

Expedition 323
Bering Sea

1341 Site C Hole 114 Core 1 Section Top Depth

Major Lithology: Diatom silty clayey silt
 Minor Lithology: Foram bearing Diatom silty clay

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Visual Core description
0	5Y 4/3						0 - 94 5Y 4/3
100	2.5Y 4/3			AB			94 94-106 Thickly laminated
110	5Y 4/3			SR			106
120	5Y 7/4			AB			116-120 foram concentrated
130	5Y 4/2			SR			
140	TATS	TATS					#145

Observer: H. v. o Date: _____

Expedition 323
Bering Sea

1341 Site C Hole 1H Core 2 Section Top Depth

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
						Visual Core description	
	2.5Y 4/3		SR AB				
			se				0 - 8.00 2.5Y 4/3 thickly laminated (6-8cm) grad @ 120-130 cm
	10Y 4/1		se				0/20 - 150 → <u>Drilling Disturbance</u> <u>Severe</u>

Observer: _____ Date: _____

1341 C 3¹¹⁷ 3
 Site Hole Core Section Top Depth

Expedition 323
 Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	<p>10Y 4/1</p>	<p>Foram - rich bearing Diatom silty clay</p>	<p>52</p>				<p>a 12-55 Green mottling a 100-140 cm Green mottling a 95-81 pebble Subangular 1.0cm Black (N 2.5)</p>	

Observer: _____ Date: _____

Expedition 323
Bering Sea

Site 1341 Hole C Core 4^H 4 Section _____ Top Depth _____

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
								<p>0 - 85 mottling ash ^{N4} (1341)</p>
	<p>109 4/1</p>			<p>SR</p>				<p>B.T. MOD</p> <p>78 - 84 Burrow</p>
	<p>54 4/3</p> <p>54cm</p>			<p>140</p>				

Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 C 114 CC _____
 Site Hole Core Section Top Depth

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	5 Y 4/3 10 Y 4/1							
							0-6 SY 4/3 6 - Bottom 10 Y 4/1	

Observer: _____ Date: _____

SM

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

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

SM

Sediment/Rock Name	Foram smear
--------------------	-------------

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
	Glaucanite
	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

3M

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

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

Foram-bearing

Sediment/Rock Name	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
	Glaucanite
	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

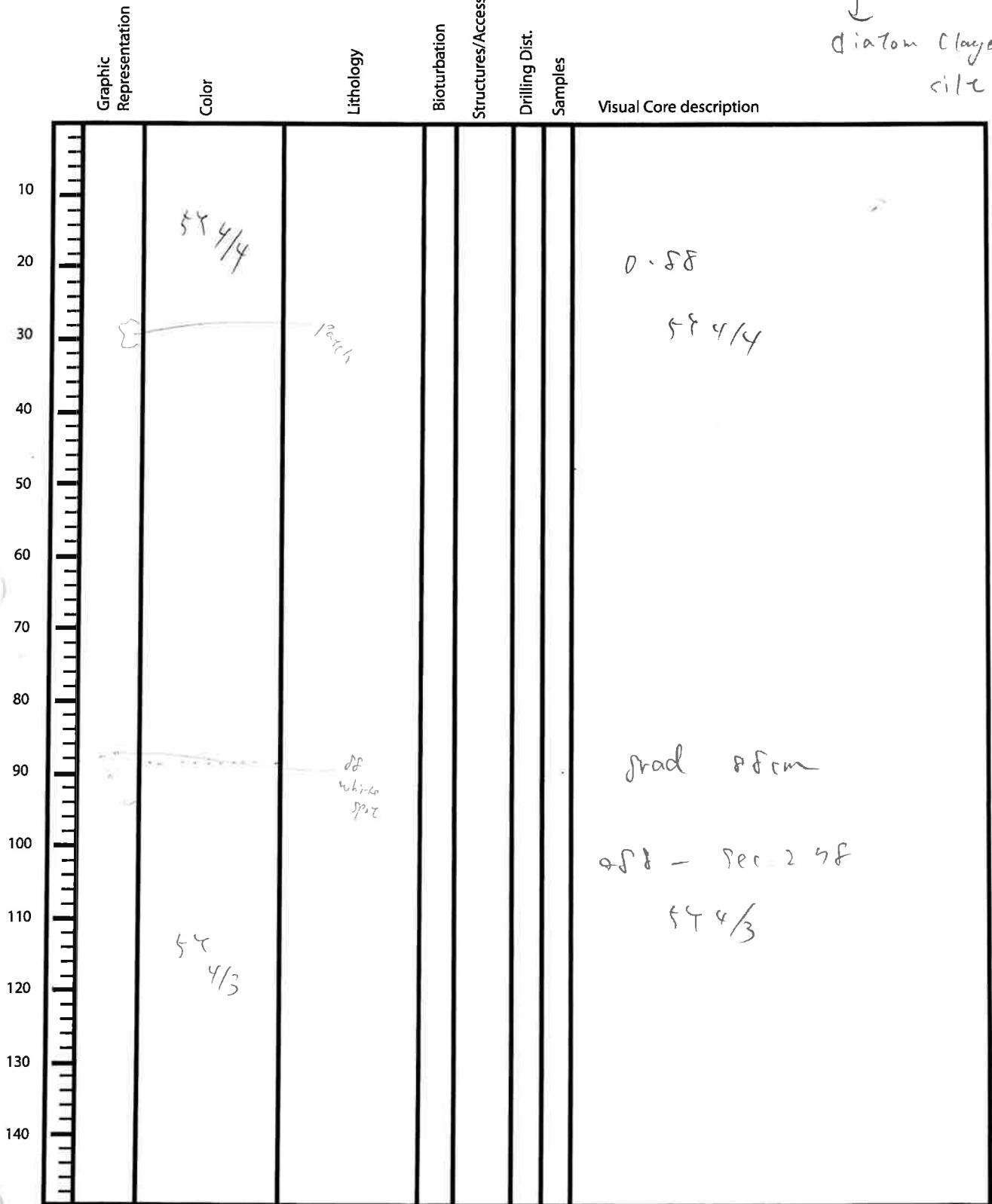
Percent	Component
50	 BIOGENIC GRAINS
	Calcareous
5	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
2	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
30	Centric
10	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
2	Sponge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

