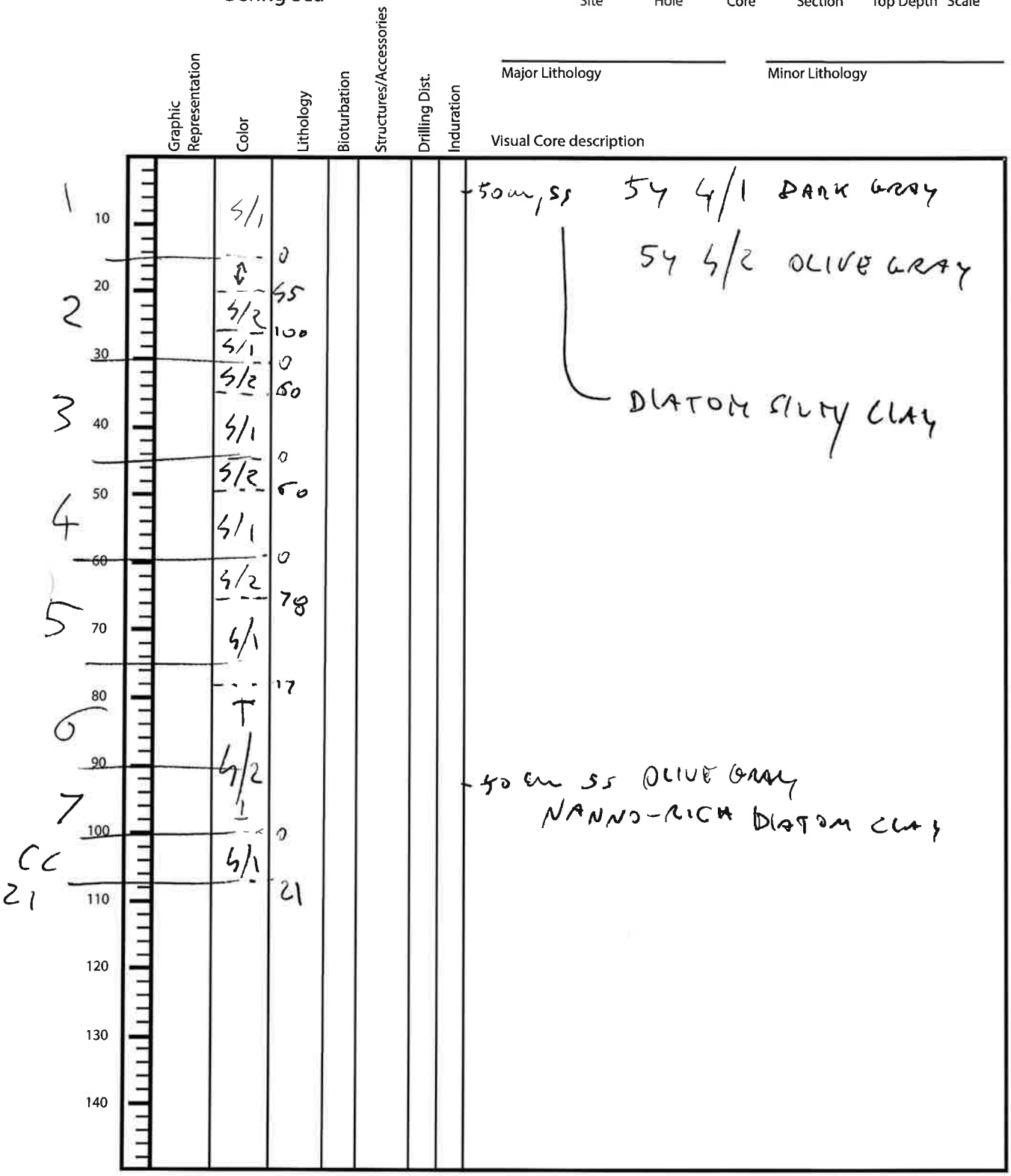
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
50%	50 Diatoms
	30 Centric
	20 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

1341 C 13 1-CC
Site Hole Core Section Top Depth Scale

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
	1341	C	13		1	50cm	

Sediment/Rock Name	DIATOM SILTY CLAY	Observer	LWA

Percent Texture		
Sand	Silt	Clay

Comments: MAIN LITHO

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10% 10	Quartz
5% 5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
5% 5	Micas
2% 2	Biotite
	Muscovite
20% 20	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
2% 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
55% 55	Diatoms
35% 35	Centric
20% 20	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	13		7	50cm	

Sediment/Rock Name	NANNO-RICH DIATOM CLAY	Observer	LUM

Percent Texture		
Sand	Silt	Clay

Comments: MAIN LITHO

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

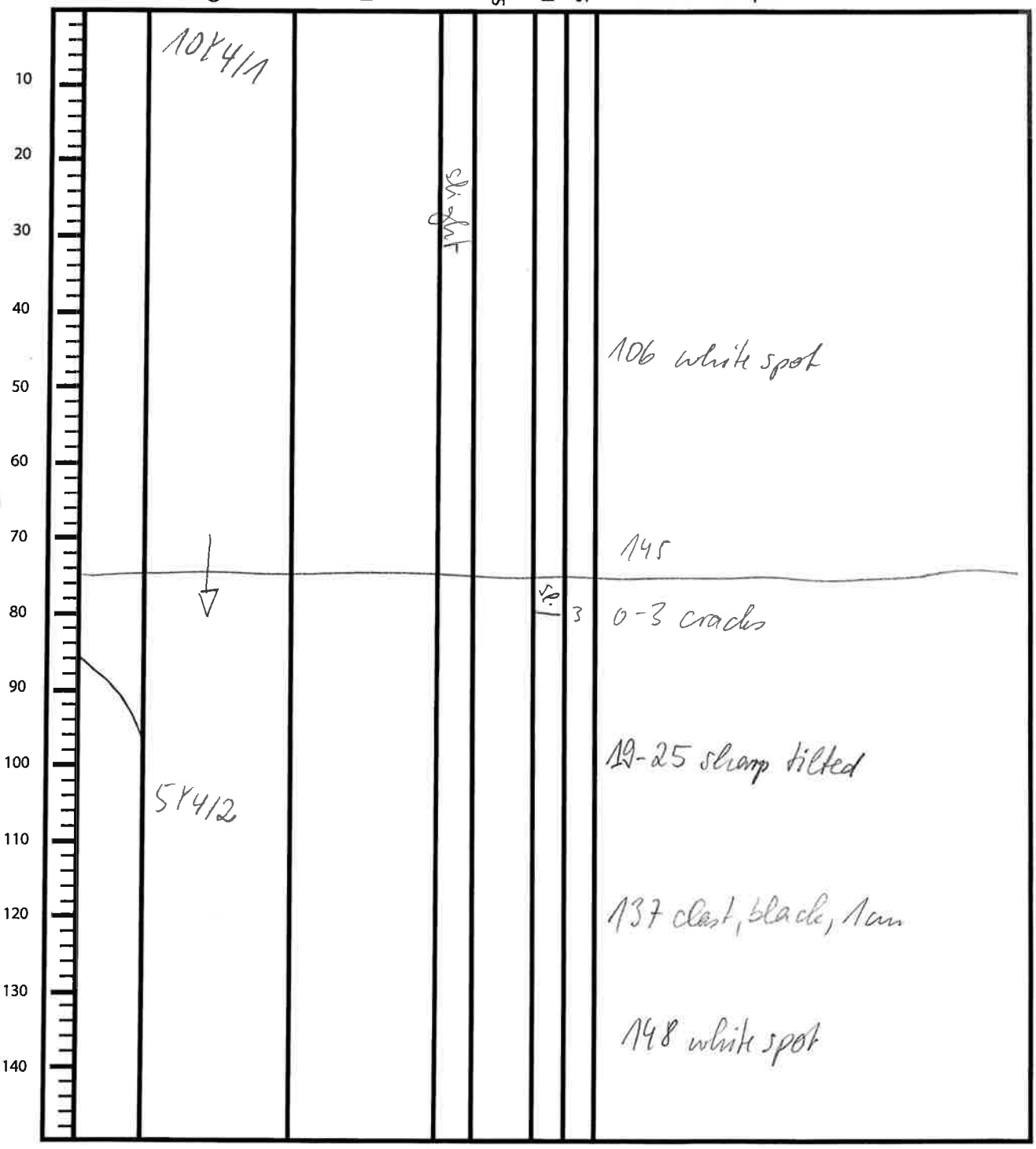
Percent	Component
	BIOGENIC GRAINS
	Calcareous
2%, 2	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
10%, 10	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
50%, 50	Diatoms
30%, 30	Centric
20%, 20	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

1341 C 14H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

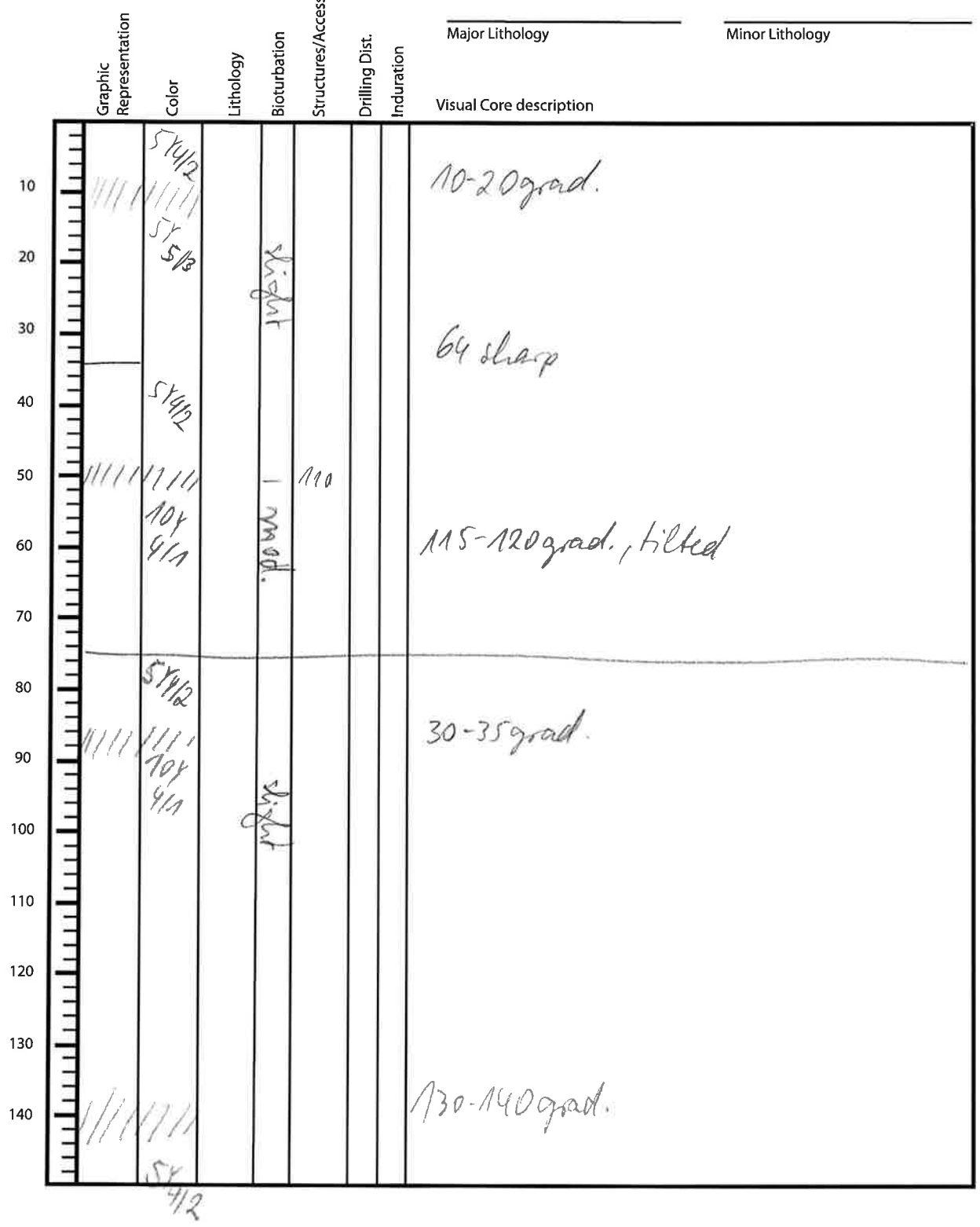


Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 (Site) G (Hole) 14H (Core) 3+4 (Section) ____ (Top Depth) ____ (Scale)

Major Lithology ____ Minor Lithology ____

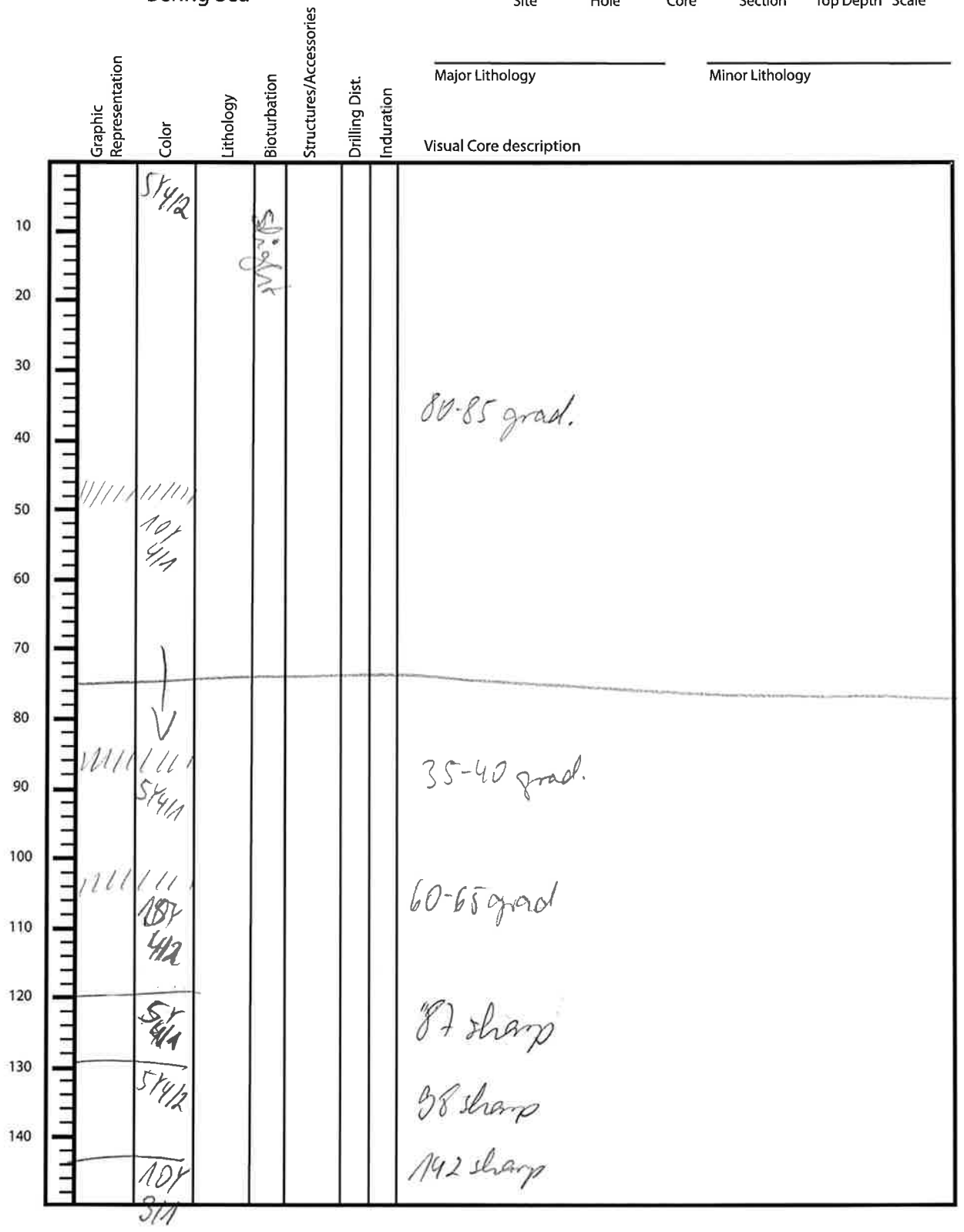


Observer: ____ Date: ____

Expedition 323
Bering Sea

1341 (Site) G (Hole) 14H (Core) 5+6 (Section) ____ (Top Depth) ____ (Scale)

Major Lithology ____ Minor Lithology ____

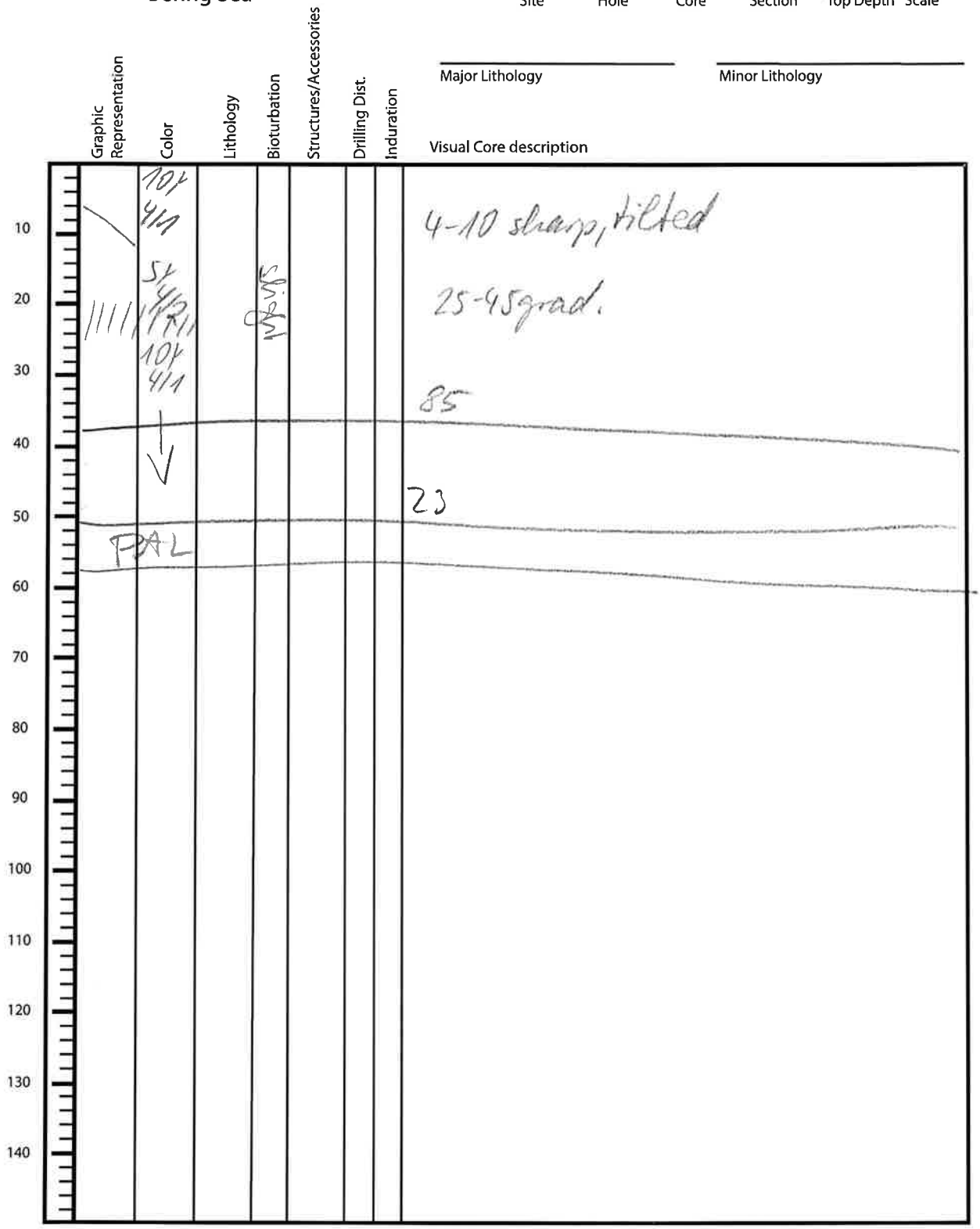


Observer: ____ Date: ____

Expedition 323
Bering Sea

1341 (Site) G (Hole) 14H (Core) 7+CC (Section) ____ (Top Depth) ____ (Scale)

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	1341	C	14H		2A	60	60

Sediment/Rock Name	Diatom Ooze	Observer	Hino

Percent Texture		
Sand	Silt	Clay

Comments: Main Litho Olive

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 27%
	Framework minerals
18	Quartz 3
3	Feldspar 0.5
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
3	Biotite 0.5
	Muscovite
	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 73%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
59	Centric 10
≤ 7	Pennate 1
	Chaetoceros Resting Spores
≤ 7	Silicoflagellates 0.5
	Sponge spicules 1
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

14H 4 60
14. H 2 60

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
			14H		4	60	60

Sediment/Rock Name	Observer
Diatom-rich Clayey Silt	HM

Percent Texture		
Sand	Silt	Clay
15	60	20

Comments: Main Litho Transition

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 43%
	Framework minerals
40	Quartz 15
3	Feldspar 1
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 54%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
53	Centric 50
3	Pennate 1
	Chaetoceros Resting Spores
	Silicoflagellates
1	Sponge spicules D.F
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	14H		CA	50	50

Sediment/Rock Name	Diatom-rich Silty Clay	Observer	

Percent Texture		
Sand	Silt	Clay
5	35	60

Comments: Main Litho strat

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 63%
	Framework minerals
3%	Quartz 1
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
60% ~~60%~~	Clay Minerals ~~to~~ 20
	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

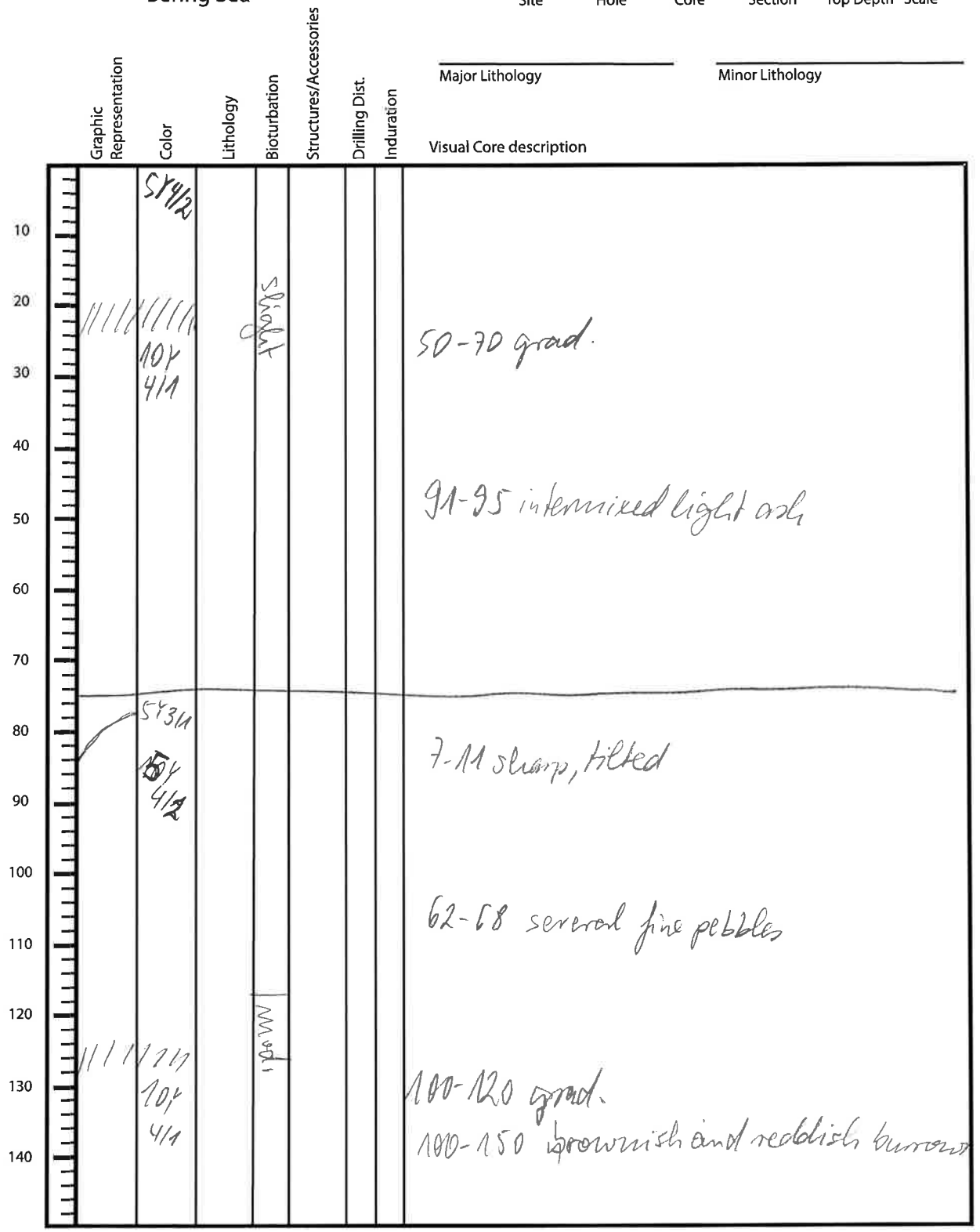
Percent	Component
	BIOGENIC GRAINS 37%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
30%	~~15~~ Centric 10
6%	Pennate ± 2
	Chaetoceros Resting Spores
	Silicoflagellates
1%	Sponge spicules 0.5
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