Expedition 323
Bering Sea

1341 C 211 1
Site Hole Core Section Top Depth

Foram. bearing diatom clayey silt
Major Lithology Minor Lithology

diatom clayey silt



Observer: Hip. A Date: _____

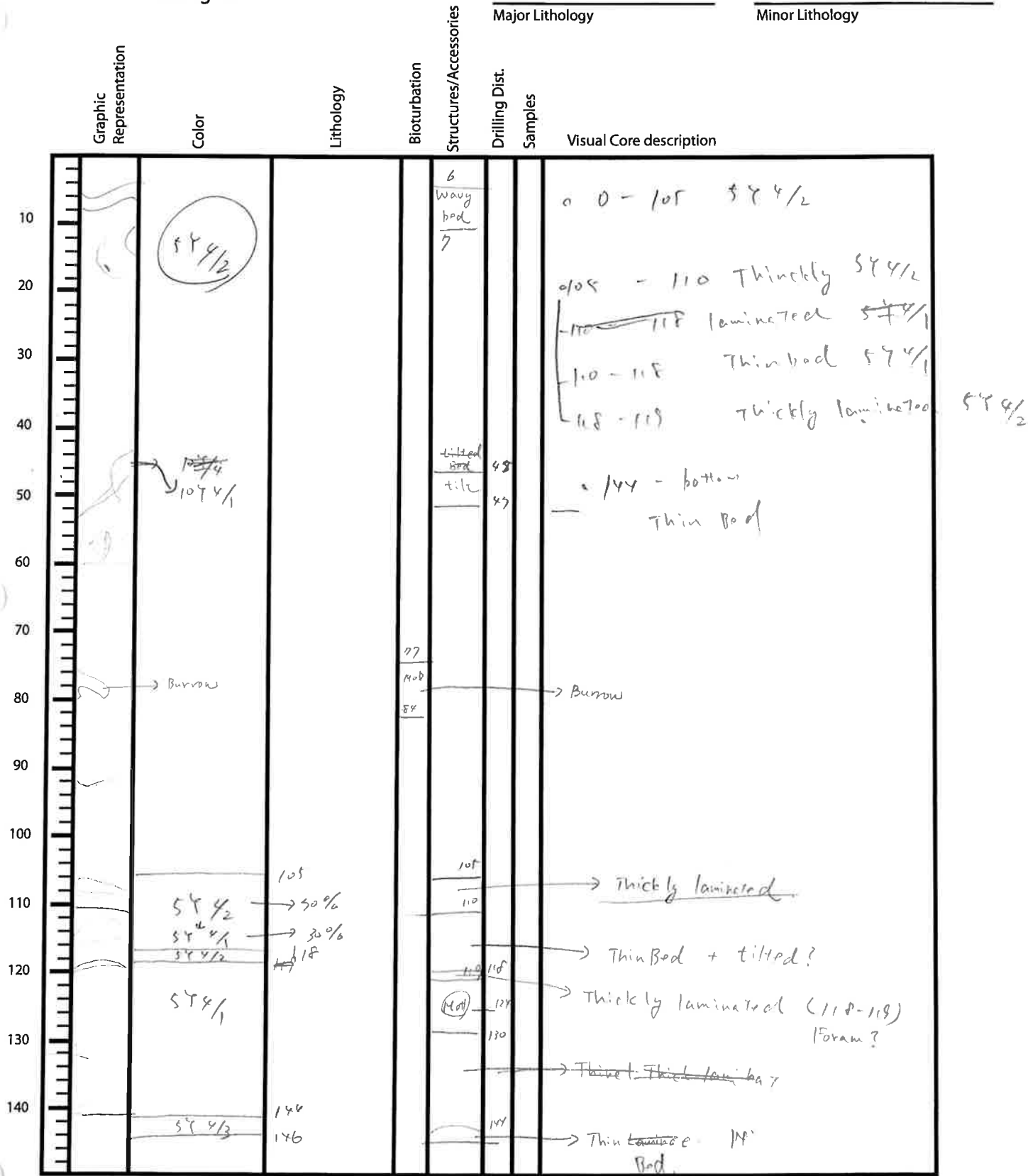
Expedition 323
Bering Sea

Site 1341 Hole C Core 214 Section 2 Top Depth _____

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
						Visual Core description	
	<p>5Y 4/3</p> <p>5Y 4/2</p>			<p>7</p> <p>not ling ash so</p> <p>78</p> <p>8</p> <p>sl</p>		<p>7-30 mottling</p> <p>so</p> <p>so - sec. 3, 4, 5 cm soft sediment deformation</p> <p>o 78 - slump</p> <p>slump</p> <p>o 0 - 78 - 5Y 4/3</p> <p>o 78 - Bottom 5Y 4/2</p>	

Observer: H. A. A. Date: _____

Expedition 323
 Bering Sea



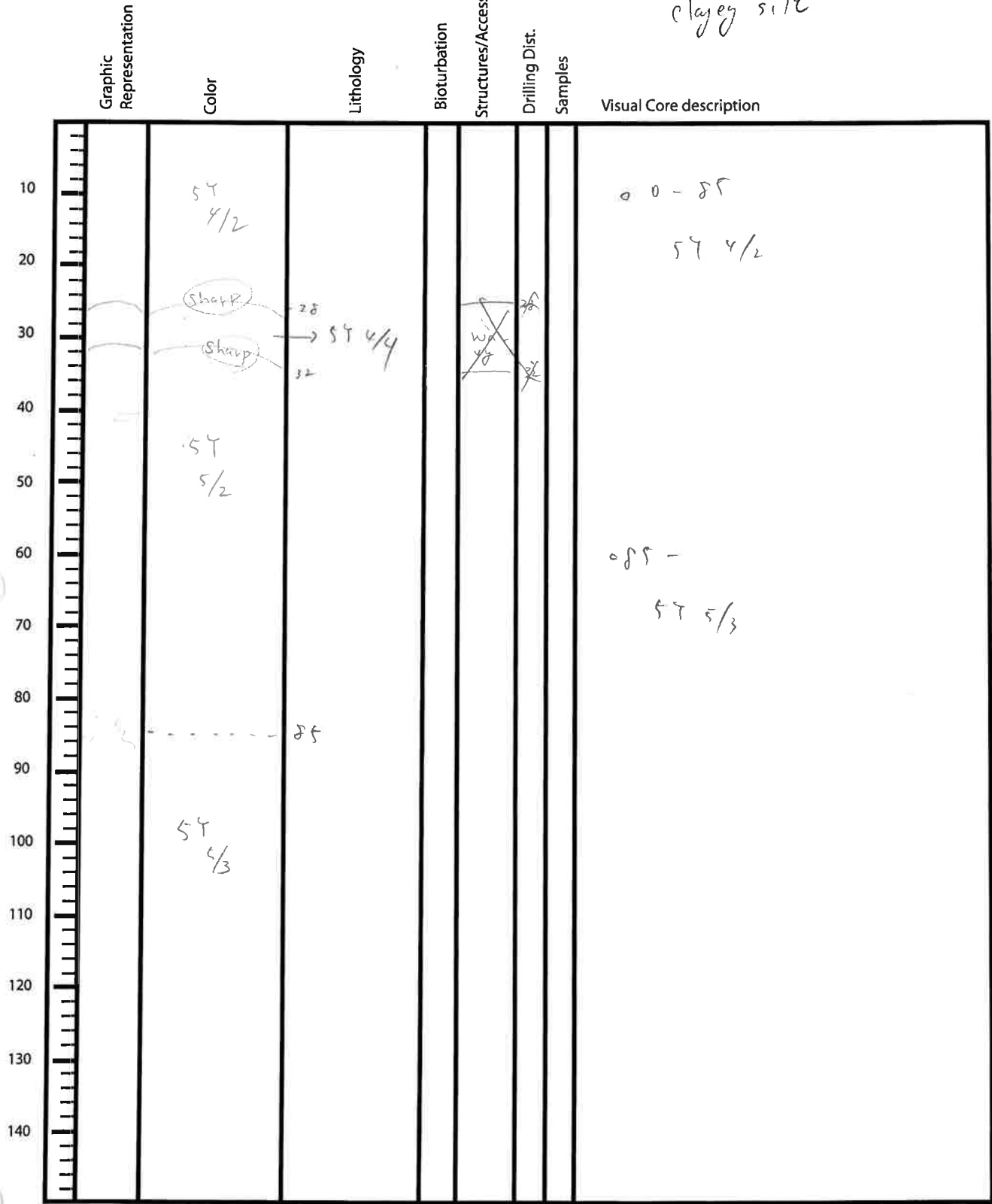
Observer: H. W. B Date: _____

B411 C 2H 4
 Site Hole Core Section Top Depth

Expedition 323
 Bering Sea

foram bearing diatom
 Major Lithology Minor Lithology

clayey silt



Observer: Hew-A Date: _____

Site B41 Hole C Core 2A Section 5 Top Depth _____

Expedition 323
Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
						Visual Core description	
	10Y 4/1			↑ ⊕		Mottly throughout sec (ash) 0-150 10Y 4/1	

Observer: Miv A Date: _____

1341 C 2H 6
 Site Hole Core Section Top Depth

Expedition 323
 Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	5 10 5/4			19 20 21				0 - 50: ST 5/4
	50 102 4/1	50						a 50 - 86 cm 102 4/1
	86 ST 5/4			105H				a 86 - ST 5/4