1341 (Site) G (Hole) 15H (Core) 1+2 (Section) ____ (Top Depth) ____ (Scale)

Major Lithology ____ Minor Lithology ____

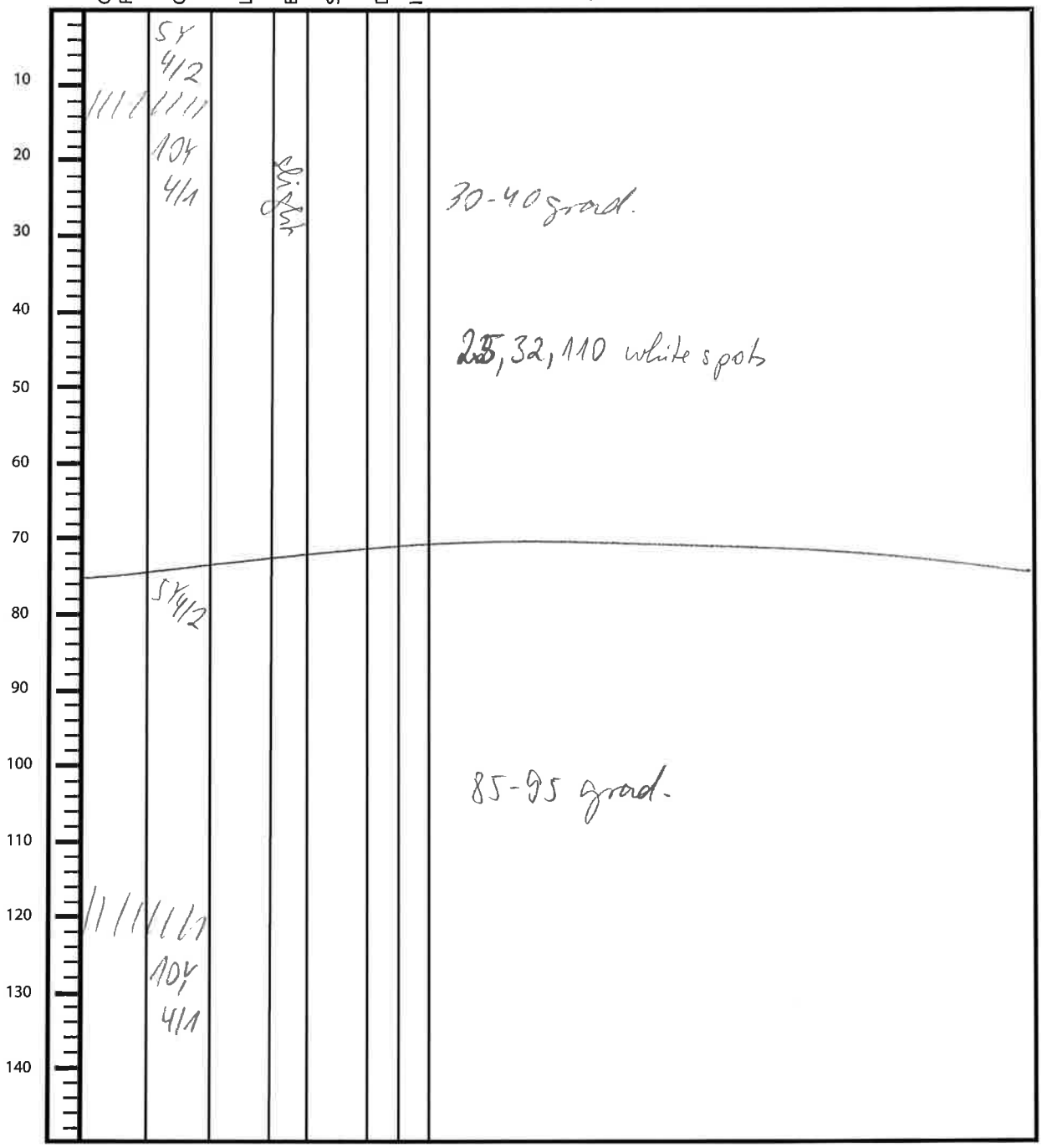


Observer: ____ Date: ____

Expedition 323
Bering Sea

1341 (Site) G (Hole) 15H (Core) 3+4 (Section) ____ (Top Depth) ____ (Scale)

Major Lithology ____ Minor Lithology ____

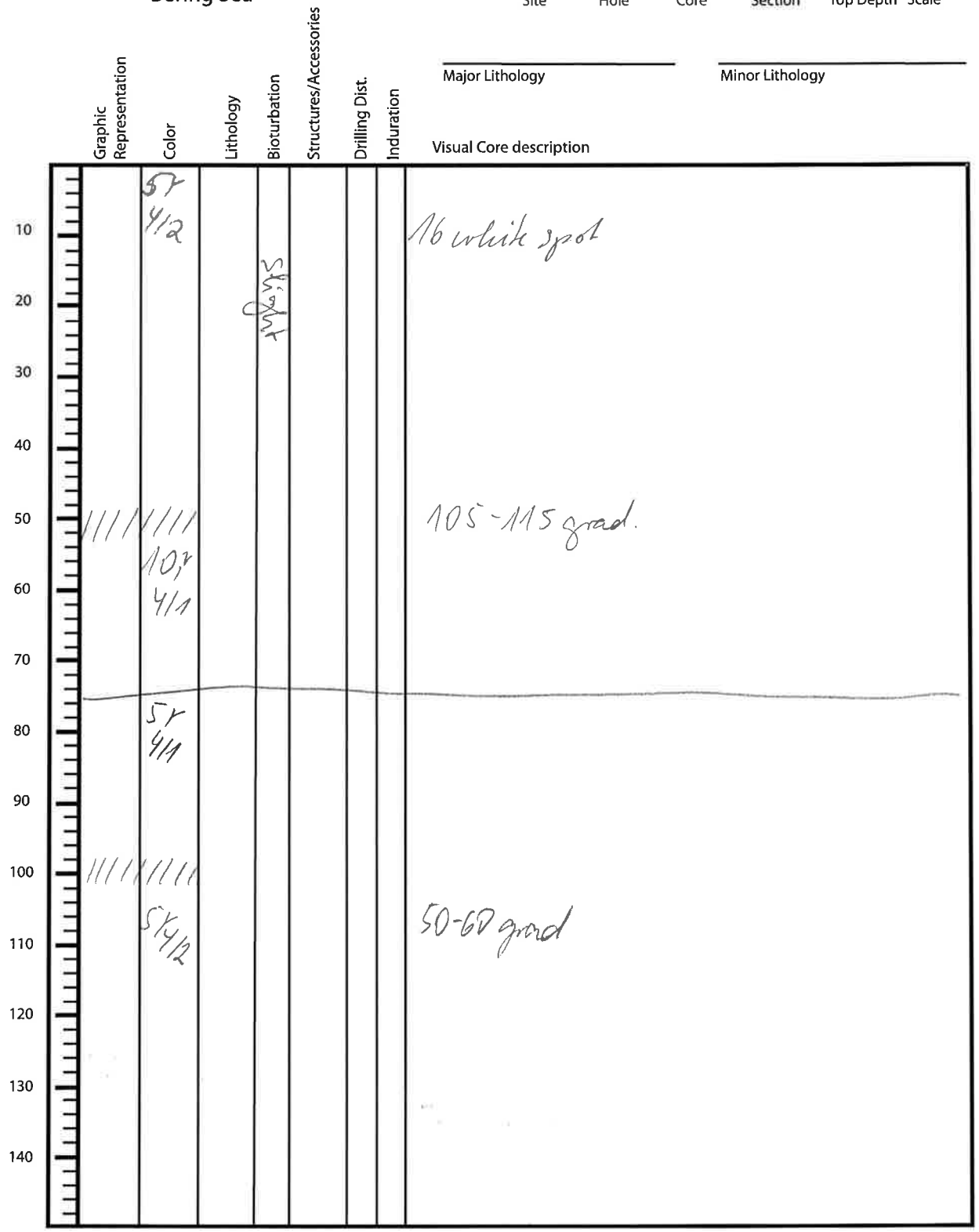


Observer: ____ Date: ____

Expedition 323
Bering Sea

1341 / G / 15H / 5+6 / ____ / ____
Site / Hole / Core / Section / Top Depth / Scale

Major Lithology ____ Minor Lithology ____



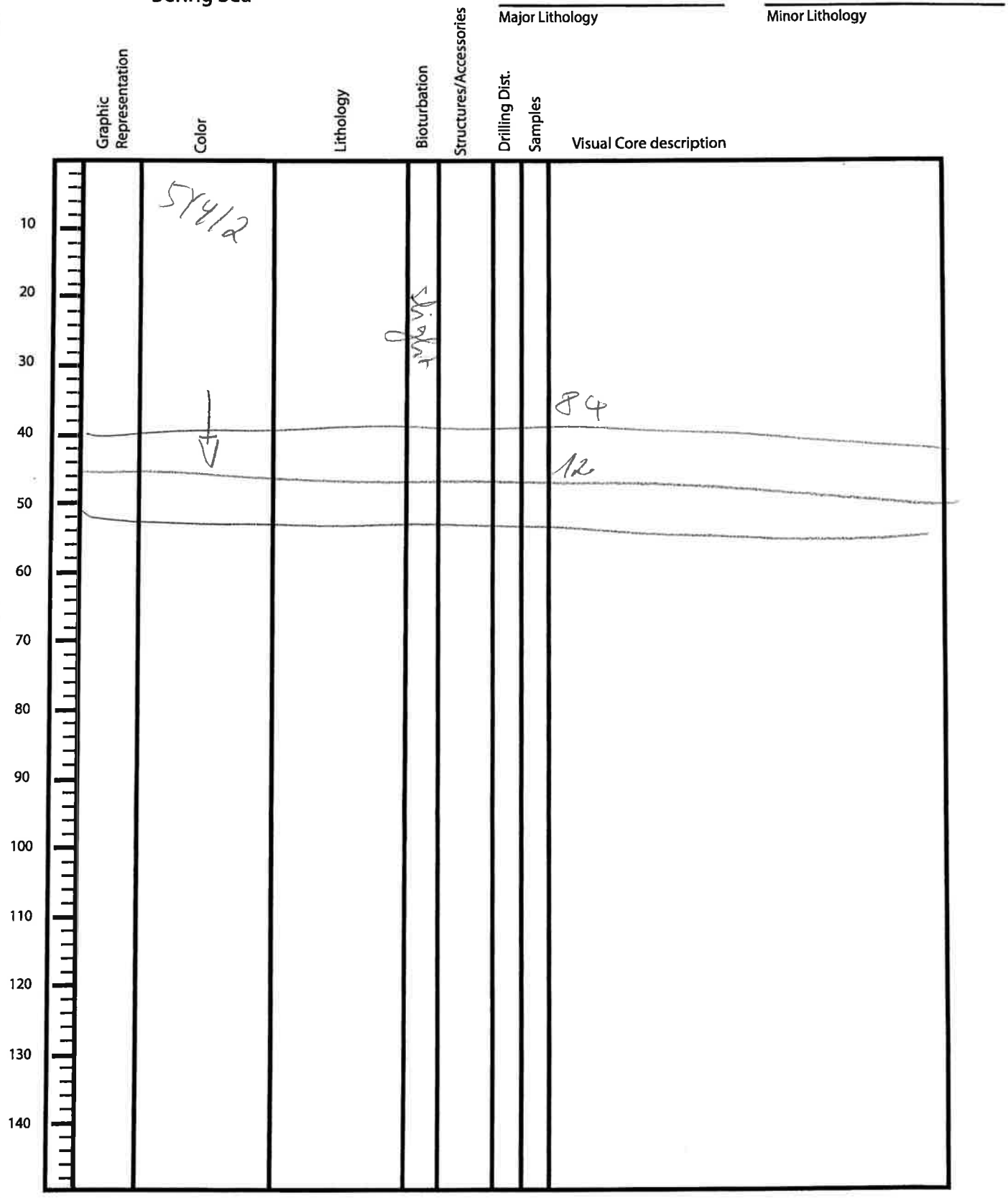
Observer: ____ Date: ____

1341 G 15H 7+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
	1341	C	15H		1	40	40

Sediment/Rock Name	Diatom Ooze	Observer	Hino

Percent Texture		
Sand	Silt	Clay

Comments: Green Litho

Percent	Component
SILICICLASTIC GRAINS/MINERAL	26%
	Framework minerals
22%	Quartz 3
4%	Feldspar 0.5
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
BIOGENIC GRAINS	74%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
52%	7 Centric
22%	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	15H		4	40	40

Sediment/Rock Name	Diatom Ooze	Observer	Hiow

Percent Texture		
Sand	Silt	Clay

Comments: Green Litho

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 8%
	Framework minerals
8%	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 92%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
71%	Centric 1
21%	Pennate 3
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

C 14 15(1-3)

Hole A 14 13 (15H)

13 13 14 H (Section 5)

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1341	C	15H		6	40	40

Sediment/Rock Name	Diatom rich Clayey Silt	Observer	Hiro

Percent Texture		
Sand	Silt	Clay
~~10~~ 7	~~60~~ 15	20

Comments: Gray Litho

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 58
	Framework minerals
37 ~~35~~	Quartz ~~3~~ 5
7	Feldspar /
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
14	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

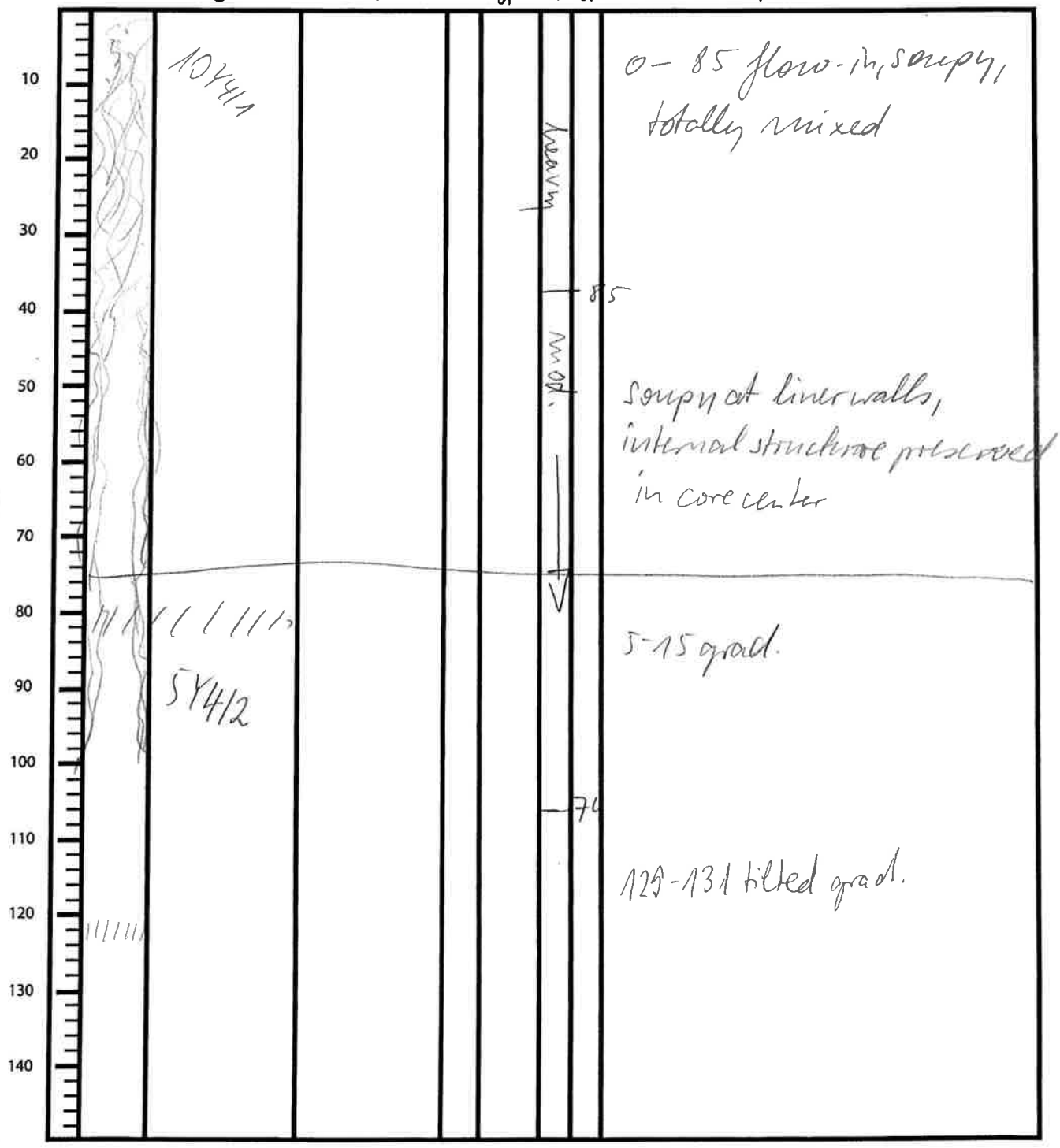
Percent	Component
	BIOGENIC GRAINS 42
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
14	Centric 2
14	Pennate 2
	Chaetoceros Resting Spores
	Silicoflagellates
14	Sponge spicules 2
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides

1341 G 16H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



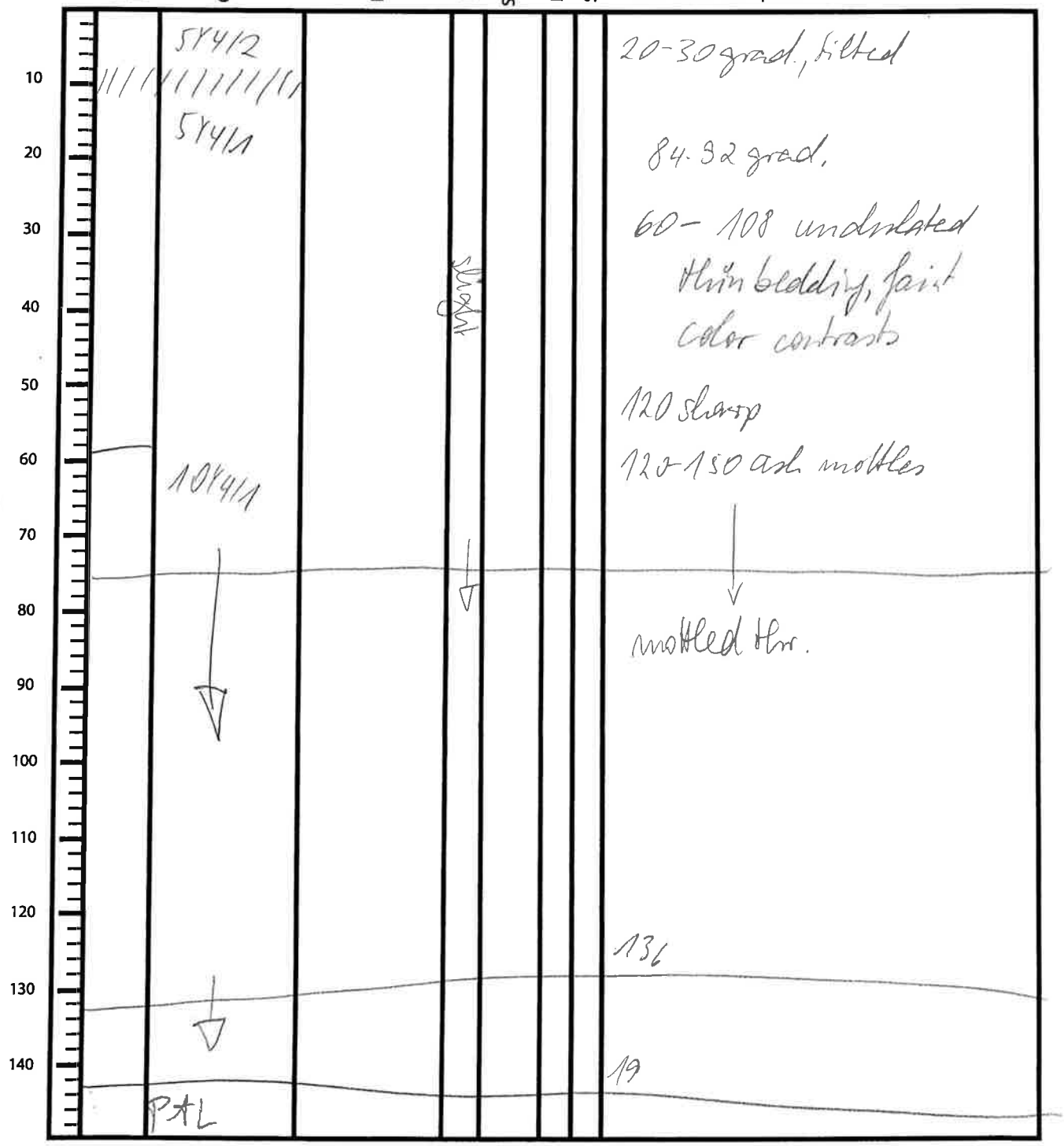
Observer: ____ Date: ____

1341 G 16H 3+4+CC
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology

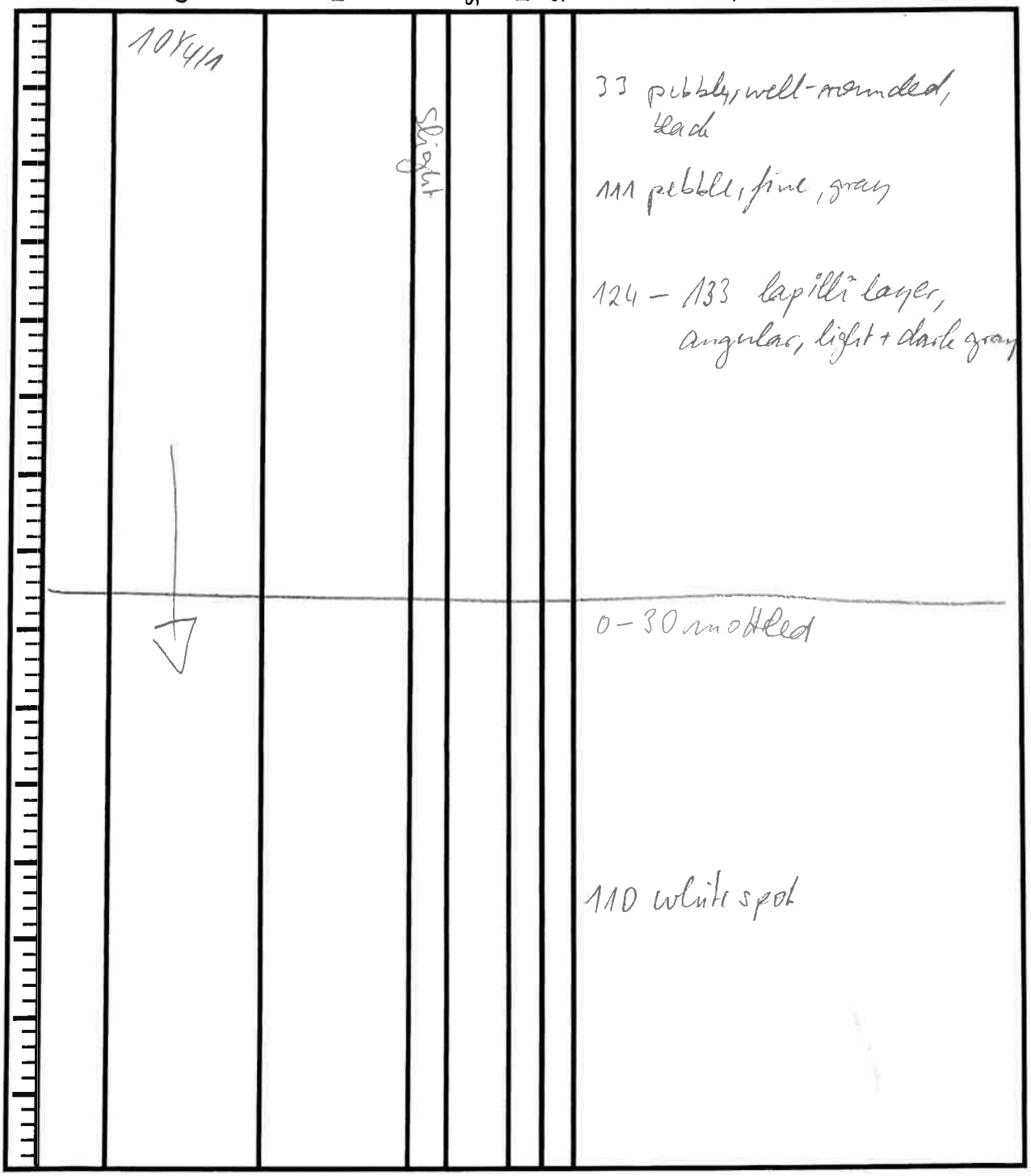


Observer: _____ Date: _____

1341 G 17H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

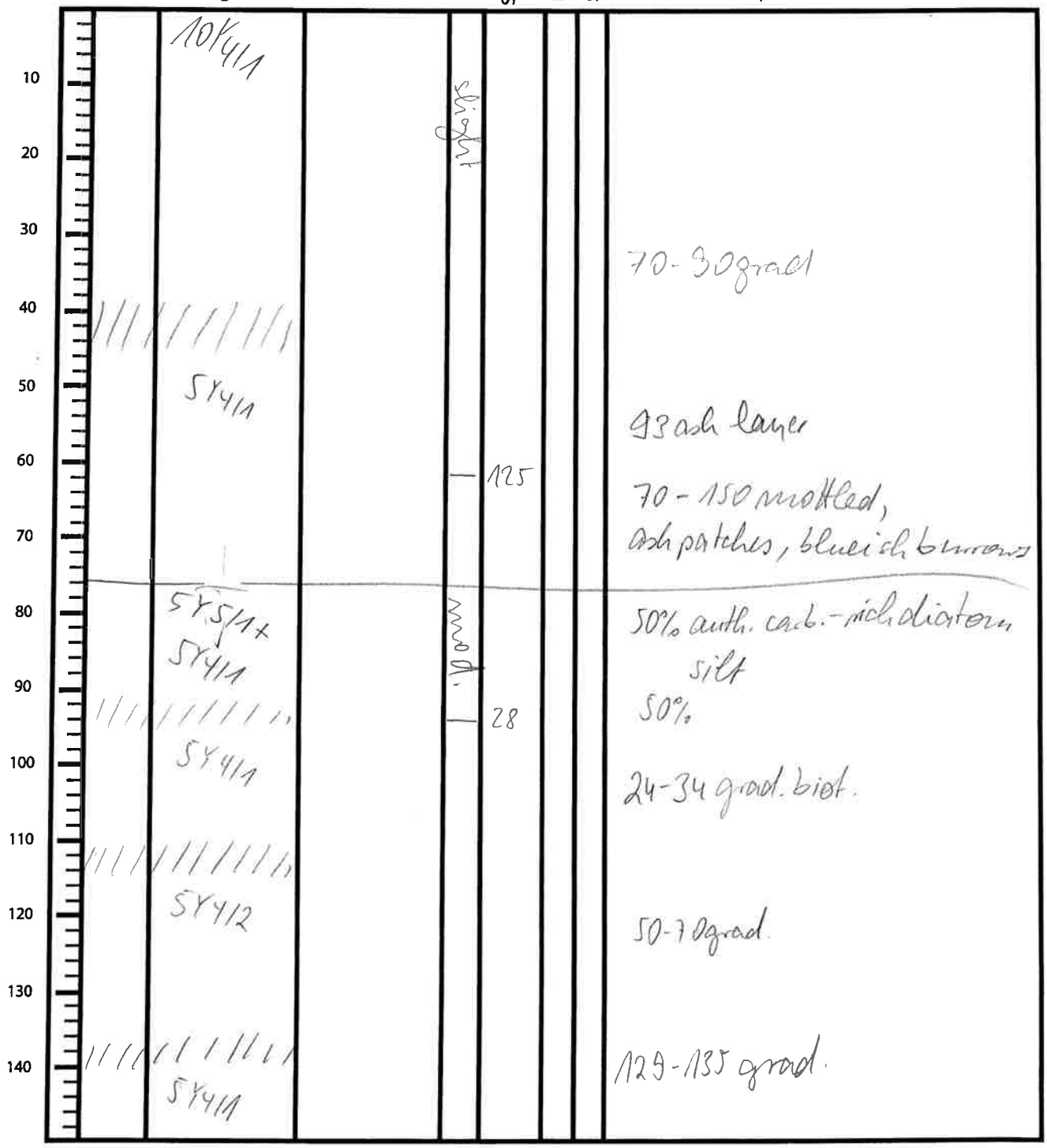


Observer: ____ Date: ____

1341 C 17H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

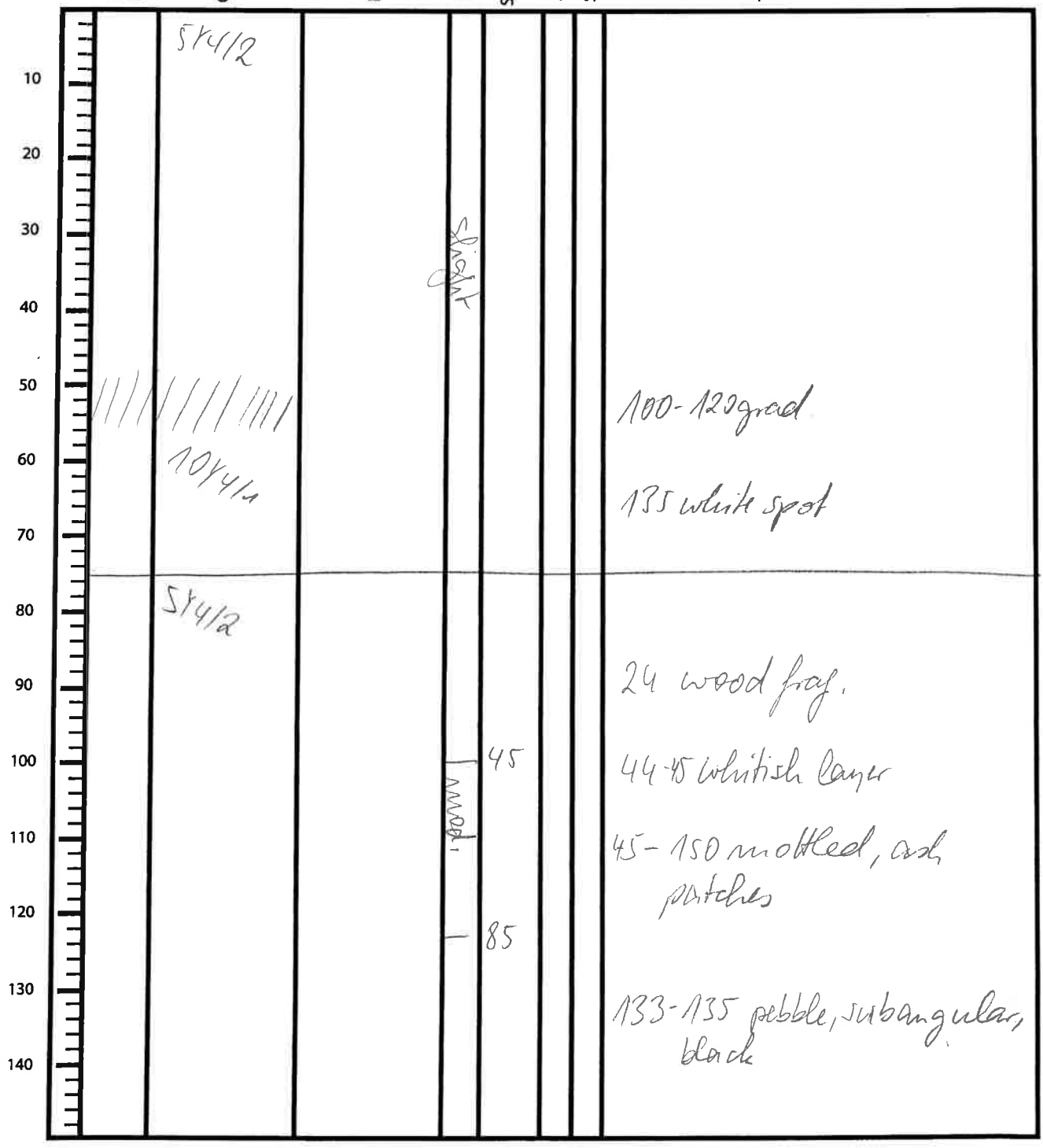


Observer: ____ Date: ____

1341 C 17H 5+6 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



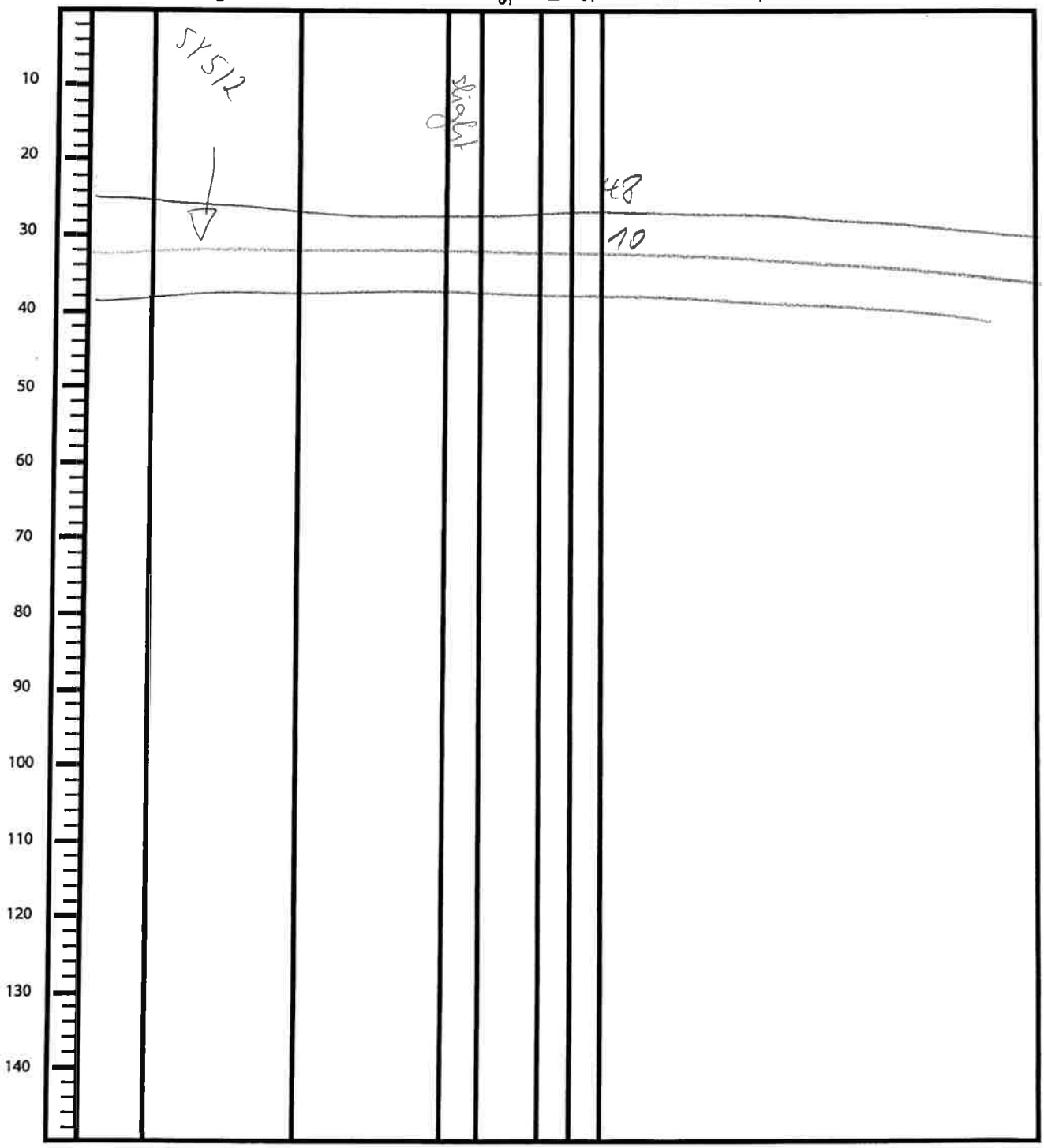
Observer: ____ Date: ____

1341 C 17H 7+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
	1341	C	17H		1	50	50

Sediment/Rock Name	Diatom Ooze	Observer	Hiro

Percent Texture		
Sand	Silt	Clay

Comments: Lith Dark olive - Gray

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 6
	Framework minerals
3	Quartz 2
3	Feldspar 1.5
	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
	Pyrite 3
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 94
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
76	45 Centric
16 ~~10 17~~	10 Pennate
	Chaetoceros Resting Spores
± 2	1 Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

1H4

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	E		3	144	144

Sediment/Rock Name	(pennate) diatom rich silty Clay	Observer	Hino

Percent Texture		
Sand	Silt	Clay
10	30	60
4	10	20

Comments: ~~Greenish Patch~~ Greenish. Patch

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 58
	Framework minerals
4 6	Quartz 0.25
4 6	Feldspar 0.25
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
50 ~~47 25~~	Rock fragments ~~0.25~~ F 3
	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
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 42 ~~50~~
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
4 ~~50~~	~~5~~ Centric 0.25
34 ~~50~~	~~30~~ Pennate 2
	Chaetoceros Resting Spores
	Silicoflagellates 0
4 6	Sponge spicules 0.25
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

SM

X

→ diatom-bearing Silty Clay (Authegenic Carbonate)

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	17H		4	7	7

Sediment/Rock Name	Observer
~~diatom-bearing Authegenic Clayey~~	Hina

Biogenic ~~8~~ 8% Siliciclastic 92%

Percent Texture		
Sand	Silt	Clay
~~5~~ 10	20	~~50~~ 70

Comments: Light Grey Patches

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~97%~~ ~~80%~~ 92
	Framework minerals
2%	Quartz 1
1%	Feldspar 0.25
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
~~44~~ ~~45~~%	Calcite 40 ~~50~~ 90%
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
<1	Vitric grain 0.1
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 8% ~~40%~~ ~~60%~~
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
~~5~~ 3%	Centric ~~7~~ 4%
	Pennate 1 3%
	Chaetoceros Resting Spores
	Silicoflagellates
1%	Sponge spicules 0.5
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	17H		5	110	110

Sediment/Rock Name	Diatom Ooze	Observer	Hiro

Percent Texture		
Sand	Silt	Clay

Comments: Grey. Lith

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 9
	Framework minerals
5	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
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 91
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
60	Centric
30	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	P 194	C	~~B~~ 19H		5	50 70	50

Sediment/Rock Name	Diatom Ooze	Observer	Hino

Percent Texture		
Sand	Silt	Clay

Comments: ~~Fine~~ Olive Main Lith

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 33
	Framework minerals
30	Quartz 5
3	Feldspar 0.5
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

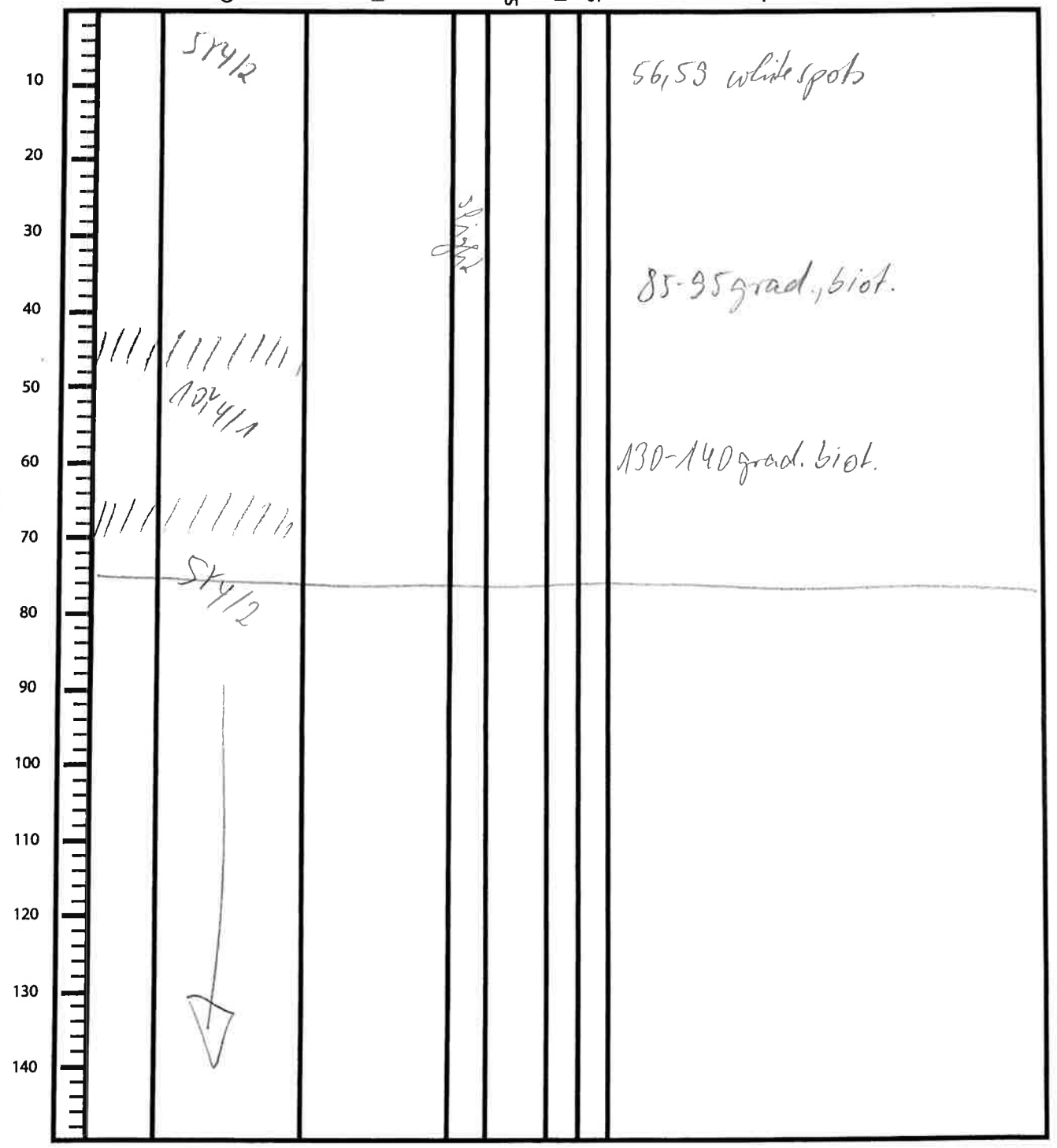
Percent	Component
	BIOGENIC GRAINS 67
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
60	Centric 10
6	Pennate 1
	Chaetoceros Resting Spores
1	Silicoflagellates 0.25
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