Observer: Hiro A Date: _____

Expedition 323
Bering Sea

Site 1341 Hole C Core 24 Section 7 Top Depth _____

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	5Y 5/4 4	(faal) 4	4					
	10Y 4/1 whim spore (34 cm)			Mottling				04-70 10Y 4/1 Mottling
	5Y 4/3				70			70 - bottom 5Y 4/3
	5Y 5/2				80			80 - 15 5Y 5/2
					15			

Observer: Hin. A Date: _____

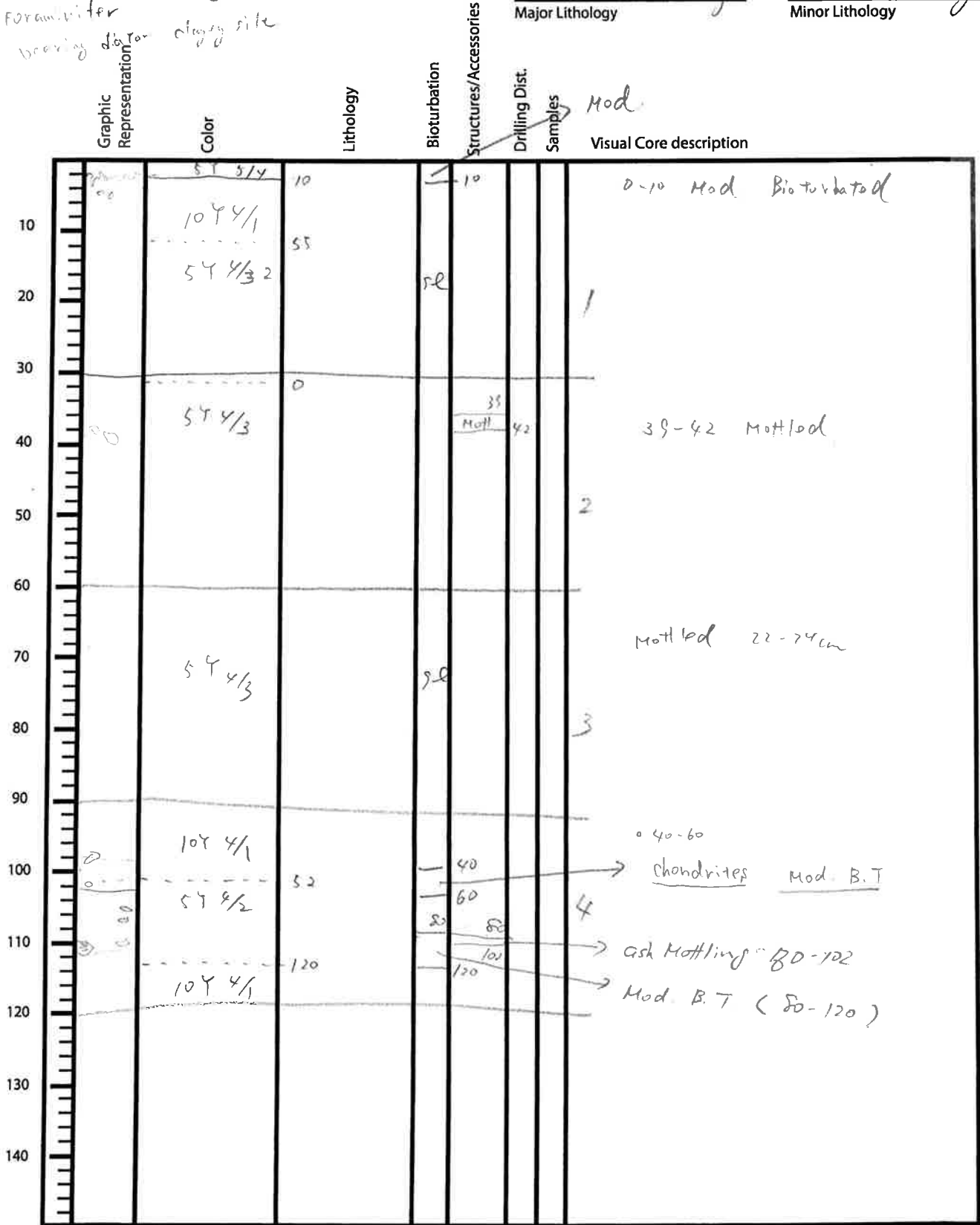
Green
 Platon clay site
 Gray
 Foraminifer
 bearing clay site

Expedition 323
 Bering Sea

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

Diatom Ooze
 Major Lithology

diatom clayey silt
 Minor Lithology



Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Major Lithology		Minor Lithology	
					Drilling Dist.	Samples	Major Lithology	Minor Lithology
	10Y 4/1	26 cm						
	5Y 4/2							
	5Y 5/3	6 (sharp)						
	5Y 5/2	56 (grad)						
	5Y 4/2	8F						
	5Y 5/2	90						
	10Y 4/1	90 → 102						
	5Y 5/3	127						
	5Y 5/3	16						
	5Y 5/2							
	5Y 5/4	49						
	5Y 5/4	62						
	10Y 4/1	77						
	10Y 4/1	5						