1341 C 18H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



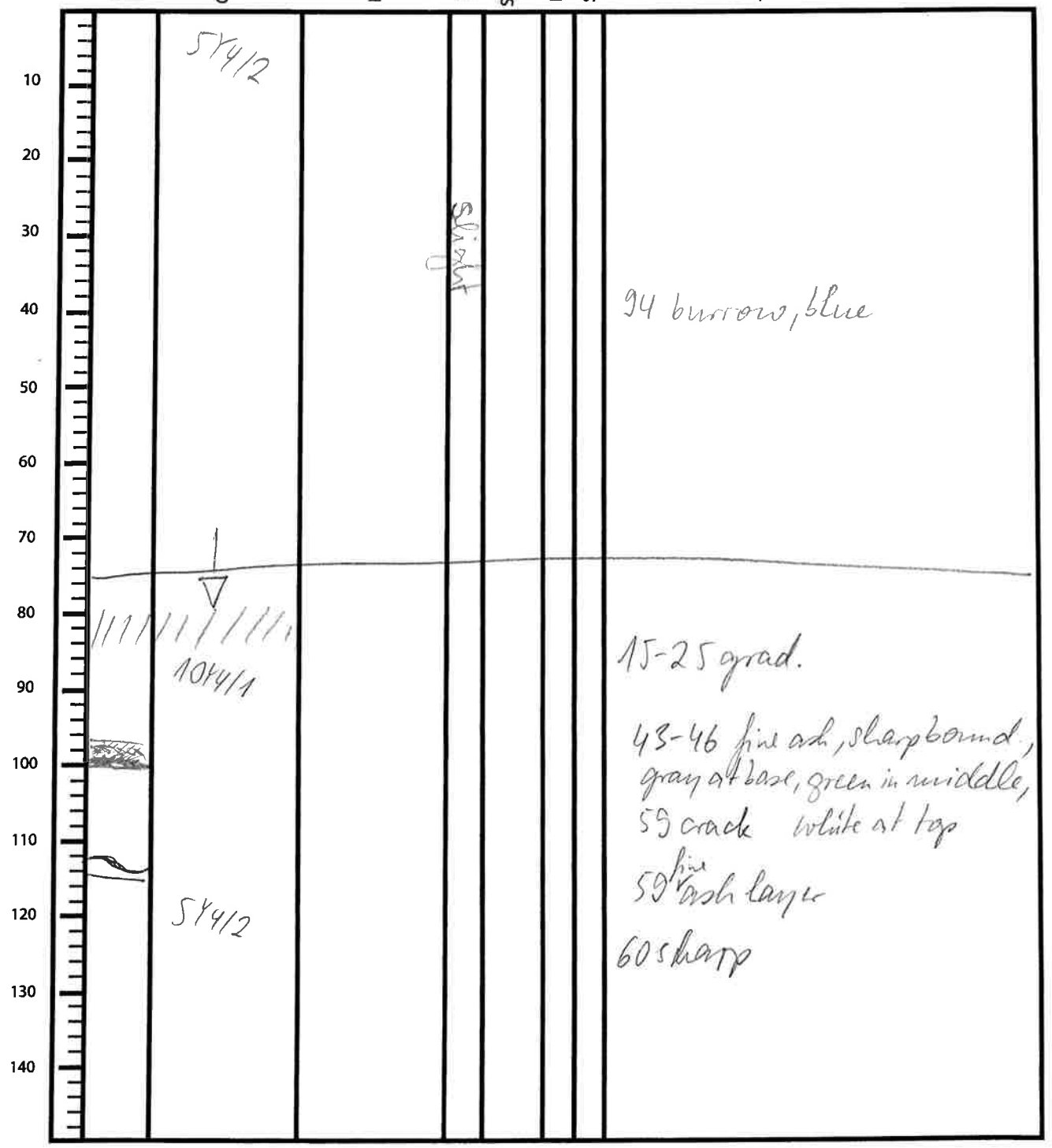
Observer: ____ Date: ____

1341 C 18H 3+4
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology

Minor Lithology

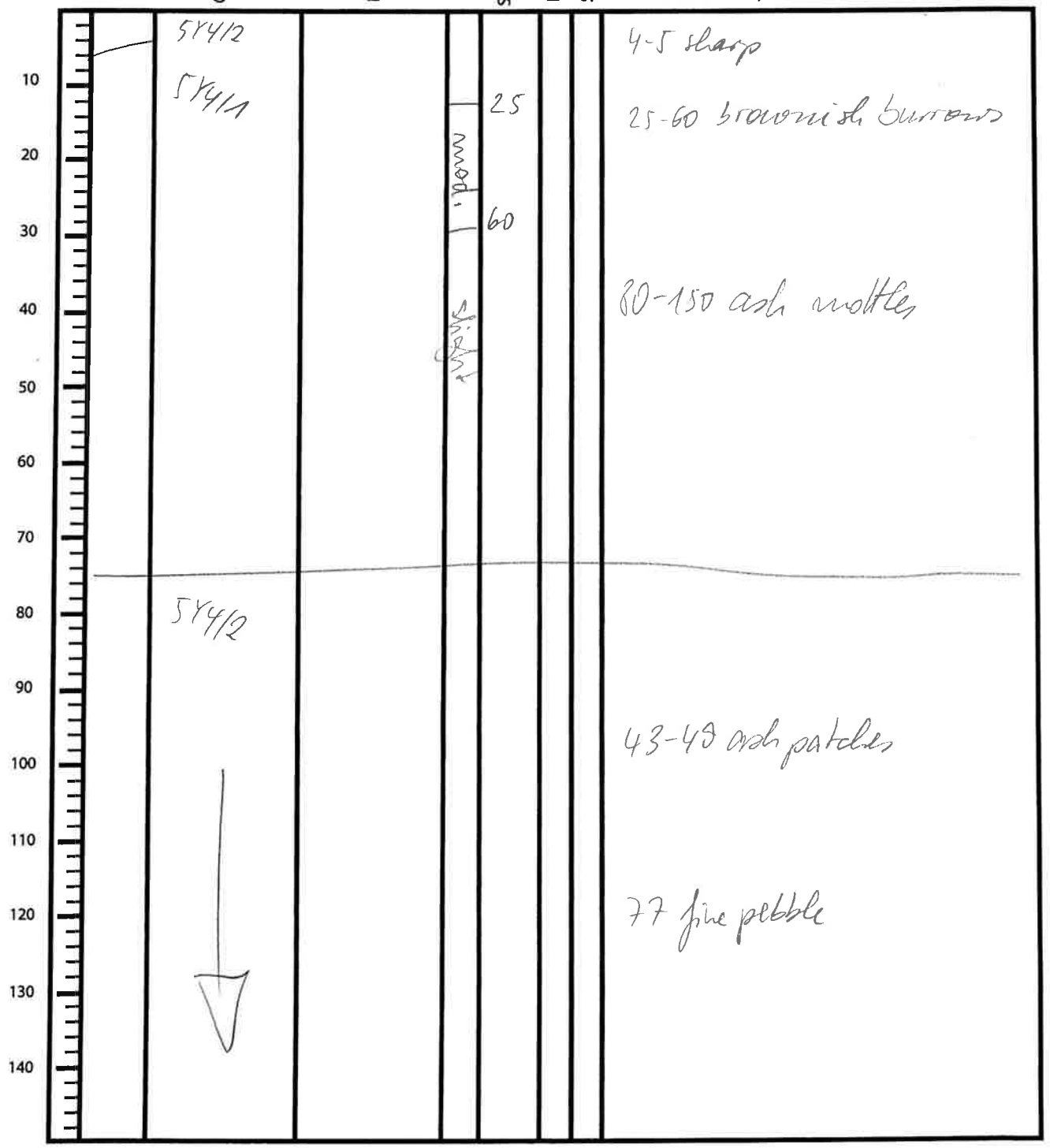


Observer: _____ Date: _____

1341 C 18H 5+6 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



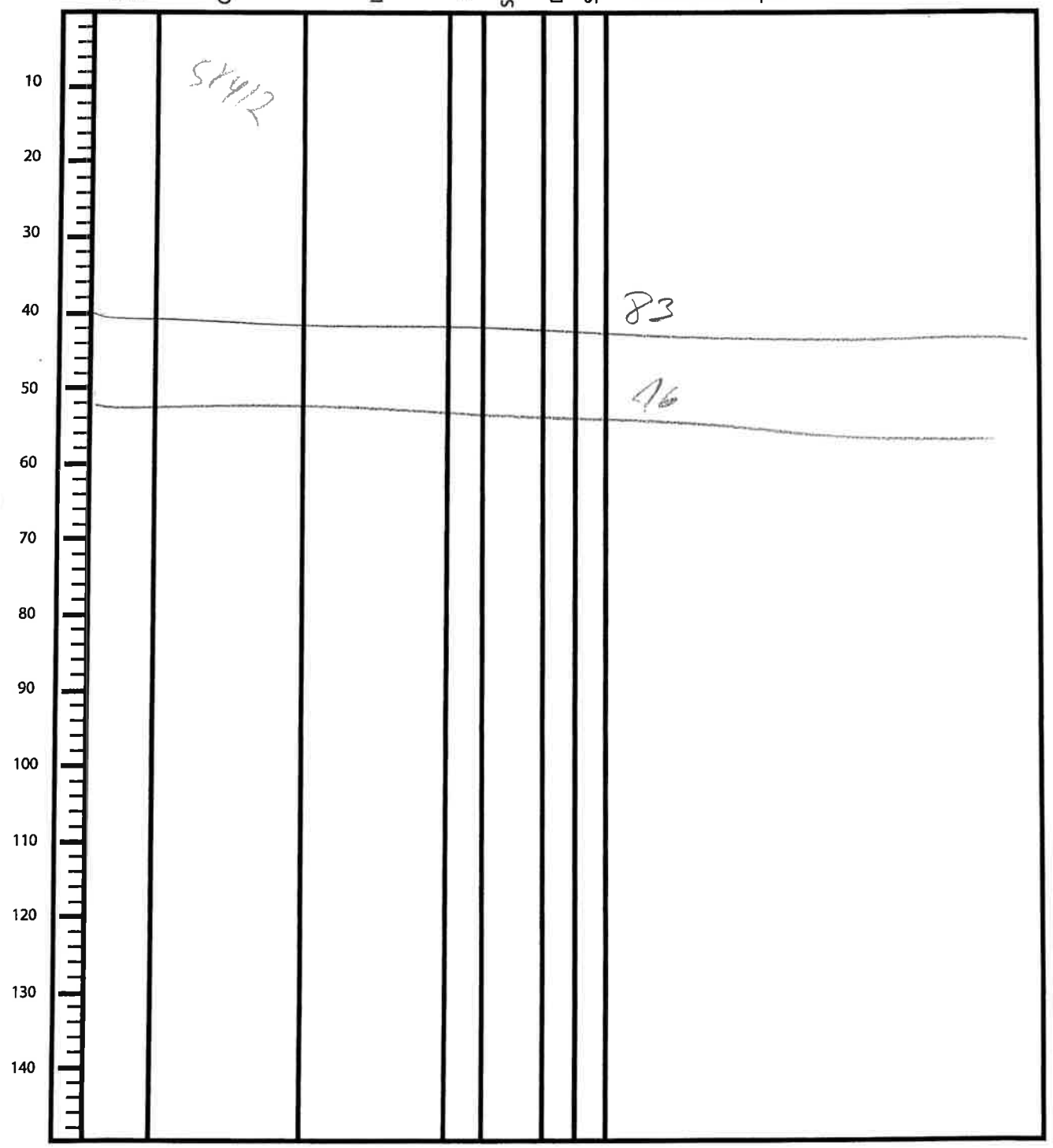
Observer: ____ Date: ____

1341 C 18H 7+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
	1341	C	18H		5	105	107

9 4

Sediment/Rock Name	Diatom Ooze	Observer	Hiro

Percent Texture		
Sand	Silt	Clay

Comments: Gray

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
5	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
	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
70 ~~60~~	Centric
20 ~~10~~	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
5	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
			18H		5	45	45

Sediment/Rock Name	Diatom-bearing Silty Clay (Authejenic Carbonate)	Observer	

Percent Texture		
Sand	Silt	Clay
5	35	60

Comments: whitish patch

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~15~~ 8
	Framework minerals
3	Quartz
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
80	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 12
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
2	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

5

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	18H		4	100	100

Sediment/Rock Name	Diatom rich Silty Clay

Observer	

Percent Texture		
Sand	Silt	Clay
10	35	~~50~~ 55
2	10	15

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
50	Quartz 5
20	Feldspar 2
	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
	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
20	Centric 2
10	Pennate 1
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1341	C	19H		3	64	

Sediment/Rock Name	Diatom Ooze	Observer	Hino

Percent Texture		
Sand	Silt	Clay

Comments: Ashy patch

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 29
	Framework minerals
20	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
1	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
7	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 71
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
56	Diatoms
14	Centric
	Pennate
	Chaetoceros Resting Spores
1	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1314	C	15H		4	50	52

Sediment/Rock Name	diatom clayey silt	Observer	

Percent Texture		
Sand	Silt	Clay
5 / 1	60 / 45 / 20	30 / 10

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 56 %
	Framework minerals
33	Quartz 10
17	Feldspar 2 5
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
6	Rock fragments 2
	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
	Vitric grain
	Lithic grain

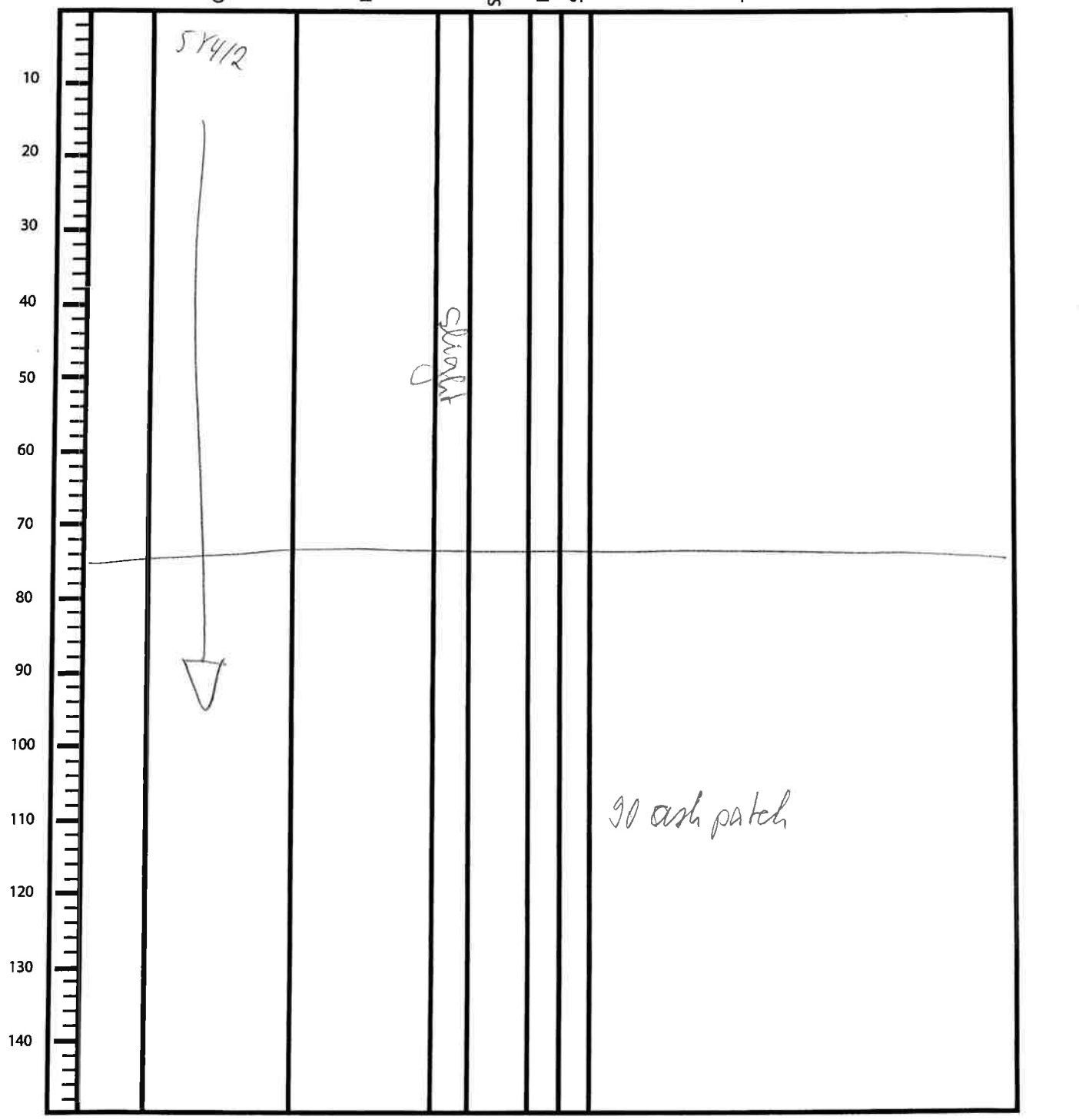
Percent	Component
	BIOGENIC GRAINS 44 %
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
17	Centric 5
20	Pennate 6
	Chaetoceros Resting Spores
	Silicoflagellates
7	Sponge spicules 2
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

1341 C 19H 1+2 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

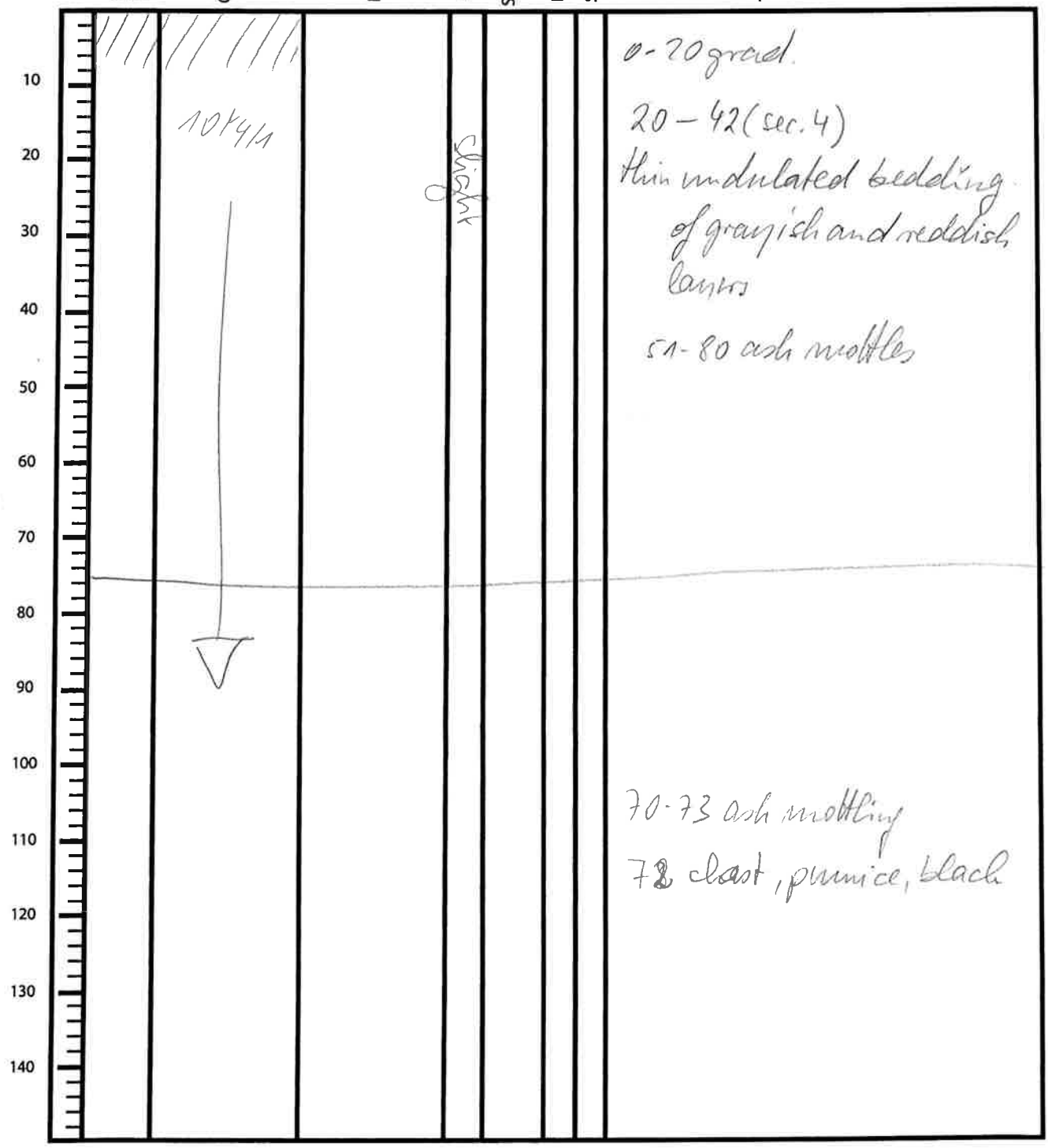


Observer: ____ Date: ____

1341 C 19H 3+4 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____

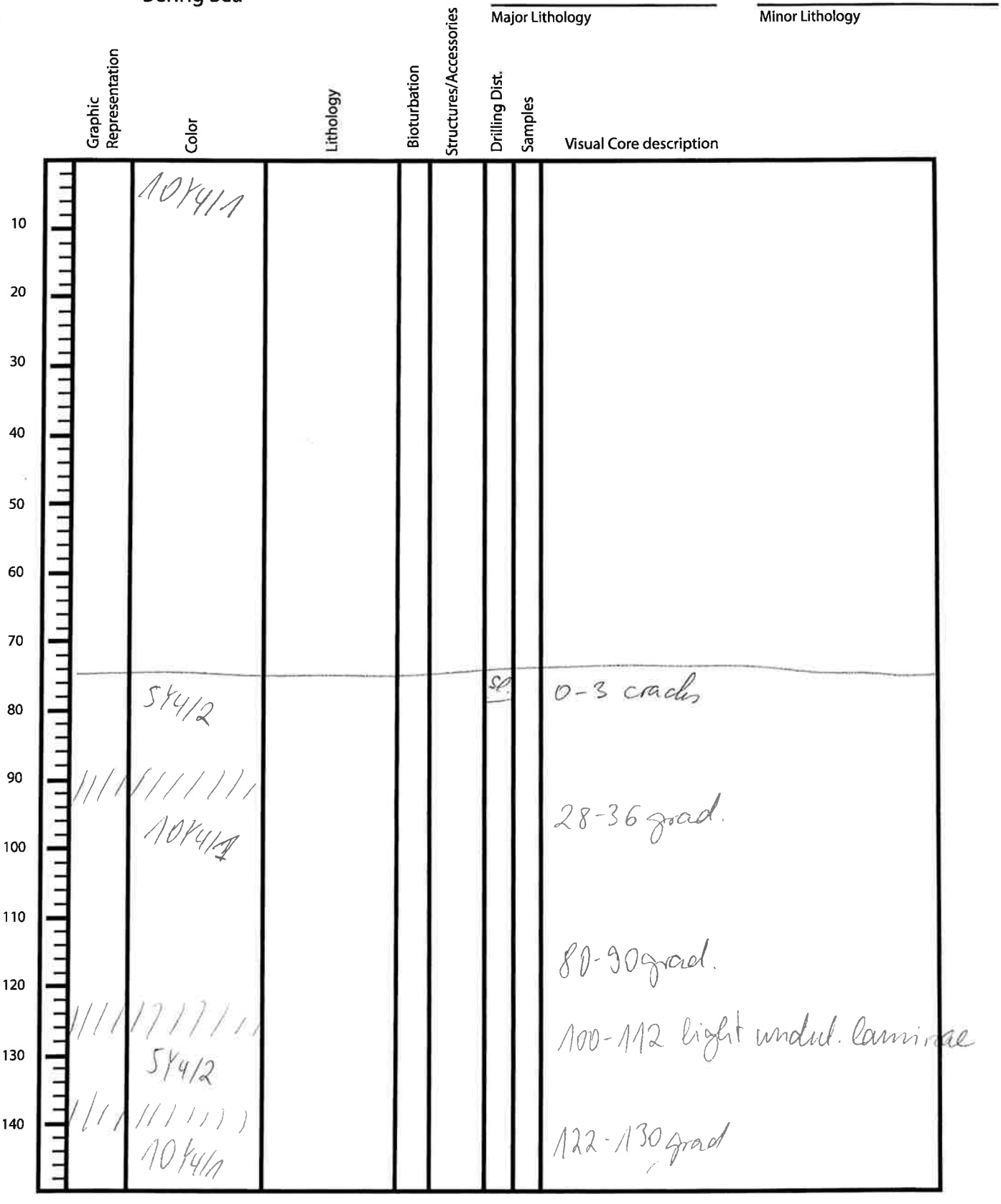


Observer: ____ Date: ____

1341 C 19H 5+6 ____
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology ____ Minor Lithology ____



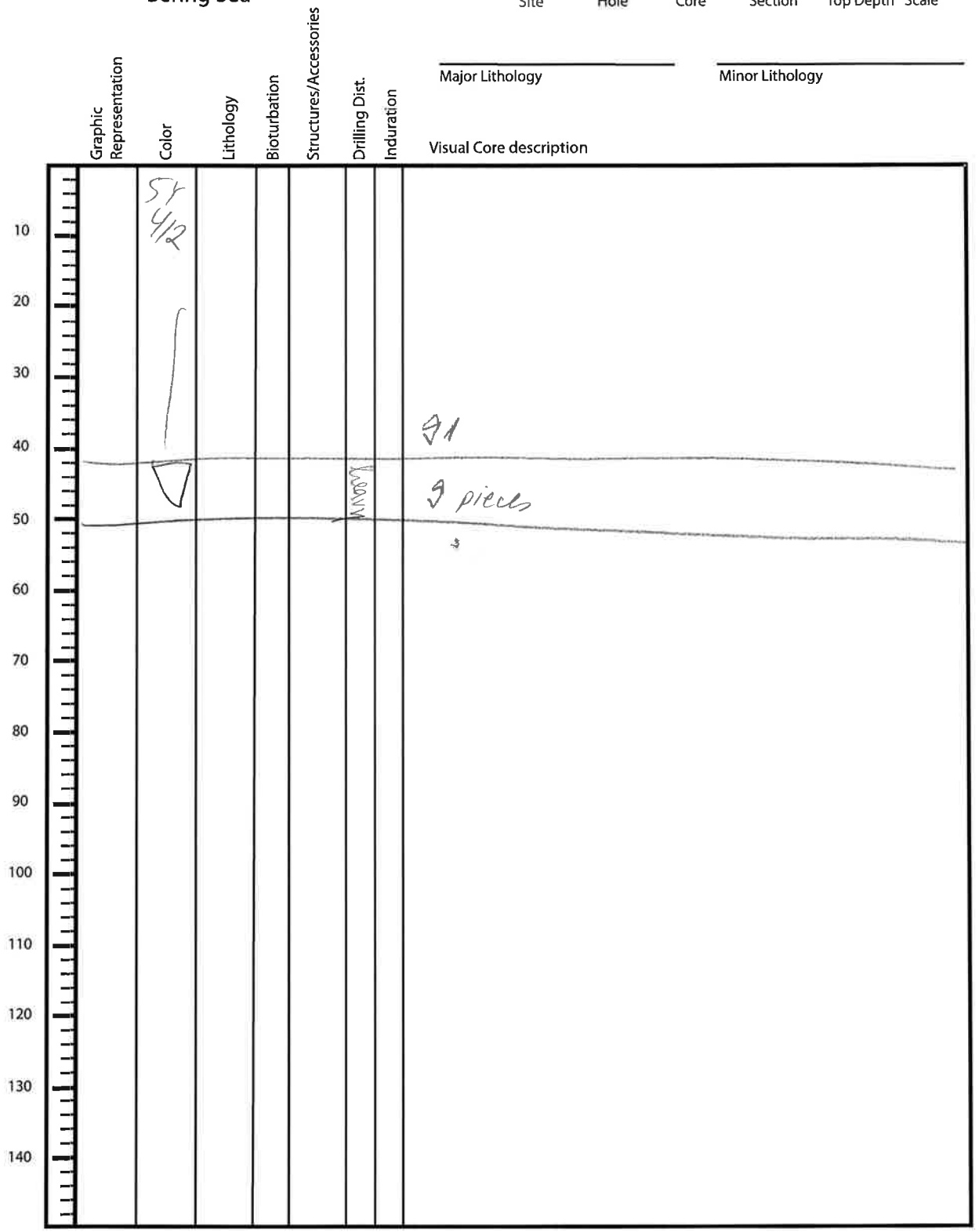
Observer: ____ Date: ____

Expedition 323
Bering Sea

1341 C 19H 7+cc
Site Hole Core Section Top Depth Scale

Major Lithology

Minor Lithology



Observer: _____ Date: _____

Expedition 323
Bering Sea

Site	Hole	Core	Section	Top Depth	Scale
1341	C	20H	1-4		

Major Lithology

Minor Lithology

X. Lith D.O. = Diatom Ooze
D.S. = Diatom Silt

Depth	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Visual Core description
0–10		10Y 5/1	D.S. 10		Mott	10		Green Mott 0-10 10Y 5/1 → 0-10 Green Mottling
10–62		5Y 4/1	D.O. 62					10-62 5Y 4/1
62–150		5Y 4/2	Diatom ooze					1
		5Y 4/1	1A					
		5Y 4/2	D.O. 150					2
0–150		10Y 4/1	D.S. 54					3
		5Y 4/2	D.O. 150					
0–150		10Y 4/1	D.S. 50					4
		5Y 4/2	D.O. 150					

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

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	1341	C	19H		2	40	40

Sediment/Rock Name	Diatom Ooze	Observer	Hino

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 6
	Framework minerals
6 + 0/0	Quartz 1
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 94
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
20 0/0	Centric ≤3
64 0/0	Pennate 10
	Chaetoceros Resting Spores
n 0/0	Silicoflagellates ≤1
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

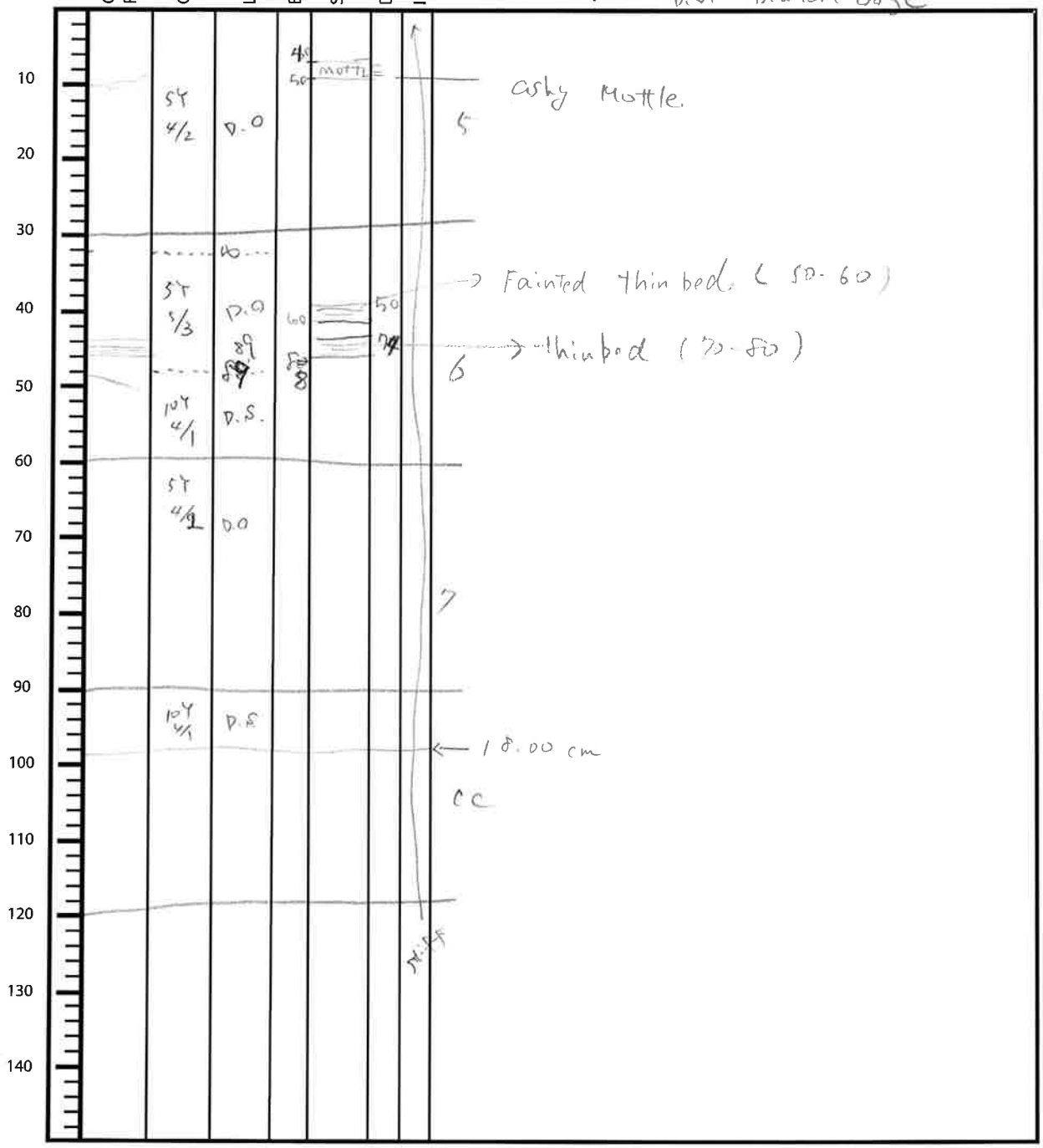
Expedition 323
Bering Sea

1341 C 20H 5-CC
Site Hole Core Section Top Depth Scale

Major Lithology Minor Lithology

Visual Core description

D.S. Diatom Silt
D.O. Diatom Ooze



Observer: _____ Date: _____

SM

3 + 6

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
			20H		3	10	12

Sediment/Rock Name	Diatom Ooze	Observer	

Percent Texture		
Sand	Silt	Clay

Comments: gray

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
10	Quartz 5
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments 0
	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
	Vitric grain 1
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
60	Centric 20
30	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
			201H		5	20	22

Sediment/Rock Name	Diatom Ooze	Observer	HA

Percent Texture		
Sand	Silt	Clay

Comments: Olive Litho.

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 14
	Framework minerals
11	Quartz 2
3	Feldspar 1 5
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS ~~86~~ 86
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
57	Centric 10
29	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

5M

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	20H		6	20	20

Sediment/Rock Name	Diatom Ooze	Observer	H.A

Percent Texture		
Sand	Silt	Clay

Comments:

31 %

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~~~
	Framework minerals
24 ~~10~~	Quartz 17
7	Feldspar 2
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS ~~70~~ 69
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
34	Centric 10
33 ~~34~~	Pennate 10
	Chaetoceros Resting Spores
	Silicoflagellates
2	Sponge spicules 0.5
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Expedition 323
Bering Sea

Site	Hole	Core	Section	Top Depth	Scale
1341	C	2H	1-4		

Major Lithology

Minor Lithology

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Visual Core description
10								Crack (53.00)
20		5Y 4/2		SP		90 93		1 90-93 VOID (
40		5Y 6/2						36cm pebble 1.0cm subrounded Black (N 2.5)
50			90		Mott	104 119 143		2 ash (104cm) Black (N 2.5) patch.
60		10Y 4/1						(151) 119 (ash) Mott ~143 Mott (N 2.5)
70		10Y 4/1		SP				3
80		5Y 4/3	93					
90								(151)
100		5Y 4/2			Mott			4 · 54-57. ashy patch (Black N2.5)
110		5Y 5/2	80					

Observer: Hiro

Date:

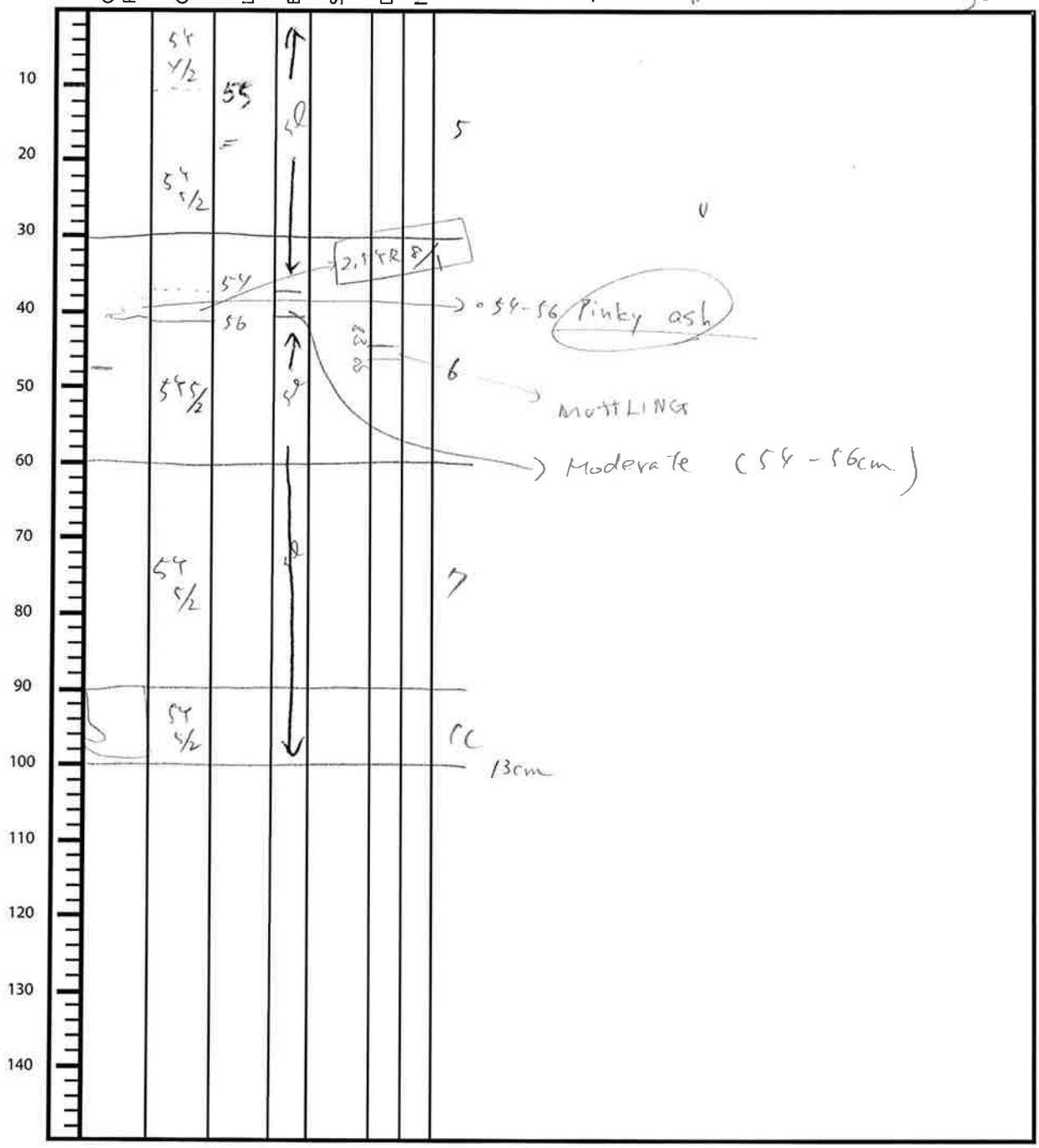
Expedition 323
Bering Sea

Site	Hole	Core	Section	Top Depth	Scale
1341	C	2H	5-CC		

Major Lithology | Minor Lithology

D.S. = Diatom Silt
D.O. = Diatom Ooze

Visual Core description



Observer: Hiro Date:

in SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1341	C	21	H	3	60	60

Sediment/Rock Name	Sponge-spicule-bearing diatom silt	Observer	

	Percent Texture		
	Sand	Silt	Clay
S	5	90	5

Comments: Main lithology

Percent	Component
50	**SILICICLASTIC GRAINS/MINERAL**
	Framework minerals
15	Quartz
17	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
3	Fe-oxide
	Carbonates
	Calcite
	Dolomite
2	**VOLCANICLASTIC GRAINS**
	Crystal grain
2	Vitric grain
	Lithic grain

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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

in SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1341	C	21	H	7	30	30

Sediment/Rock Name	Diatom-rich silt	Observer	

	Percent Texture		
	Sand	Silt	Clay
S	2	96	2

Comments: Main lithology

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

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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

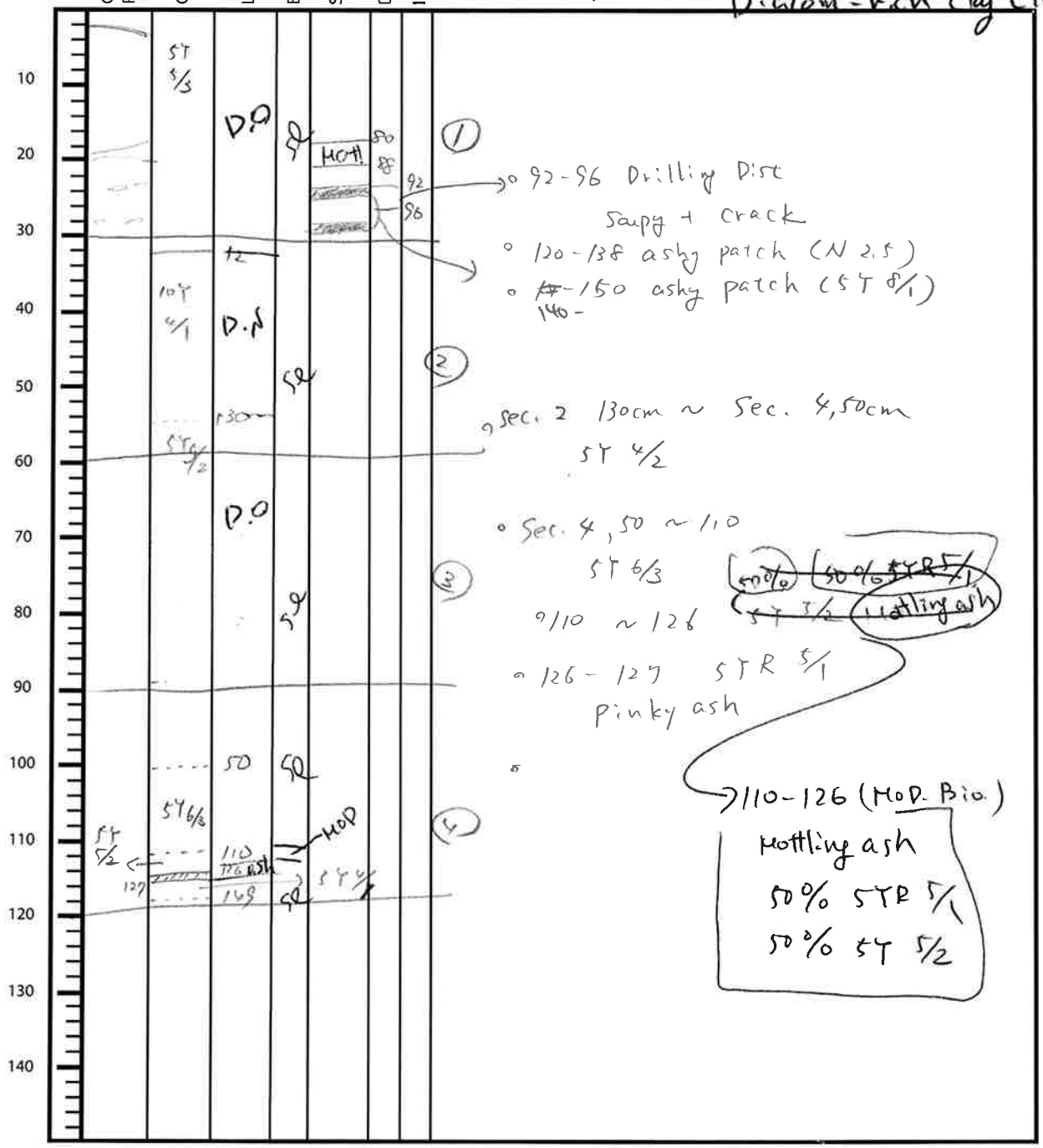
Expedition 323
Bering Sea

1341 | C | 23H | 1-4 | | |
Site | Hole | Core | Section | Top Depth | Scale

Major Lithology | Minor Lithology

Diatom ooze (5Y 4/3, 5/2 6/1)
↓
Diatom-rich clay (10Y 4/1)

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



- 92-96 Drilling Dist
  Soupy + crack
- 120-138 ashy patch (N 2.5)
- ~~140~~ 150 ashy patch (5Y 8/1)
- Sec. 2 130cm ~ Sec. 4, 50cm
  5Y 4/2
- Sec. 4, 50 ~ 110
  5Y 6/3
- 110 ~ 126
- 126-127 5YR 5/1
  pinky ash
- ~~50% 5YR 5/1~~ ~~50% 5Y 5/2~~ mottling ash
- 110-126 (Mod. Bio.)
  mottling ash
  50% 5YR 5/1
  50% 5Y 5/2

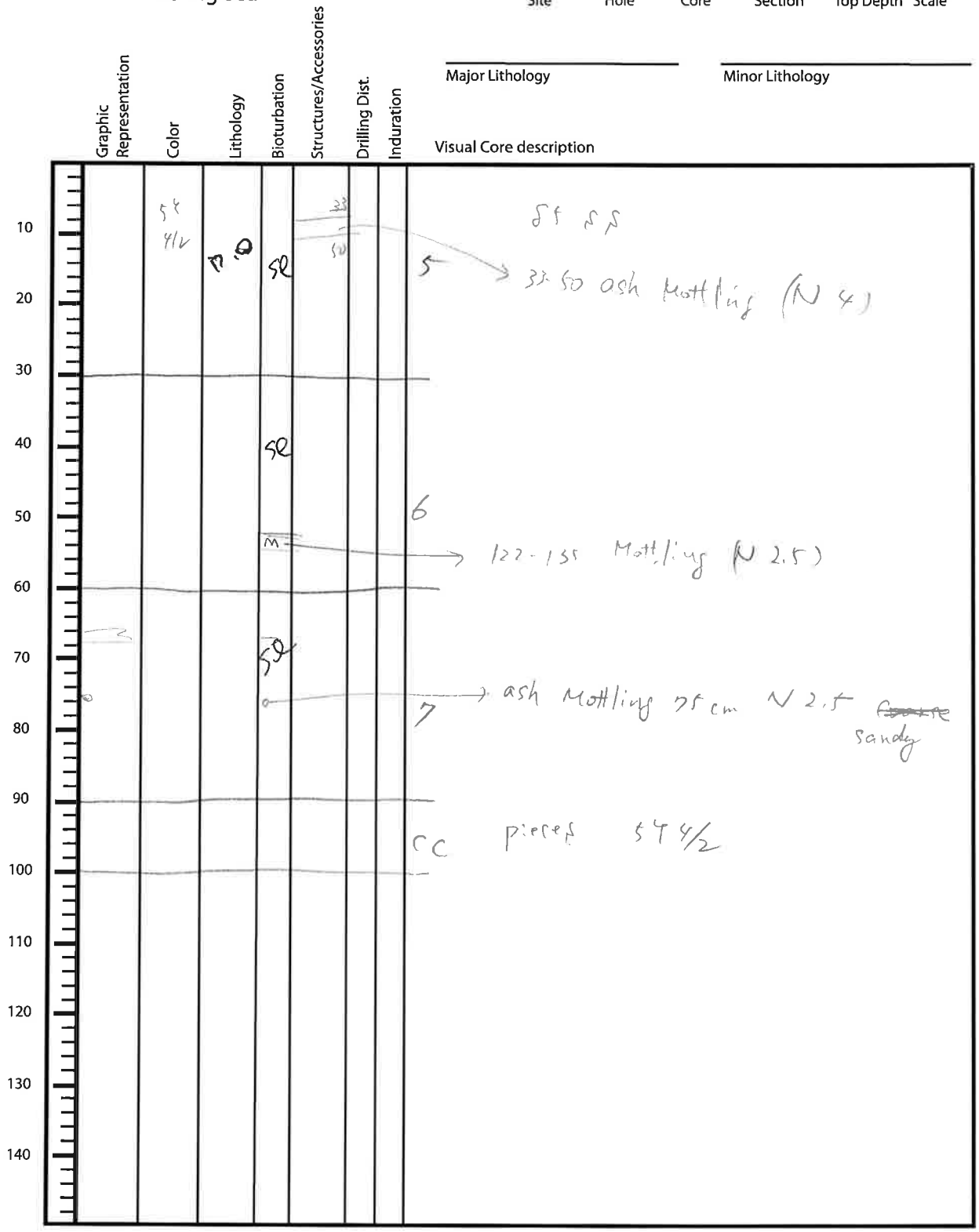
Observer: Hino | Date:

Expedition 323
Bering Sea

323 / 134J / 23H / ____ / ____ / ____

Site / Hole / Core / Section / Top Depth / Scale

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	U1341	C	23	H	2	75	75

Sediment/Rock Name	Diatom-rich Silty Clay	Observer	Hino

Percent Texture		
Sand	Silt	Clay
10	60	30

Comments: Mari rich (grey)

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 68%
	Framework minerals
60%	Quartz 15
8%	Feldspar 2
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 32%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
8%	Centric 2
20%	Pennate ~~10~~ 5
	Chaetoceros Resting Spores
	Silicoflagellates
4%	Sponge spicules /
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1341	C	23	H	5	85	85

Sediment/Rock Name	Diatom Ooze	Observer	Hino

Percent Texture		
Sand	Silt	Clay

Comments: Mark pith (green)

Percent	Component
SILICICLASTIC GRAINS/MINERAL 13%	
	Framework minerals
13%	Quartz 2
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
	Vitric grain
	Lithic grain

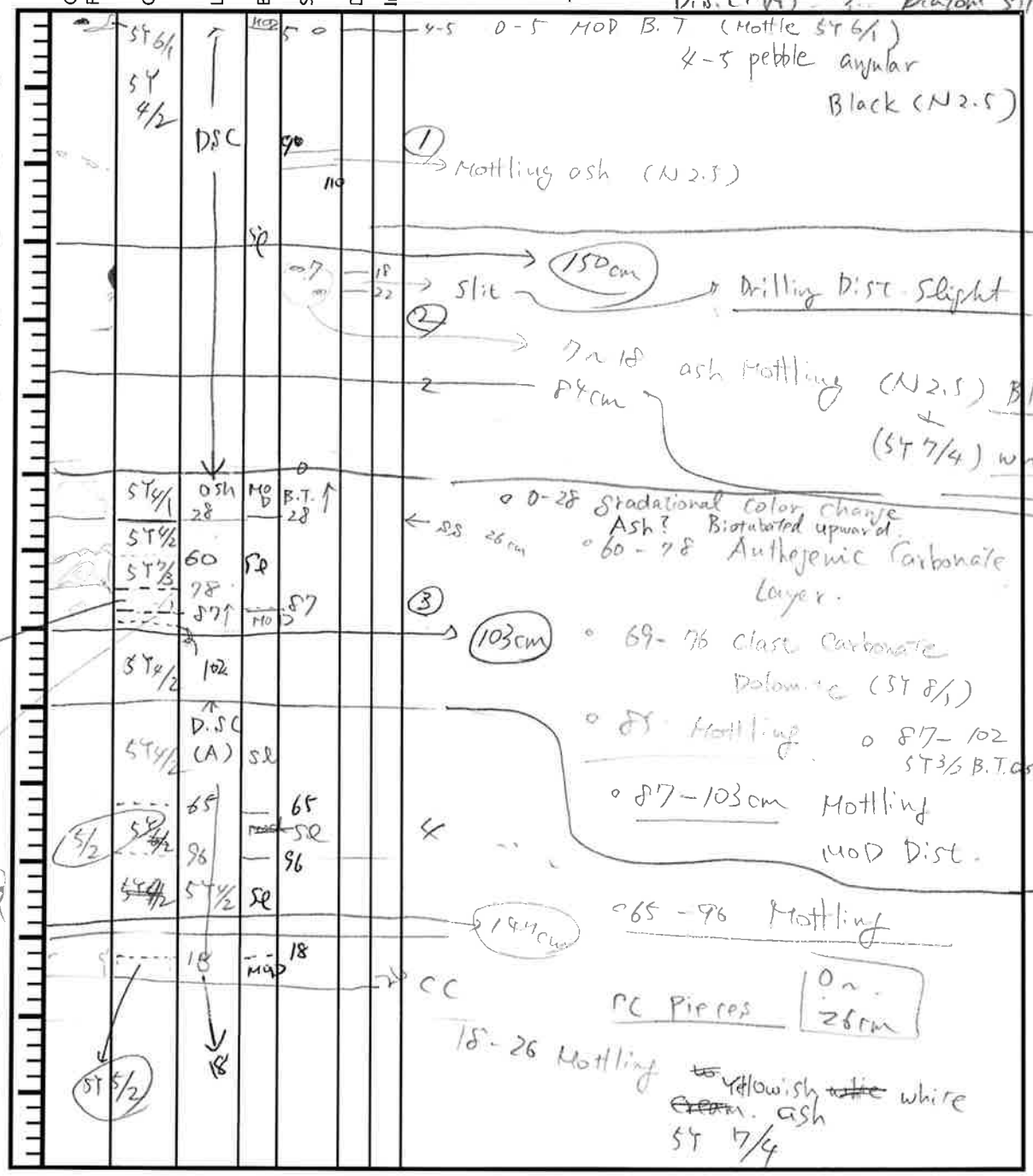
Percent	Component
BIOGENIC GRAINS 87%	
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
67%	10 Centric
20%	3 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

1341	C	24H	1-4+CC		
Site	Hole	Core	Section	Top Depth	Scale

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	U1341	C	24	H	3	26	26

Sediment/Rock Name	Diatom Silty Clay	Observer	

Percent Texture		
Sand	Silt	Clay
20	65	20
17	~~15~~ 25	6

Comments: Grey layer (5Y 4/1)

Percent	Component
	SILICICLASTIC GRAINS/MINERAL ~~54~~
	Framework minerals
41%	Quartz 12 15
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
43%	Rock fragments /
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
8%	Pyrite 3
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
1%	Vitric grain 0.5
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 46%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
27%	30 Centric
19%	5 7 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1341	C	24	H	3	71	71

Sediment/Rock Name	Diatom-rich Silty Clay (Auth. Carb.)	Observer	Hiro

Percent Texture		
Sand	Silt	Clay
5	30	65

Comments: Carbonati

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 7 1/0
	Framework minerals
2%	Quartz 0.5
	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
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
69 70%	Calcite 20
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS 29%
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
18	≈5 Centric
11	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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	U1341	C	24	H	4	81	81

Sediment/Rock Name	Observer
Diatom silty Clay (Auth. Carb.)	