Mottling
ash. ~~case~~
Mottling Part
Radiolaria Bearing
data page.
6
111-112 5Y 7/3 Layer
(Thin bed)

Observer: Hilw Date: _____

SM

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	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	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
	Glaucinite
	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

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	Rad-bearing diatom ooze	Observer	Kelsie
--------------------	-------------------------	----------	--------

Percent Texture		
Sand	Silt	Clay

Comments: Minor lithology

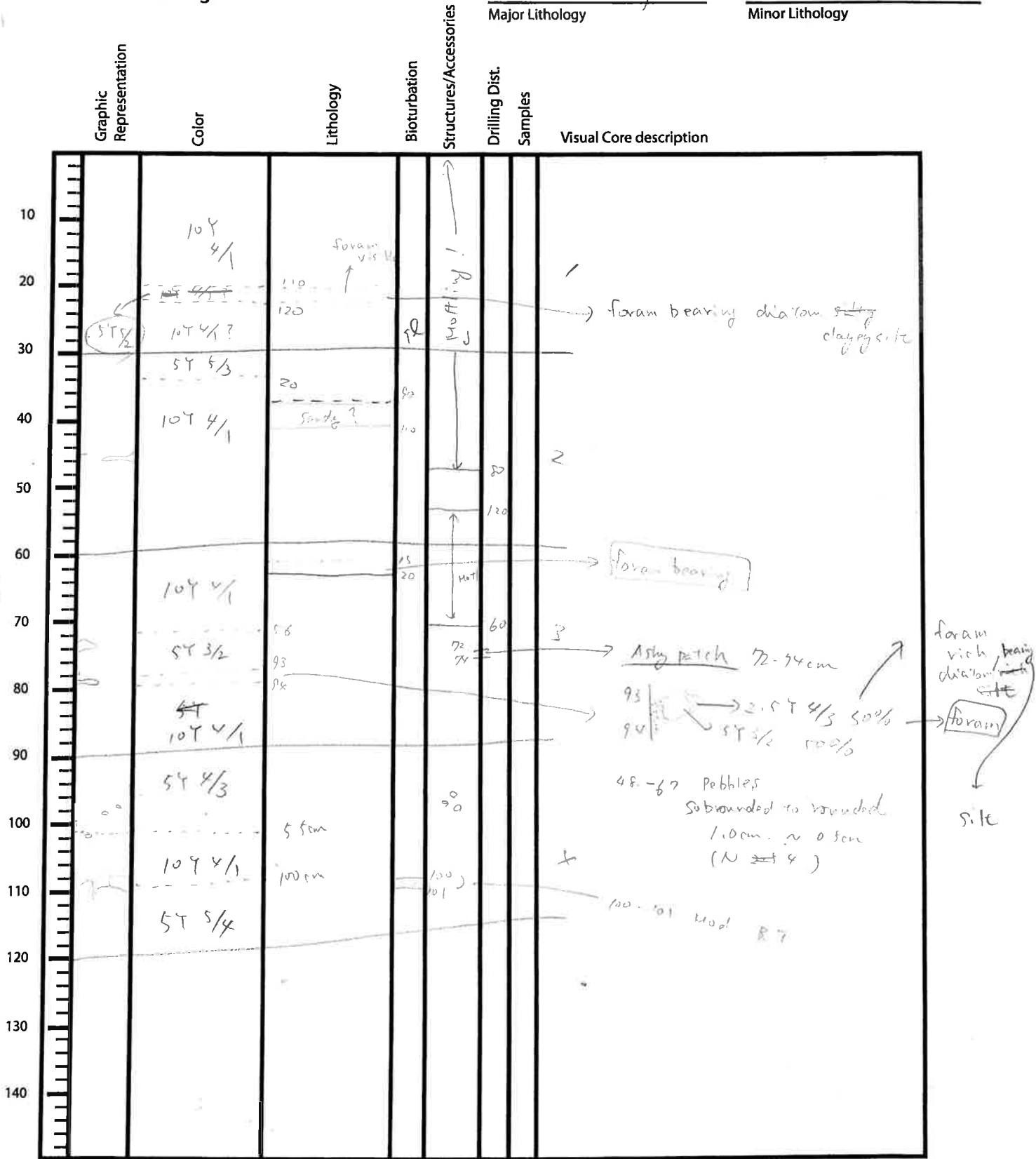
Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
10	Quartz
10	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
15	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic 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