Percent Texture		
Sand	Silt	Clay
20	30	50
5	10	15

Comments: Main lithology (5Y 5/2)

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 52
	Framework minerals
3	Quartz /
3	Feldspar /
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
3	Ferromagnesium minerals /
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
42	Calcite 15
	Dolomite
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

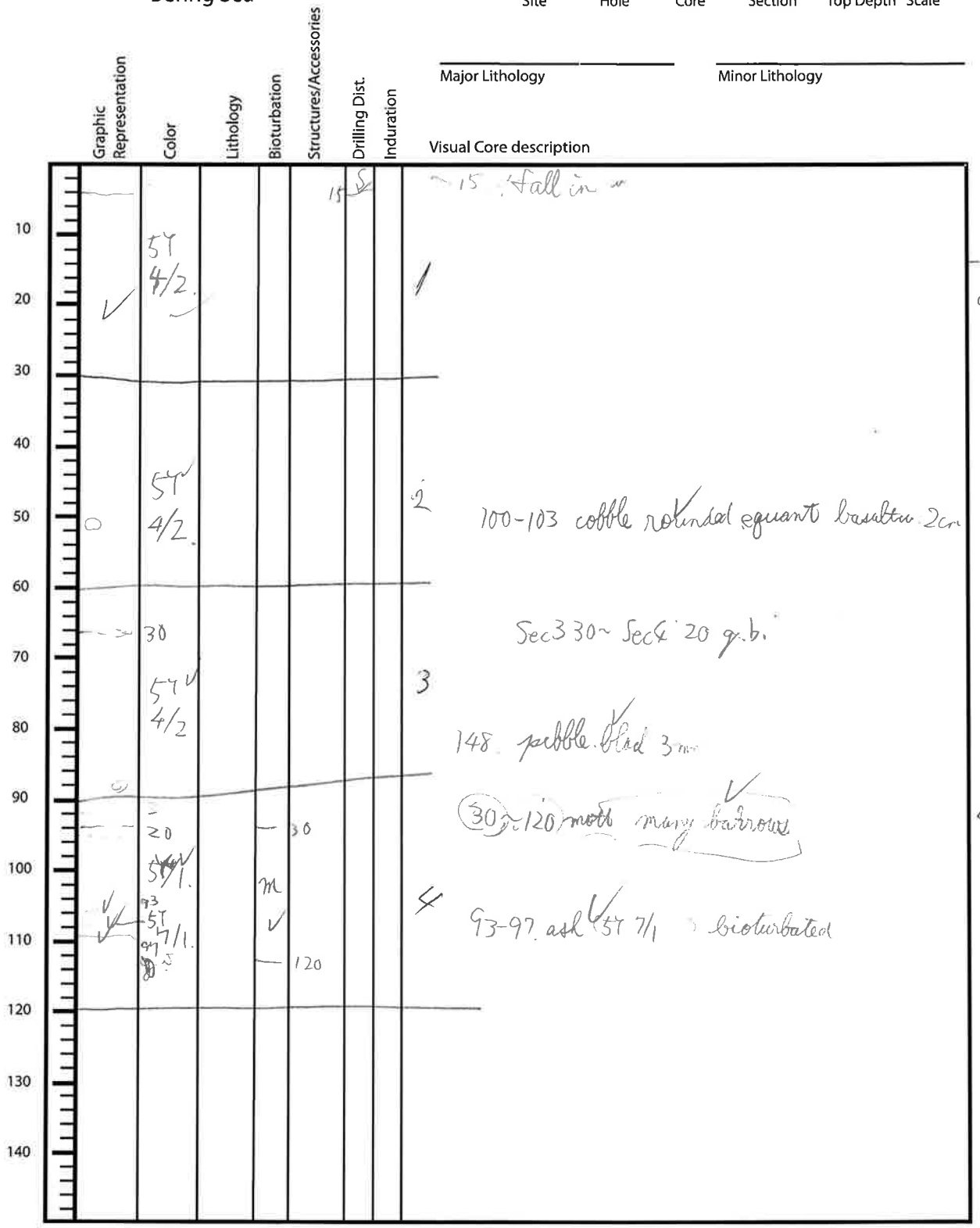
Percent	Component
	BIOGENIC GRAINS 49
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
43	15 Centric
3	1 Pennate
(3)	1 *Chaetoceros* Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

1341 | C | 25 | | | |
Site | Hole | Core | Section | Top Depth | Scale

Major Lithology | Minor Lithology



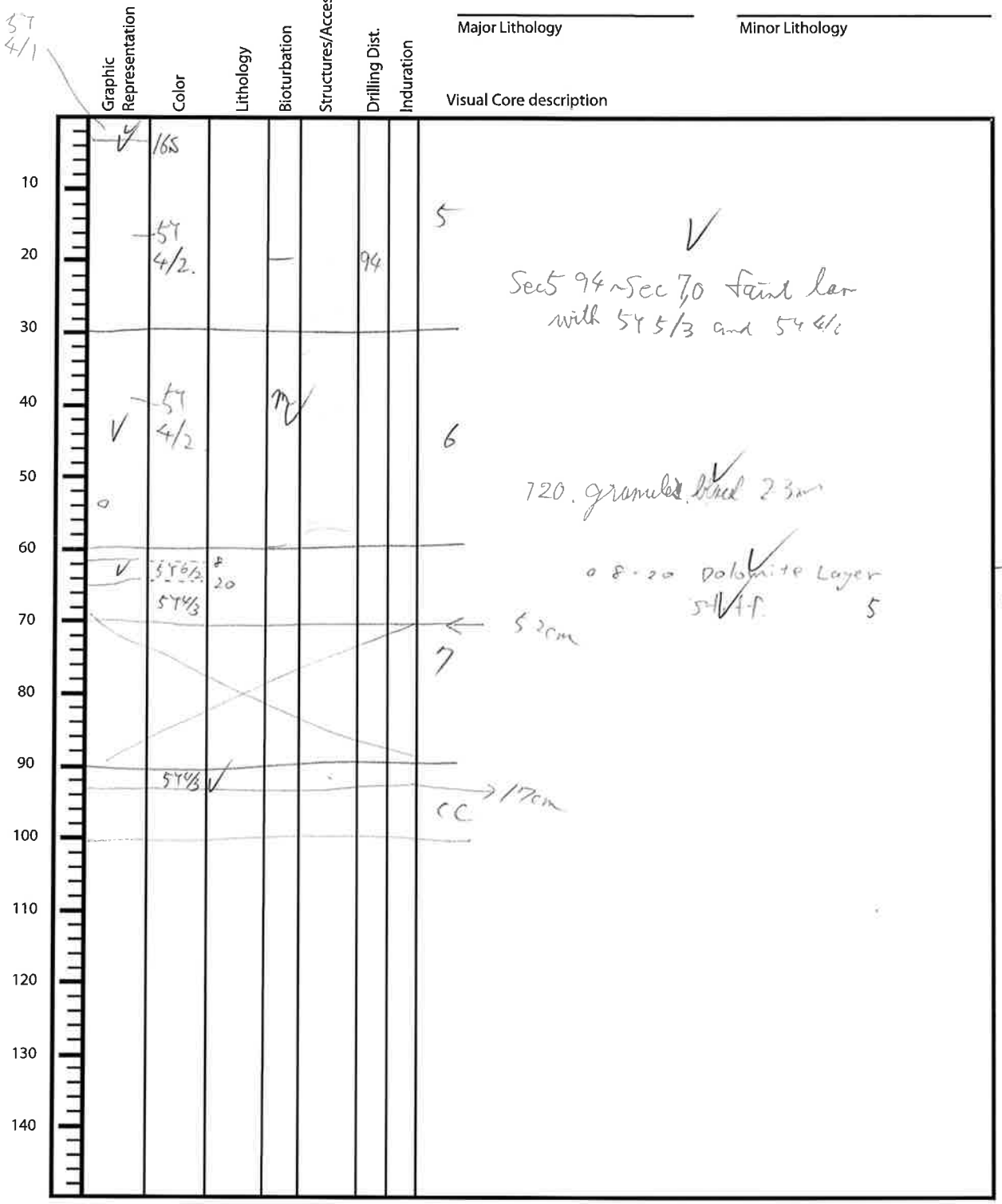
Observer: _____ Date: _____

Expedition 323
Bering Sea

Site	Hole	Core	Section	Top Depth	Scale
	1346	25	5-CC		

Major Lithology

Minor Lithology



Observer: _____ Date: _____

5M

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	25		1	80	

Sediment/Rock Name	DIATOM OOZE	Observer	IWF

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
12%	Framework minerals
7%	Quartz
5%	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
10%	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
5%	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
2%	X Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
55%	Diatoms
30%	Centric
25%	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
	1341	C	25		4	77	

Sediment/Rock Name	SPICULE-BEARING DIATOM-RICH SILT	Observer	

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
40% 20	Framework minerals
10% 5	Quartz
10% 5	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
2	Muscovite
5% 2	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
10% 5	Pyrite
	Magnetite
2	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
	X Radiolarians
	Spumellaria
	Nassellaria
35%	Diatoms
5	Centric
10	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
10% 5	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	25		7	14 cm	

Sediment/Rock Name	DOLOMITIZED DIATOM OOZE	Observer	rmh

Percent Texture		
Sand	Silt	Clay

Comments:

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

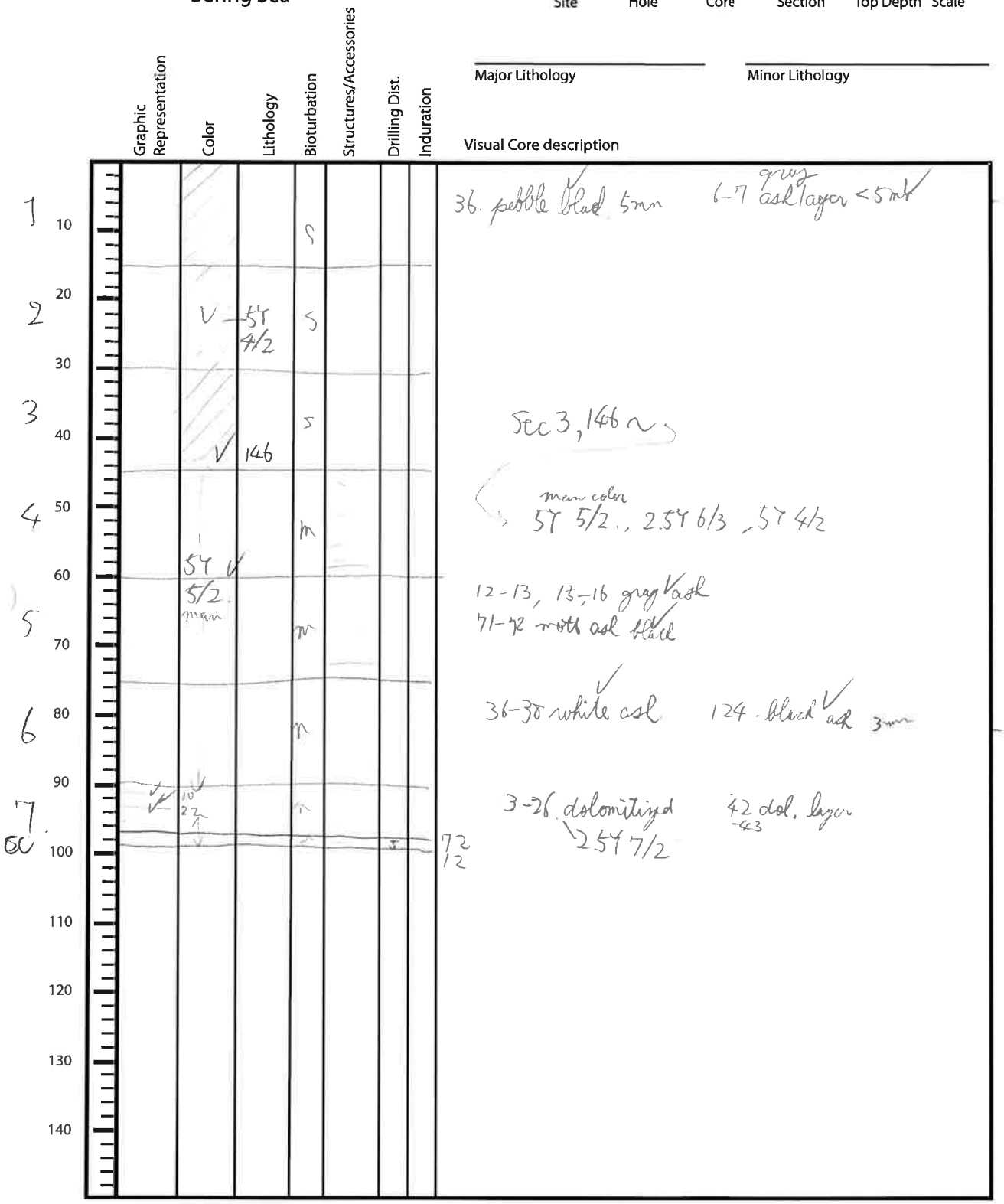
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
60%	Diatoms
40% 30	Centric
20% 10	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

1341 / Site | C / Hole | 26 / Core | ___ / Section | ___ / Top Depth | ___ / Scale

Major Lithology ___ Minor Lithology ___



Observer: ___ Date: ___

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	26		1	80 cm	

Sediment/Rock Name: DIATOM ~~OOZE~~ - RICH SILTY CLAY

Observer: LWA

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
10 %	5 Quartz
5 %	2 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
35 %	15 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
	Vitric grain
	Lithic grain

Percent	Component
BIOGENIC GRAINS	
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
60 %	30 Diatoms
20 %	10 Centric
40 %	20 Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
	1341	C	26		6	50 cm	

Sediment/Rock Name	DIATOM OOZE	Observer	IWA

Percent Texture		
Sand	Silt	Clay

Comments:

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
	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

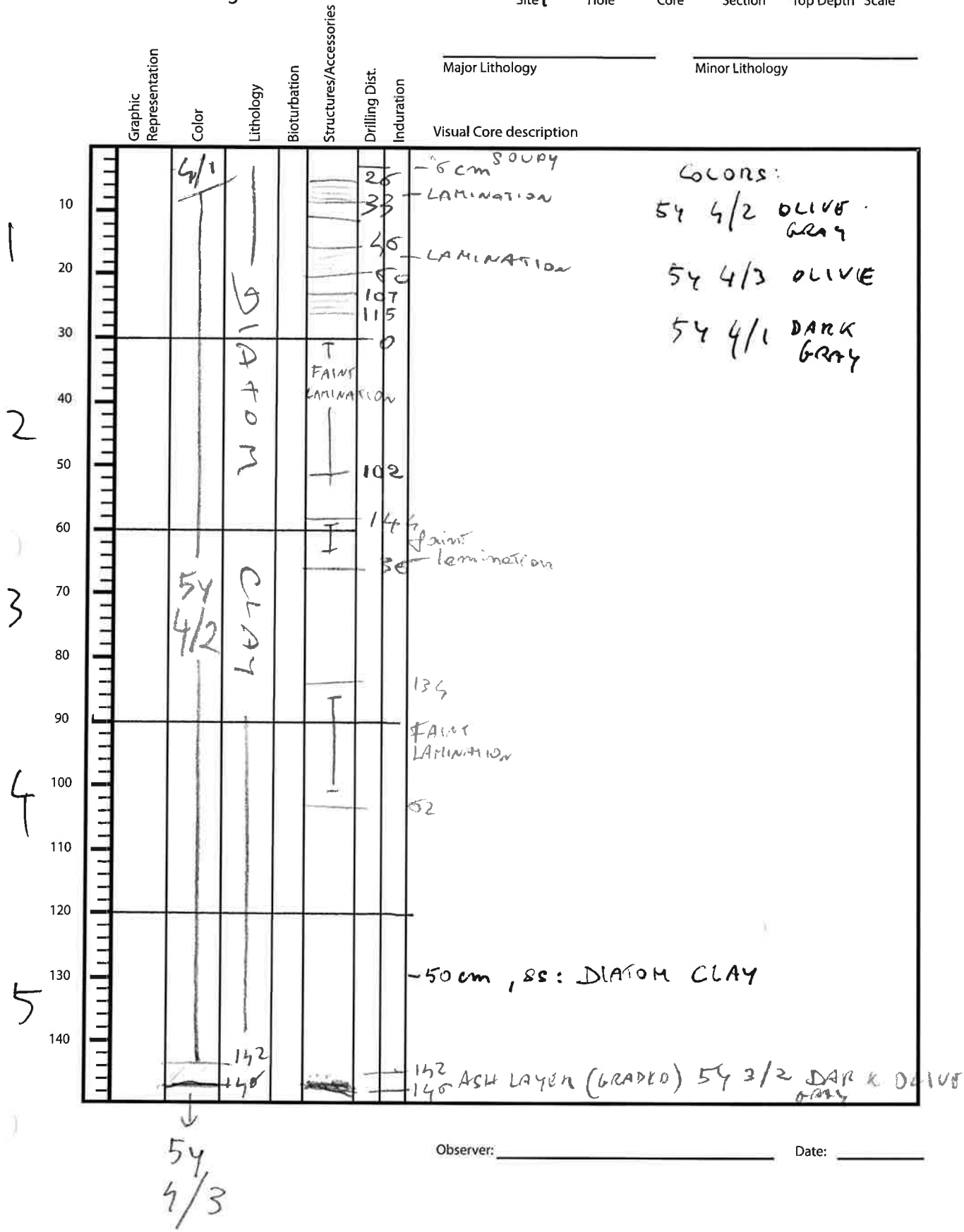
Percent	Component
	BIOGENIC GRAINS
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
78%.	Diatoms
40%.	Centric
38%.	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

1341 C ~~2X~~ 1-5 _____ _____
Site Hole Core Section Top Depth Scale

Major Lithology _____ Minor Lithology _____



Observer: _____ Date: _____

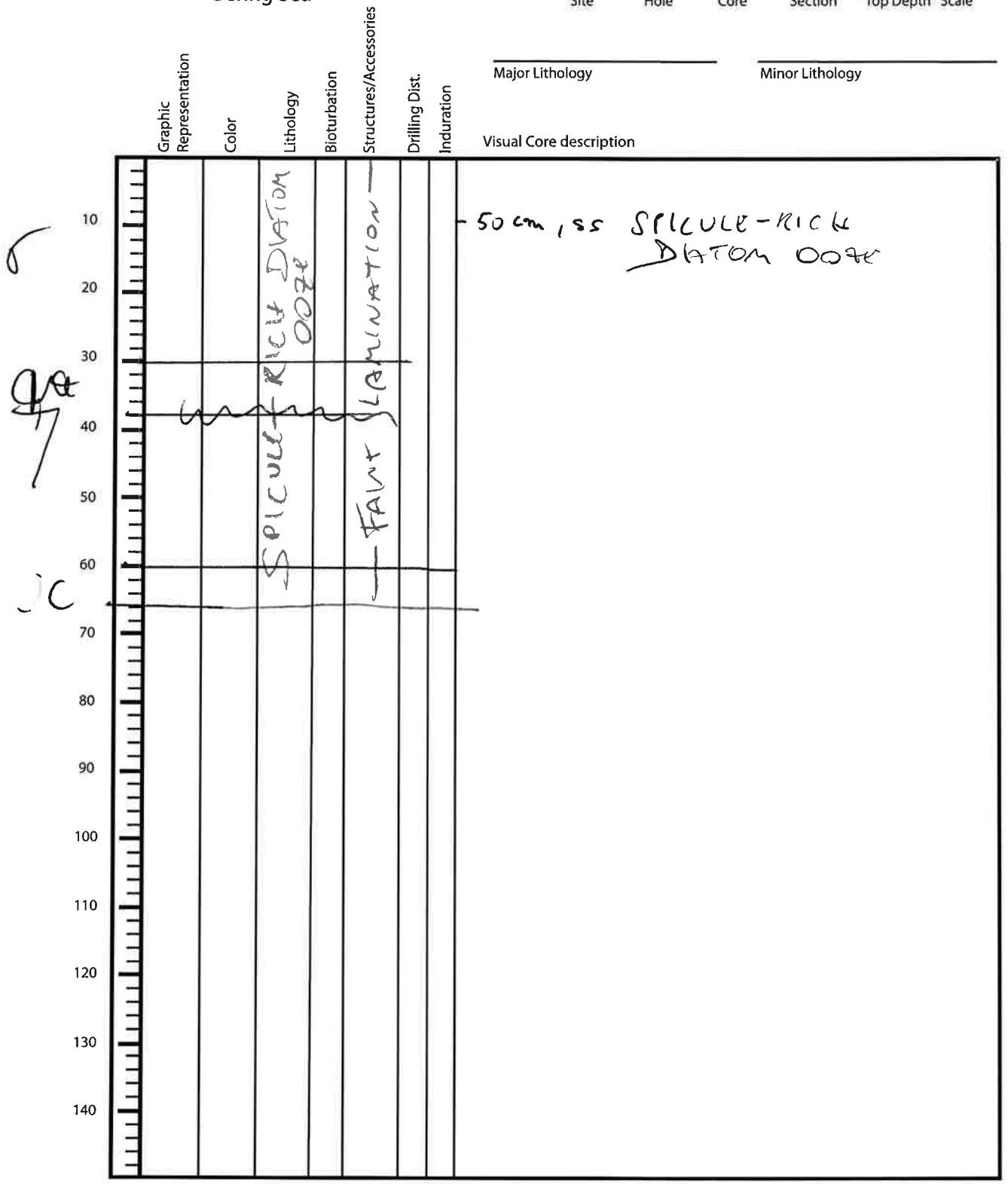
Expedition 323
Bering Sea

27X

1361 C ~~27~~ 6-CC

Site | Hole | Core | Section | Top Depth | Scale

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	1341	C	27	H	5	50	

Sediment/Rock Name	diatom clay	Observer	Cekora

Percent Texture		
Sand	Silt	Clay

Comments:

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

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

Fig. F1. Worksheet used to determine the sediment lithology when examining smear slides.

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1341	C	27	H	6A	50	

Sediment/Rock Name: diatom ooze
sponge spicule-rich

Observer: akira

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
12	Quartz 3
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
4	Micas 1
	Biotite
	Muscovite
	Clay Minerals
	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
60	Diatoms 15
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
12	Sponge spicules 3
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Expedition 323
Bering Sea

1342 A 1H 1+CC

Site	Hole	Core	Section	Top Depth	Scale
1342	A	1H	1+CC		

Major Lithology:

Minor Lithology:

Depth	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Visual Core description
0		5Y 4/4		S				
10	✓	9 - 2.5Y 3/2						9 – 23 ~~mott~~ ← 2.5Y 3/2 (bioturbated lam?)
20	✓	20 23		m				
50		5Y 4/2						
70	✓	68						
90				S				
110		10Y 4/1						
130								132–138 mott ash. brown
140								142–145 mott ash gray. coarse.
CC		12 ✓						

1A-4 diatom-rich foraminifera ooz

1A-16 foram-rich nanno diatom ooze

CC 12cm 12–20 PAL

Observer:

Date:

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	A	1	H	1A	4	

Sediment/Rock Name	diatom-rich foraminifera ooze	Observer	Akira

Percent Texture		
Sand	Silt	Clay

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
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
4	Crystal grain 1
8	Vitric grain 2
	Lithic grain

Percent	Component
BIOGENIC GRAINS	
	Calcareous
58	Foraminifera 150. (fragment ~~that~~)
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils V
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
19	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	1342	A	1	H	1	16	

Sediment/Rock Name	foraminifera-rich nannofossil / * diatom ooze	Observer	akira

Percent Texture		
Sand	Silt	Clay

Comments: brownish layer

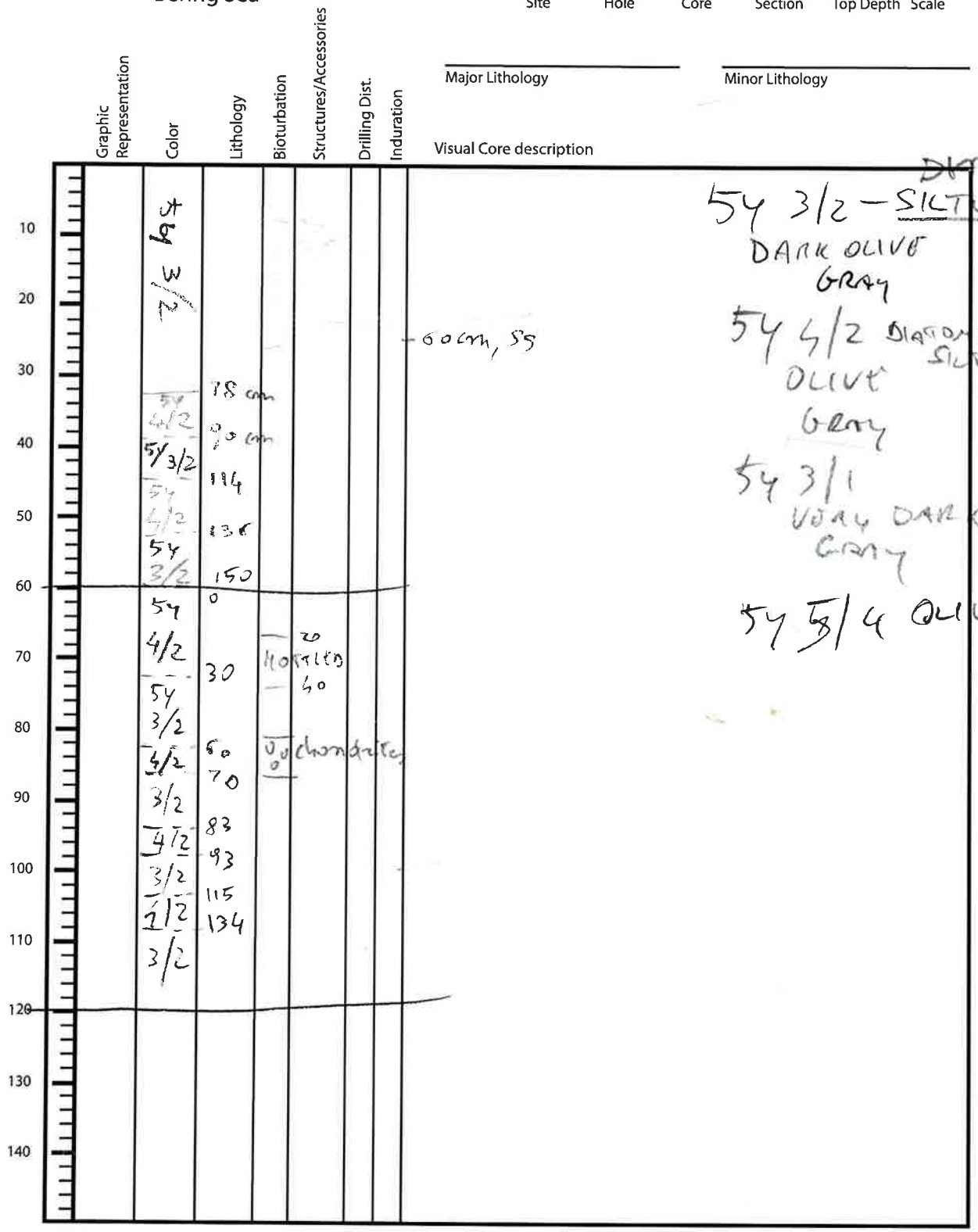
Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
4	Quartz 1.
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
12	Clay Minerals 3.
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic 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
8	Foraminifera 8 2
	Planktonic foraminifera
	Benthic foraminifera
38	Nannofossils 10
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
38	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

Expedition 323
Bering Sea

1342 A 2 1-2 ____ ____
Site Hole Core Section Top Depth Scale

Major Lithology ____ Minor Lithology ____

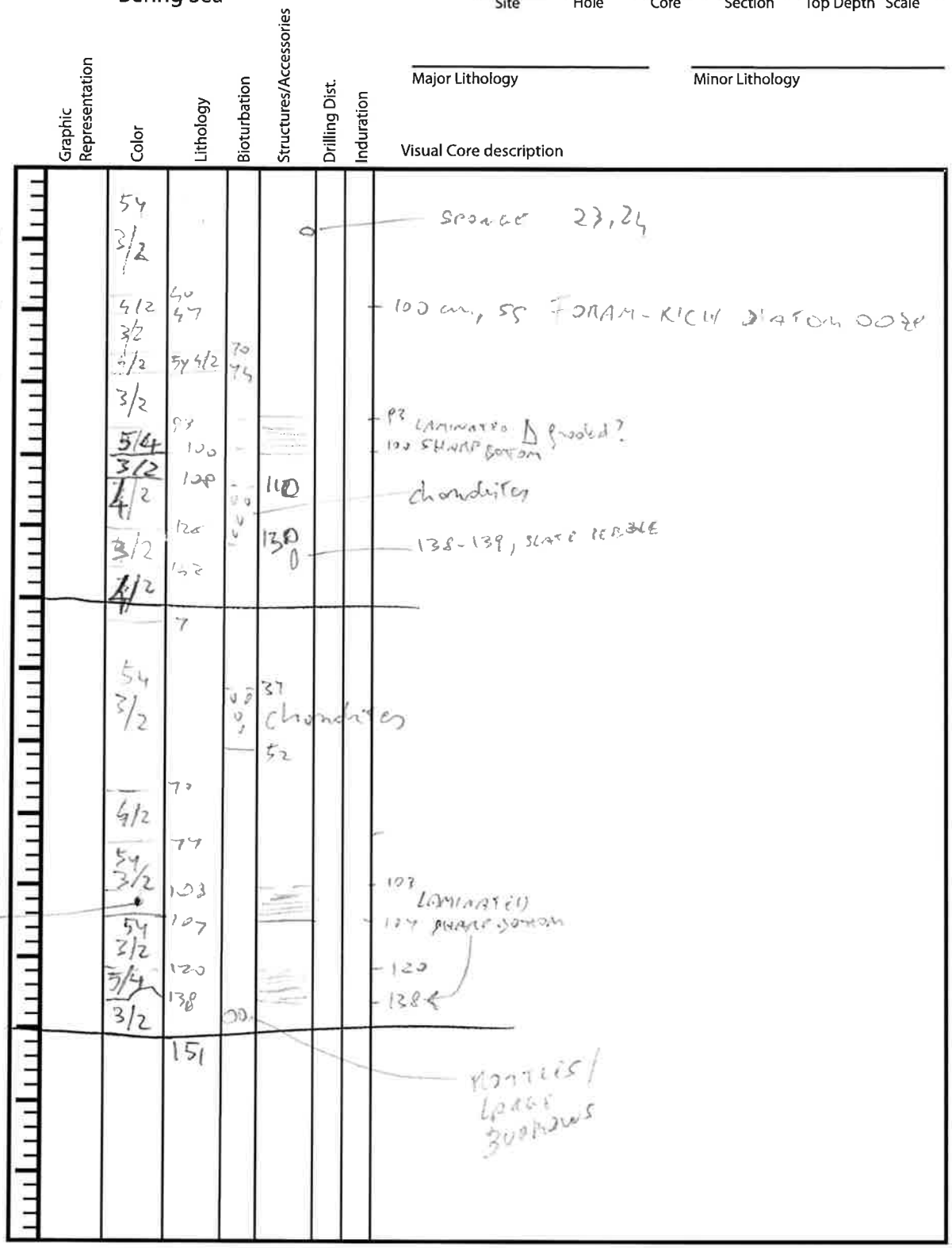


Observer: ____ Date: ____

Expedition 323
Bering Sea

1342 A 2 3-4
Site Hole Core Section Top Depth Scale

Major Lithology Minor Lithology

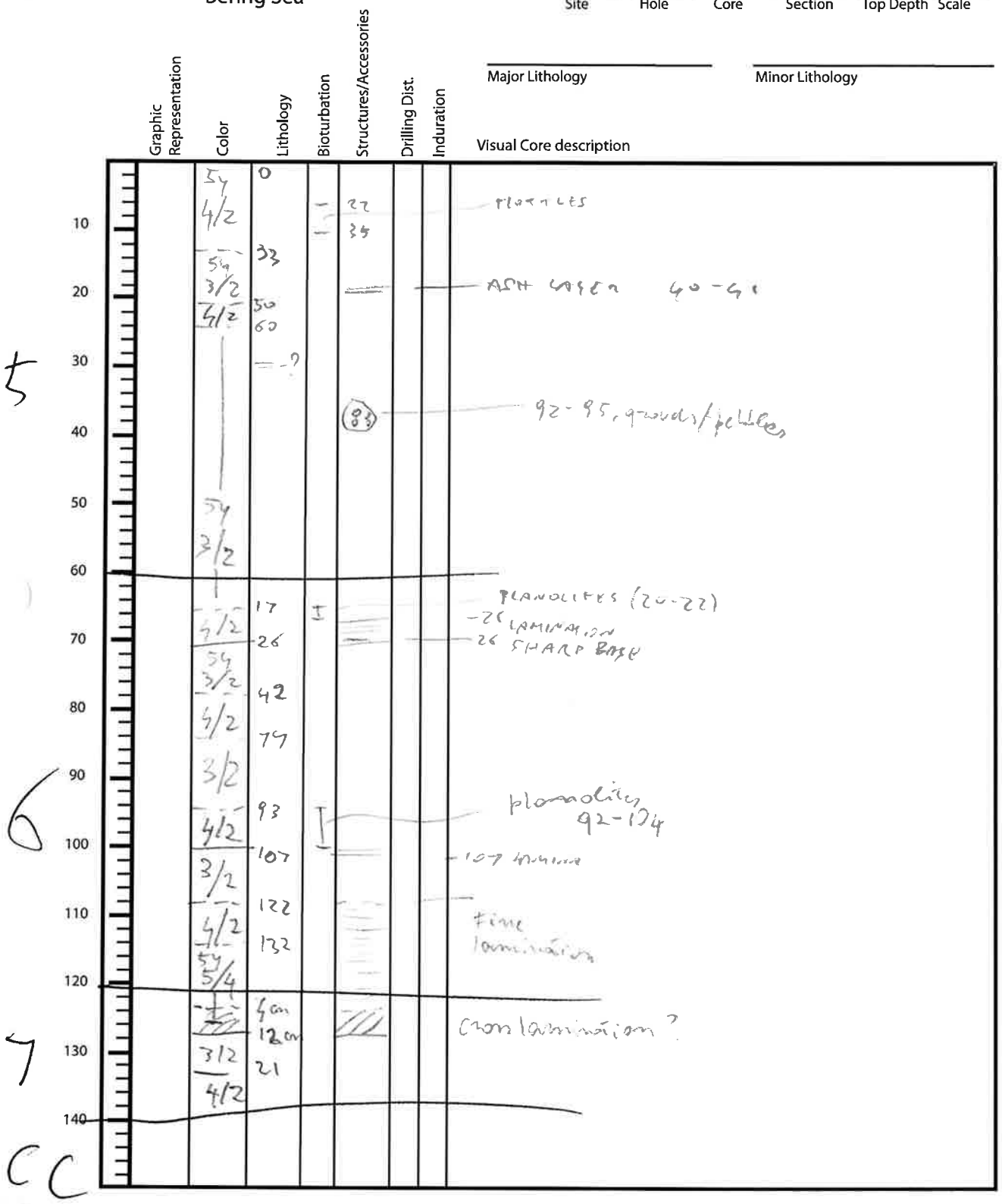


Observer: _____ Date: _____

Expedition 323
Bering Sea

1342 A 2 5-6 ____ ____
Site Hole Core Section Top Depth Scale

Major Lithology ____ Minor Lithology ____



Observer: ____ Date: ____

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1342	A	2	H	1	60	

Sediment/Rock Name	silty clay

Observer	Akira

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
30	Quartz 7
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
43	Clay Minerals 5-10
	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
13	Vitric grain 3
	Lithic grain

Percent	Component
BIOGENIC GRAINS	
	Calcareous
4	Foraminifera R 1
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
9	Diatoms 1 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	1342	A	2	H	3A	100	

Sediment/Rock Name	foram-rich diatom ooze	Observer	akira

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
C	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
8	Clay Minerals 2
	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
4	Vitric grain 1
	Lithic grain

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

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	A	2	H	4	5	

Sediment/Rock Name	diatom-rich silty clay	Observer	Akira

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
15	Quartz 3
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
15	Clay Minerals 3
	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
10	Vitric grain 2
	Lithic grain

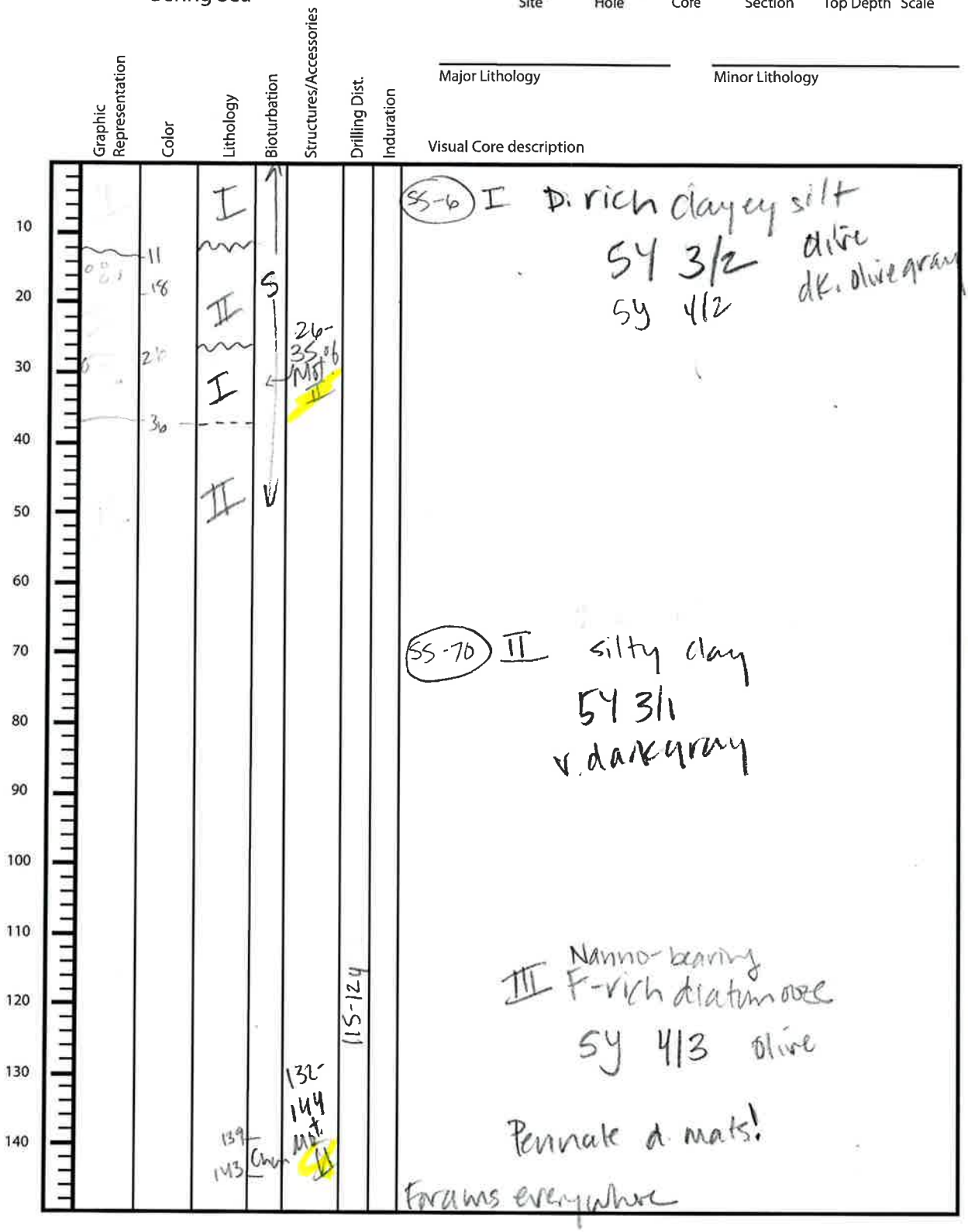
Percent	Component
BIOGENIC GRAINS	
	Calcareous
10	Foraminifera 2
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
50	Diatoms 70
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates ✓
	Sponge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