Expedition 323
Bering Sea

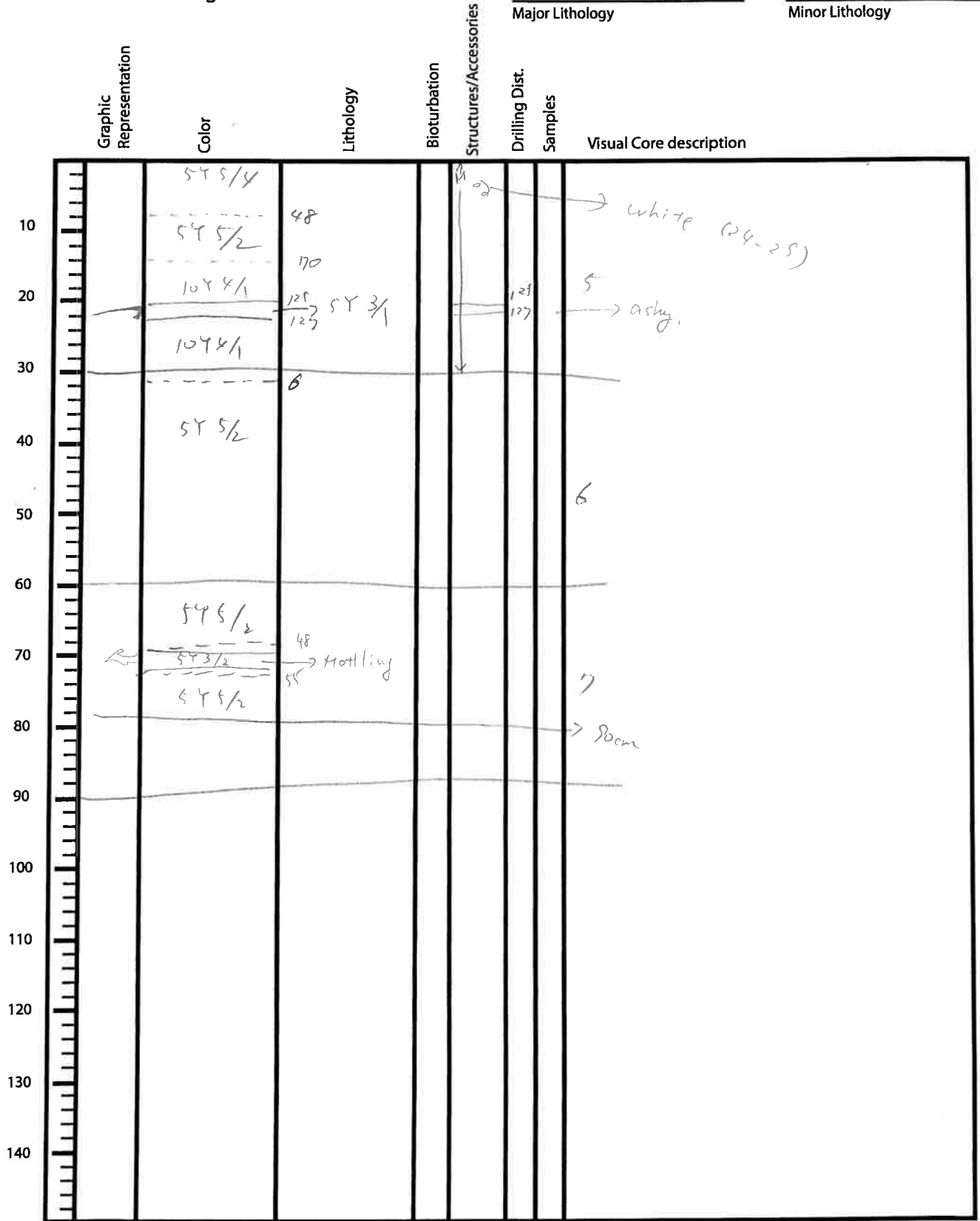
1341 Site C Hole 4H Core 1-4 Section Top Depth

Diatom Ooze Major Lithology Minor Lithology



Observer: _____ Date: _____

Expedition 323
 Bering Sea



Observer: _____ Date: _____

SM

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	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
	Glaucanite
	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1341	C	4	#	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
	Glaucanite
	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

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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	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
	Glaucanite
	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
	<i>Chaetoceros</i> Resting Spores
1	Silicoflagellates
1	Sponge spicules
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

5742

Site 1371 Hole C Core 5H Section 1-7cc Top Depth

Expedition 323 Bering Sea

diatom rich silty clay

Major Lithology Minor Lithology

Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist.	Samples	Visual Core description
	10Y 4/1	10				
	5Y 4/3		47-48 ash patch			32-33 } 47-48 } ashy patch
	9/1	5Y 4/2	103			65-66 Green Mottling
		103	103			10-17 tilted Bed
		5Y 4/1	114			
	5Y 4/2	50	ash mottling			10-87 soft sediment deformation → slump
	10Y 4/1		20			2 SEC. 1.
	10Y 4/1		51			3 SEC. 2, 44-66 pebbles rounded
	10Y 4/1					40- Bottom
	10Y 4/1					3 Drilling disturbance Soupy slurry
						→ Soupy/slurry severly
						SEC. 34
						3-40cm
						4-cc SEC. 4

Observer: _____ Date: _____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	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 C 614 1-4
 Site Hole Core Section Top Depth

Expedition 323
 Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	10Y 4/5	23 → 5Y 4/3 41 → 5Y 6/1 43 → 47					ash mottling	
	5Y 4/3	75					ABSENT	
	5Y 4/3	80					ABSENT Bio Tur.	
	10Y 4/1	103					(143cm)	
	10Y 4/1							
	N 4 & 10Y 4/1	120 ash & silt					2	ashy patch 120-126 ash mottling 50% ash (N 4) 50% silt (10Y 4/1)
	10Y 4/1	126						
	5Y 4/2	20 → N 4 24 → 5Y 4/6						
	5Y 4/3	28					3	20-24 mottling 50% ash N 4 50% ooze 5Y 4/2
	10Y 4/1	N 4/1						24-28 ash N 4/1
	5Y 4/2	122						
	5Y 4/2							
	5Y 6/4	36						
	5Y 6/6	115						114 mottling
	10Y 4/1							

Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 C 64 5-cc
Site Hole Core Section Top Depth

Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
					Visual Core description	
	10Y 4/1	diatom ooze				5
	10Y 4/1					
	5Y 4/2	80				6
	10Y 4/1	110	104	105		104-150 Mottling
	5Y 4/2	126	108	110		137.
			109	120		
		26	118	120		
			123	120		Mott 17-38
	10Y 4/1		130	125		
			130	130		7
			130	130		Mott sec 7 68-70
			130	130		46-48 wood fragment
			130	130		
			130	130		cc
			130	130		Spore whitish Sponge spot
			130	130		Sec. 7 80, 60, 14-19
			130	130		Sec. 6
			130	130		Sec. 5, 60
			130	130		Sec. 4 NAN

Observer: H. no Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	Diatom clayey silt	Observer	Kelsie
--------------------	-------------------------------	----------	--------

diatom-rich fine-ash.

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
	Glaucanite
	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
	Vitric grain ✓ 15
	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

SM

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1341	C	6	H	3	28	28

Sediment/Rock Name: Sand

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
	Glaucinite
	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
	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

100

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

SM

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1341	C	6	H	F	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
	Glaucanite
	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
10	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

Expedition 323
 Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
						Visual Core description	
1 ✓		70	70	72-105 Mot. Lt. Brn ✓	0-49 50g ✓		Mottles have less clay
2	10y 4/1 dark greenish gray			29-30 W 72W 102W 95-97 Mot. ✓			
3 ✓		61 91		30-31 W 51W 57W 71W		61-91 lt. gray mot. ✓ 55-100 Diatom ooze	
4 ✓		17 44	27-38 Omn S			104-105 - red mot. ✓ 125 - Green mot. ✓	
5 ✓		19	S	30W 142-8 Mot. ✓ 75-95 Mot. 148M	0-5 Craggs ✓	98-100 Mot. ✓ 124-130 Mot. ✓	
6 ✓	30 fine 70-8 olive 5y 5/2 gray 117 J	95 120	M	95-120 Mot 67W		11-12 Mot. ✓ 24-26 Mot. ✓ 55-90 N diatom ooze 55-119 Mot. X Diatom ooze	
CC ✓							

SM

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	5	7	B	B	100cm	

Sediment/Rock Name	DIATOM OOZE	Observer	lwa
--------------------	-------------	----------	-----

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
	Glaucanite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
2%	Zeolite
	Opaque minerals
2%	Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
2%	AUTIGEN. CARBONATE
VOLCANICLASTIC GRAINS	
	Crystal grain
10%	Vitric grain
	Lithic grain

Percent	Component
BIOGENIC GRAINS	
	Calcareous
52%	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	X Cocoliths
	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

SM

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	7		6	90m	

Sediment/Rock Name	NANO DIATOM Ooze	Observer	IWA
--------------------	------------------	----------	-----

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
	Glaucanite
	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	2	6	119 cm	

Sediment/Rock Name	NANNO DIATOM Ooze	Observer	WTF
--------------------	-------------------	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments: *NOTE*

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
	Glaucanite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
5%	5 Zeolite
	Opaque minerals
2%	2 Pyrite
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
5%	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%	30 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

7341
Site

C
Hole

8H
Core

Section

Top Depth

Expedition 323
Bering Sea

Depth (m)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
								Visual Core description	
10	✓	5Y4/2		S					1A-40 diatom-rich clayey silt
20	✓	5Y4/3		S				92-93 moll sand ✓ 107-108 moll sand ✓	2A-50 Nanno-bearing diatom clay
30	✓			S					
40	✓			S	126				
50	✓			S	33			100-102 moll ✓ 109-119 chond. ✓	
60	✓	10Y4/1		S	100 136				
70	✓	5Y5/2		S	136			122-123 cobb. ✓ g. 3x1cm Prolate, well rounded gneiss	
80	✓			S	83			137-140 g.b 4-20 g.b 4-26 nothing ✓ with above sediment	6A-40 nanno-bearing diatom silt
90	✓			S	134			86-84 g.b 86-84 pebbles ✓	120 gneiss K ₂ O < 2mm 46-55 moll. 59-60 moll
100	✓			S	18				
110		4-sharp						83 13	
120									
130									
140									

- 5Y4/2
- 5Y4/3
- 10Y4/1
- 5Y5/2

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		50m	

Sediment/Rock Name	NANNO-BEARING DIATOM CLAY	Observer	IWA
--------------------	---------------------------	----------	-----

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 <i>AUTHIGENIC?</i>
	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
	<i>Chaetoceros</i> Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Ca. Oolite
CS

X

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	
--------------------	----------------------	----------	--