Expedition 323
Bering Sea

1342 A 3H 1A
Site Hole Core Section Top Depth Scale

Major Lithology

Minor Lithology

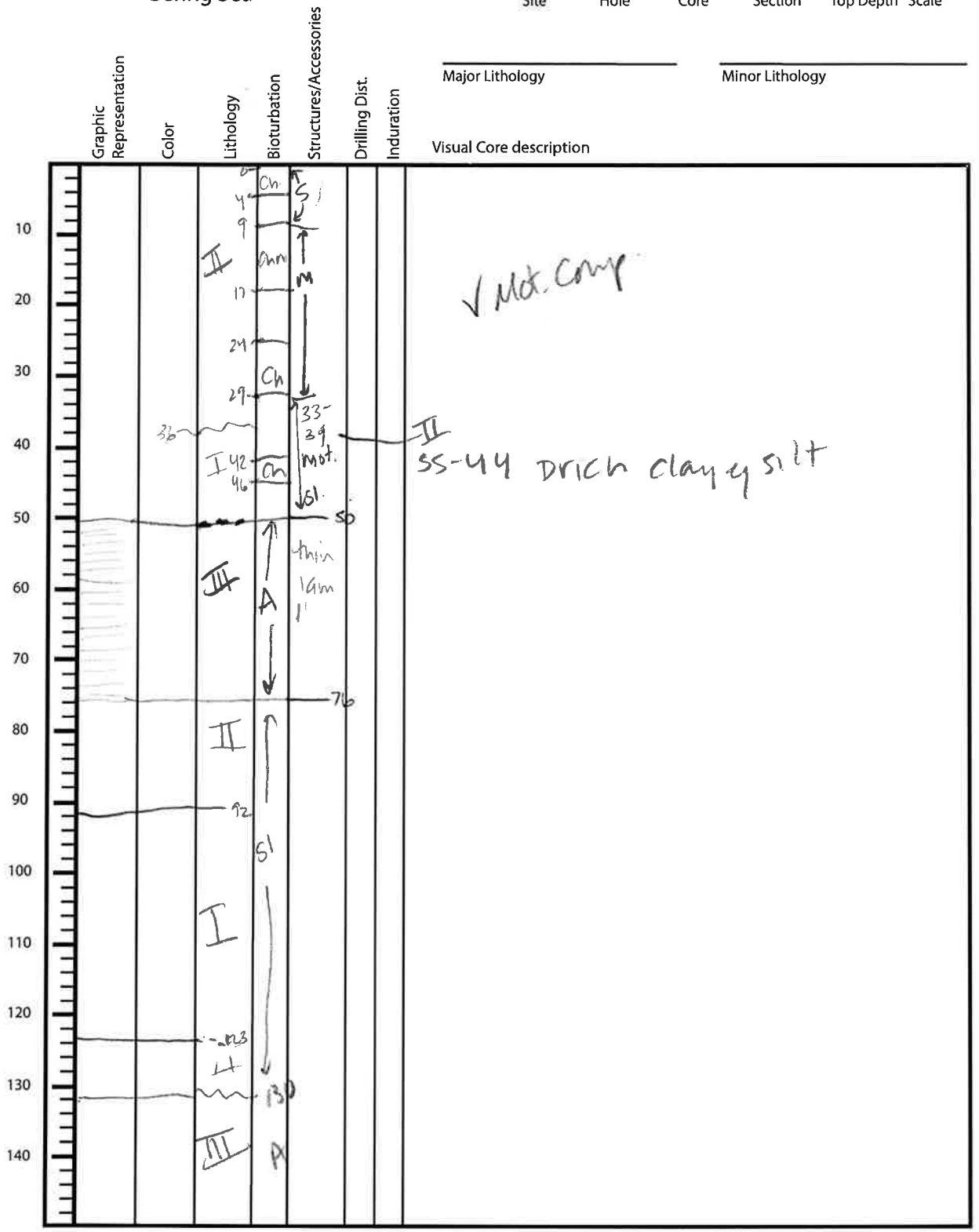


Observer: _____ Date: _____

Expedition 323
Bering Sea

U1342 | A | 3H | 2 | | |
Site | Hole | Core | Section | Top Depth | Scale

Major Lithology | Minor Lithology

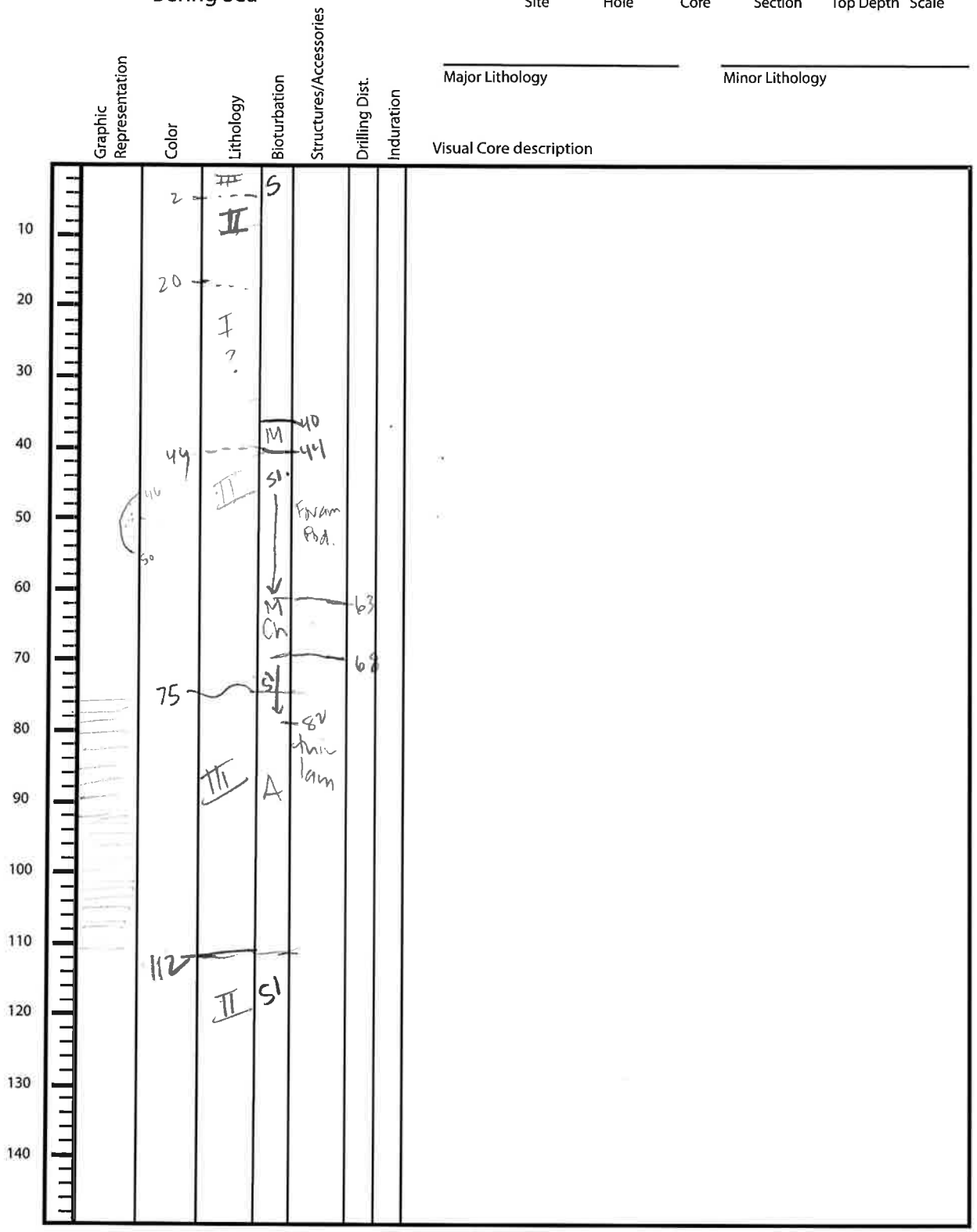


Observer: _____ Date: _____

Expedition 323
Bering Sea

V1342 | A | 3H | 3 | | |
Site | Hole | Core | Section | Top Depth | Scale

Major Lithology | Minor Lithology

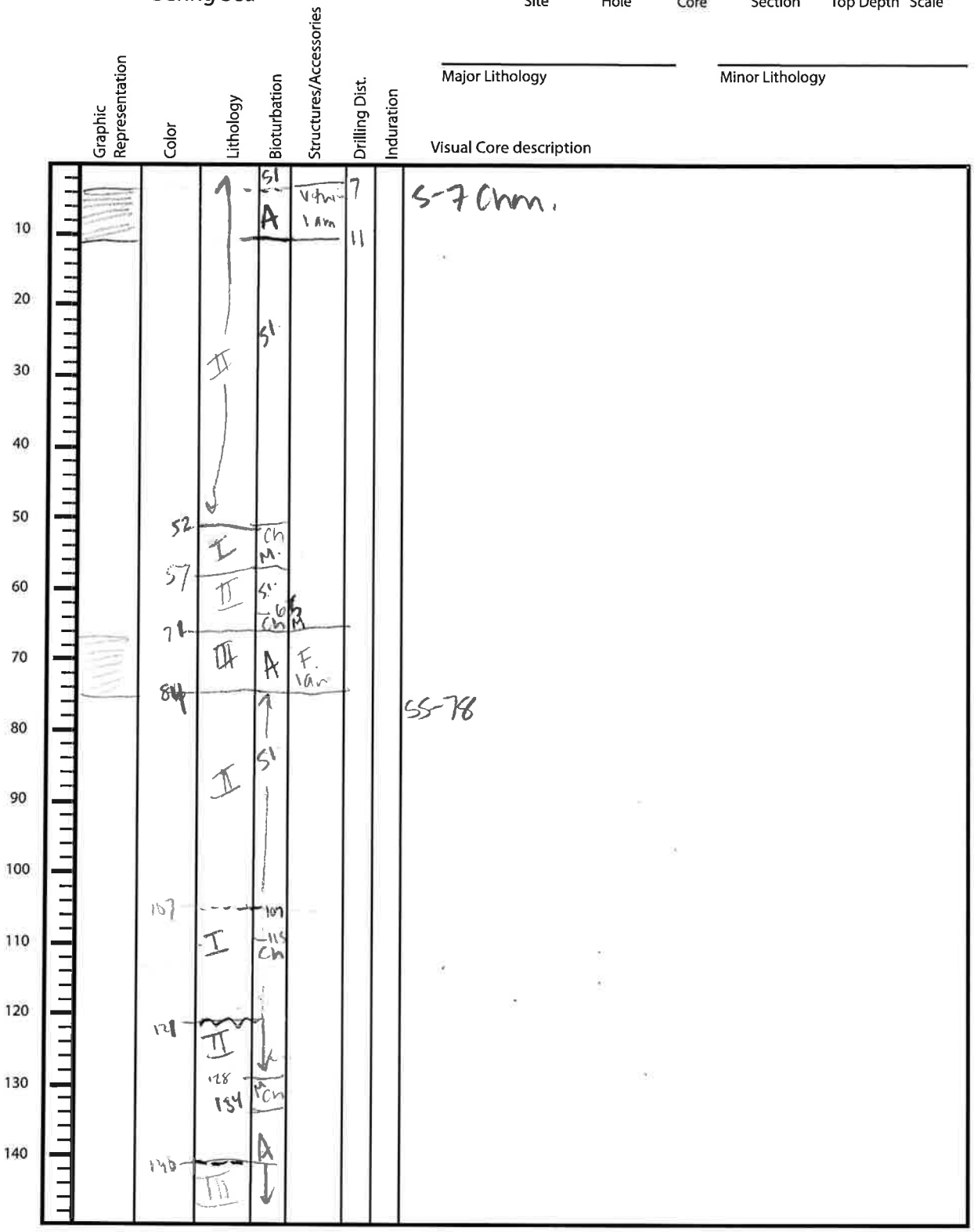


Observer: _____ Date: _____

Expedition 323
Bering Sea

U1342 ~~3~~A 3H 4
Site Hole Core Section Top Depth Scale

Major Lithology Minor Lithology

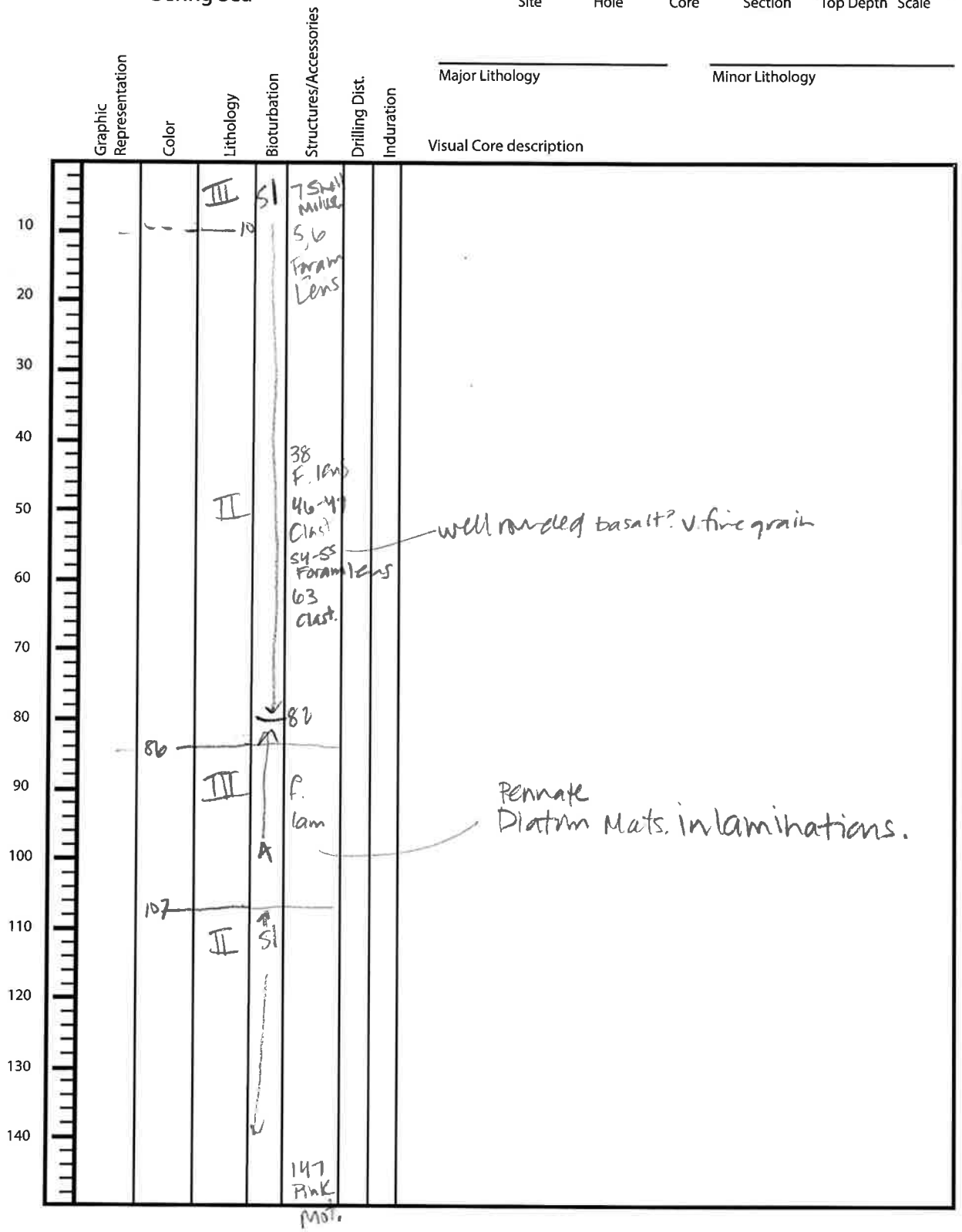


Observer: _____ Date: _____

Expedition 323
Bering Sea

U1342 A 34 5 ____ ____
Site Hole Core Section Top Depth Scale

Major Lithology ____ Minor Lithology ____

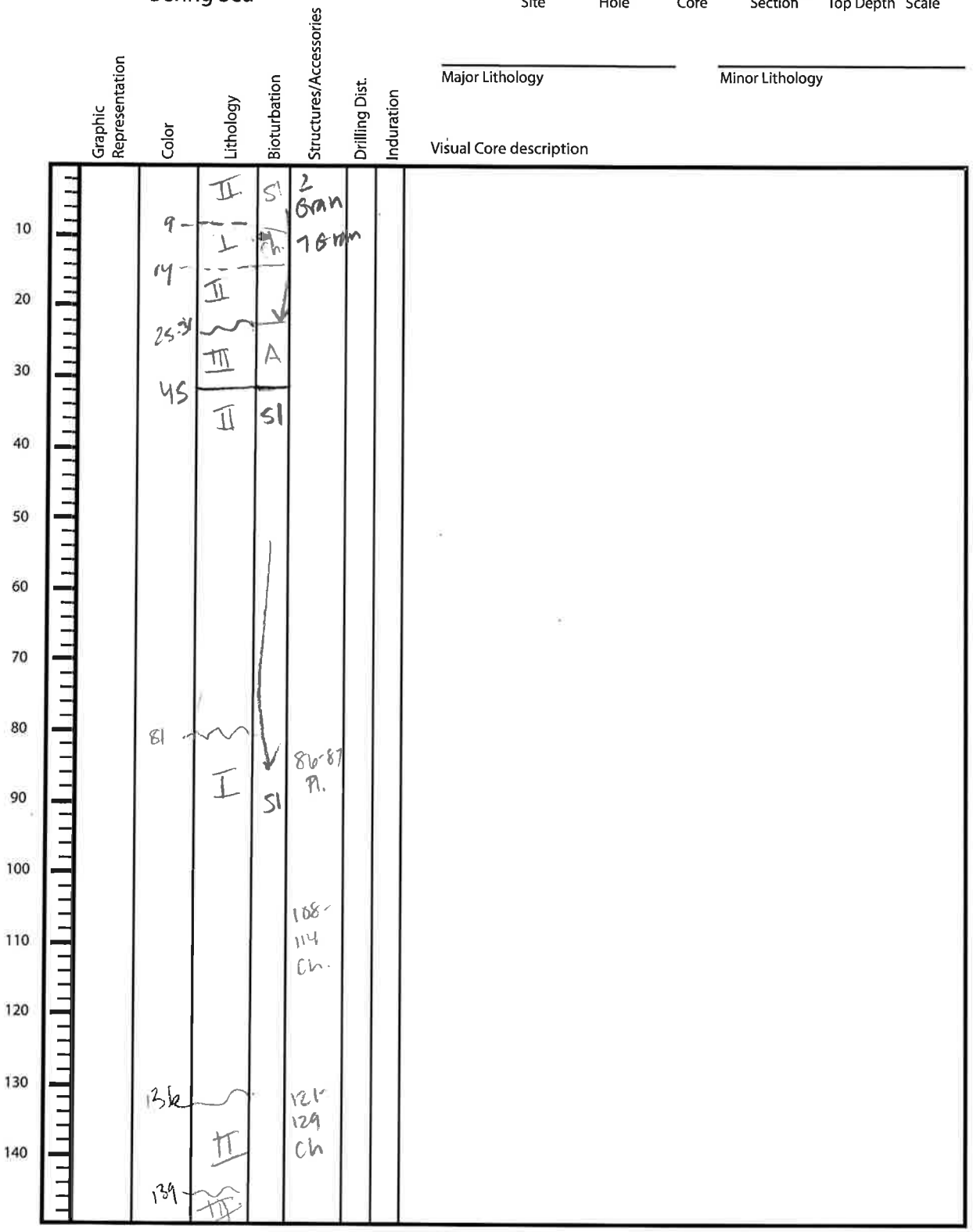


Observer: ____ Date: ____

Expedition 323
Bering Sea

U1342 | 3A | 27 | 6 | | |
Site | Hole | Core | Section | Top Depth | Scale

Major Lithology | Minor Lithology

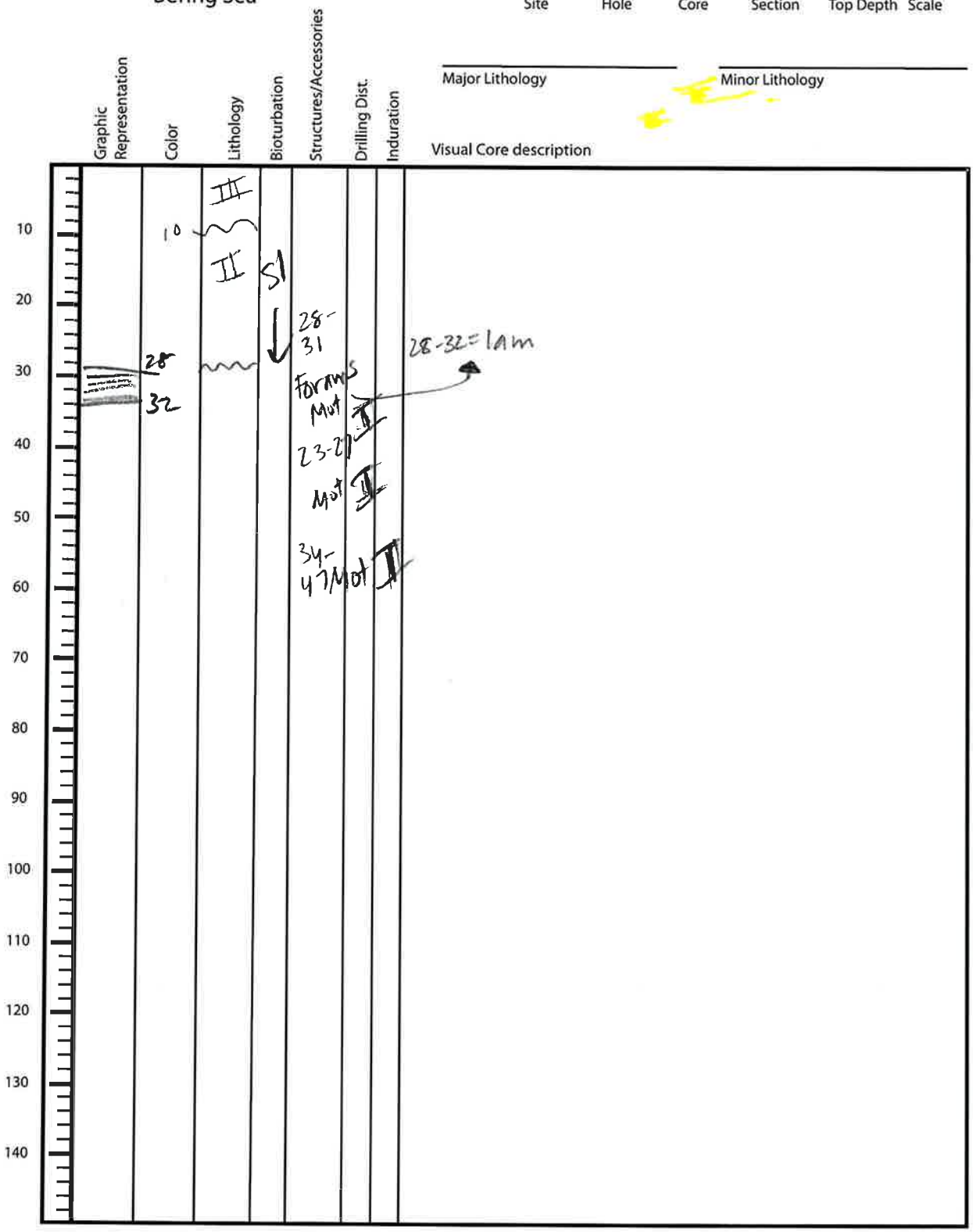


Observer: _____ Date: _____

Expedition 323
Bering Sea

U1342 A 3H 7 _____ _____
Site Hole Core Section Top Depth Scale

Major Lithology _____ Minor Lithology _____



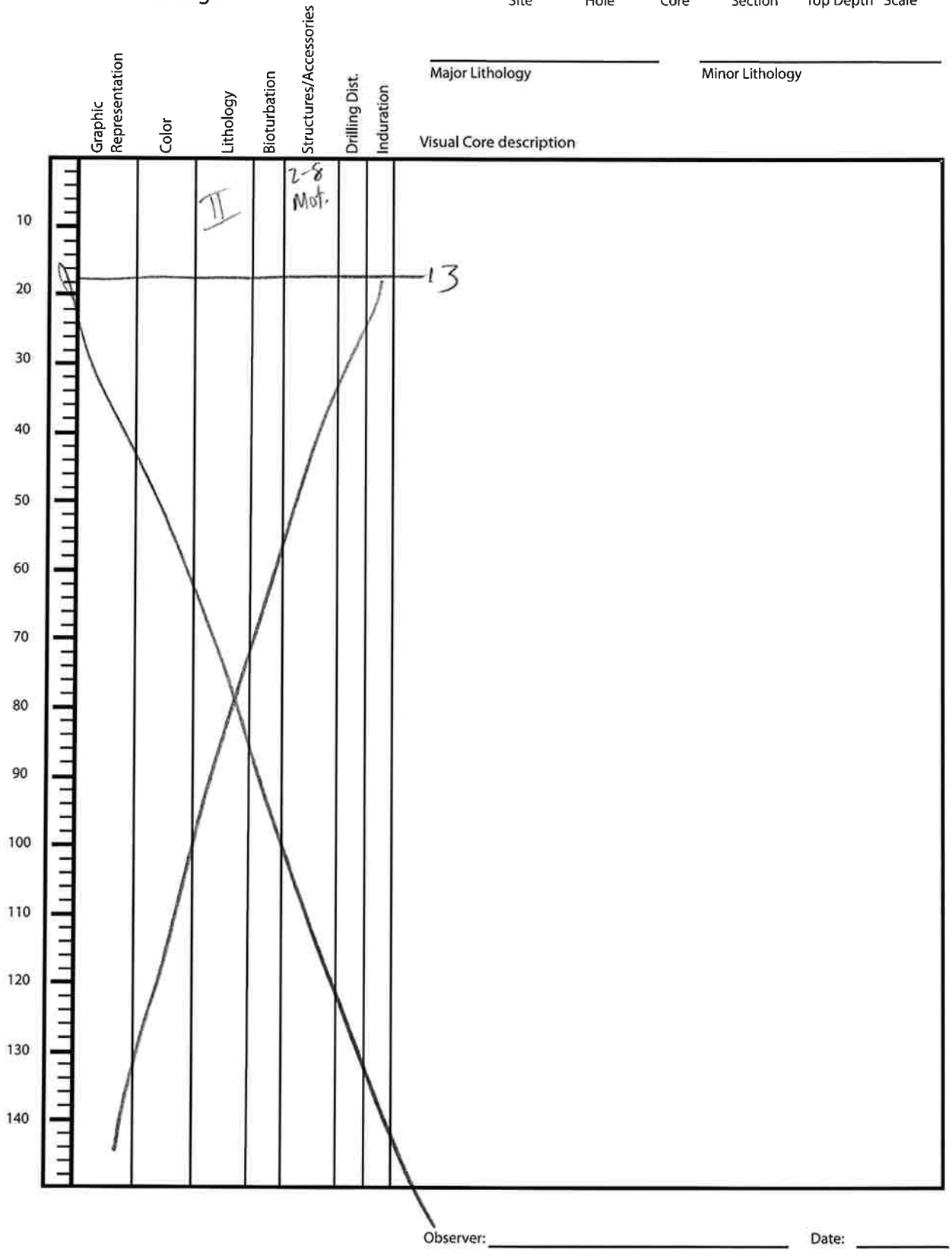
Observer: _____ Date: _____

Expedition 323
Bering Sea

U1342 A 3H CC
Site Hole Core Section Top Depth Scale

Major Lithology

Minor Lithology



Observer: _____ Date: _____

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Interval (cm) Bottom
323	1342	A	3	H	1	6	

Sediment/Rock Name	diatom-bearing fine-ashy silt

Observer	Alwa

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
41	Quartz 7
	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
6	Pyrite 1
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
	VOLCANICLASTIC GRAINS
6	Crystal grain 1
29	Vitric grain 5
	Lithic grain

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

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IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm) Top	Bottom
323	1342	A	3	H	1	70	

Sediment/Rock Name	silty clay	Observer	Akira

Percent Texture		
Sand	Silt	Clay

Comments:

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

Percent	Component
BIOGENIC GRAINS	
	Calcareous
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
3	Diatoms 1
	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	1342	A	3	H	2	44	44

Sediment/Rock Name	Diatom-rich clayey silt

Observer	Kelsie

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
25	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
2	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
25	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
3	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
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
<1	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
15	Centric
5	Pennate
	Chaetoceros Resting Spores
<1	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	1342	A	3	H	4	18	

Sediment/Rock Name	foraminifera-rich diatom ooze nanno-bearing	Observer	Akira

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
11	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
2	Crystal grain 1
	Vitric grain
	Lithic grain

Percent	Component
	BIOGENIC GRAINS
	Calcareous
11	Foraminifera C 5 fragmented
	Planktonic foraminifera
	Benthic foraminifera
7	Nannofossils ~~2~~ 3
	Coccoliths ✓
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
67	Diatoms 30
	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