Red
Sandy Layer
Fe & Mn - oxide rich

Percent Texture		
Sand	Silt	Clay


Percent	Component	Percent	Component
SILICICLASTIC GRAINS/MINERAL		BIOGENIC GRAINS	
	Framework minerals		Calcareous
10%	Quartz		Foraminifera
15%	Feldspar		Planktonic foraminifera
	K-feldspar (Orthoclase, Microcline...)		Benthic foraminifera
	Plagioclase		Nannofossils
	Rock fragments		Coccoliths
	Accessory/trace minerals		Discoasters
	Micas		Pteropods
	Biotite		
	Muscovite		Siliceous
	Clay Minerals		Radiolarians
	Chlorite		Spumellaria
	Glauconite		Nassellaria
	Chert	30%	Diatoms
	Zircon	20%	Centric
	Ferromagnesium minerals	10%	Pennate
			Chaetoceros Resting Spores
			Silicoflagellates
	Authigenic minerals		Sponge spicules
	Barite		Dinoflagellates
	Phosphorite/Apatite		
	Zeolite		Others
	Opaque minerals		Pollen
5%	Pyrite		Organic debris
	Magnetite		Plant debris
27%	Fe-oxide → hematite? 		Ebridians
			Echinoderm
	Carbonates		Fish remains (teeth, bones, scales)
	Calcite		Bryozoans
	Dolomite		Bivalves
			Others
	VOLCANICLASTIC GRAINS		
	Crystal grain		
50%	Vitric grain		
	Lithic grain		

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		5	145	

FORAM - RICH

Sediment/Rock Name	MANUWAHUA NANNO DIATOM 0070	Observer	lwr
--------------------	--	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments:

minerals

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 <i>AUTHIGENIC</i>
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
	Vitric grain
	Lithic grain

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

} 30%

Fig. B1. Worksheet used to determine the sediment lithology from smear slides

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	R		5	40m	

Sediment/Rock Name	NANNO-BEAMING DIATOM SILT	Observer	ICW
--------------------	---------------------------	----------	-----

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 <u>hematite!</u>
10%	Carbonates <u>AUTHIGENIC?</u>
	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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	DIATOMIC CLAY & SILT	Observer	IWA
--------------------	----------------------	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
Framework minerals	
15% 20m	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%	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

Expedition 323
Bering Sea

323UB41C 9H ALU
Site Hole Core Section Top Depth Scale

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
1 ✓	59 4,2 I olive gray		5-1 5	109w 114-116 2				
2 ✓	II 109 3/1				148 157			
3 ✓	I 6 72 II 75			99-101 6.Mot 157-8 6.Mot 146			70 SS I	Diatom clayey silt olive gray
4 ✓	III 5932	95		145-6 D.M.M.T			70 SS II	Diatom-rich clayey silt v. dark greenish gray dark greenish gray
5 ✓	59 513 C. Ash 109 2.311	126 150		Mot. Clay 150			20 SS III 12	Diatom ooze dark olive gray & olive
6 ✓	II 109 4/1			4-5 Coarse B.P. 110 82P 95E				Ash-greenish black
7 ✓				59 p/b 1-2- SS. 80 78w				100% sandy
CU ✓								void 3-4

Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	DIATOM CLAYEY SILT	Observer	LWA
--------------------	--------------------	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
Framework minerals	
20%	30 Quartz
10%	10 Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
X	Muscovite
15%	Clay Minerals
	Chlorite
	Glaucconite
	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

SM

X

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	B41	C	Pg		4	20m	

Sediment/Rock Name	DAPON-RICH CLAY & 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
30%	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
	VOLCANICLASTIC GRAINS
	Crystal grain
	Vitric grain
	Lithic grain

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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	99		5	20	cm

Sediment/Rock Name	DIATOM 0070	Observer	IWA
--------------------	-------------	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
	SILICICLASTIC GRAINS/MINERAL
	Framework minerals
38%	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
	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. E1. Worksheet used to determine the sediment lithology when examining smear slides.

Expedition 323
Bering Sea

1341 Site C Hole 70 Core Section Top Depth

		Major Lithology	Minor Lithology		
Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories		
Drilling Dist.	Samples	Visual Core description			
1 10	2095 90g			62-64 Cobble basaltic	
2 20					
3 30				83-84 mottled	3A-50 diatom-rich fine-ash silt
4 40			S		
5 50	114 147				
6 60	43 955			127-130 mottled ash	4A-130 diatom silt
7 70	67 77 106			67-77 g.b	77-102 lam faint
8 80			11		
9 90			102		
10 100			36		
11 110			63		
12 120				86 13	70cm lam blue 3mm 70-83 faint lam
13 130					7A-68 diatom ooze
14 140					

10Y 4/1
 5Y 4/2 diatom silt
 5Y 5/3

Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	134	C	10	H3		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	
27	Quartz 5
13	Feldspar 3
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
9	Clay Minerals 2
	Chlorite
	Glaucinite
	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. E1. Worksheet used to determine the sediment lithology from examining smear slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	734	C	70	H	4	130	

Sediment/Rock Name	diatom site	Observer	A. Bira
--------------------	-------------	----------	---------

Percent Texture		
Sand	Silt	Clay

Comments:

Myr UTM

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
Framework minerals	
22	Quartz 35910
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
2	✓ Rock fragments 1
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucanite
	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 8
11	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. E1. Worksheet used to determine the sediment lithology from scanning electron slides.

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	diatom ooze	Observer	Okima
--------------------	-------------	----------	-------

Percent Texture		
Sand	Silt	Clay

Comments:

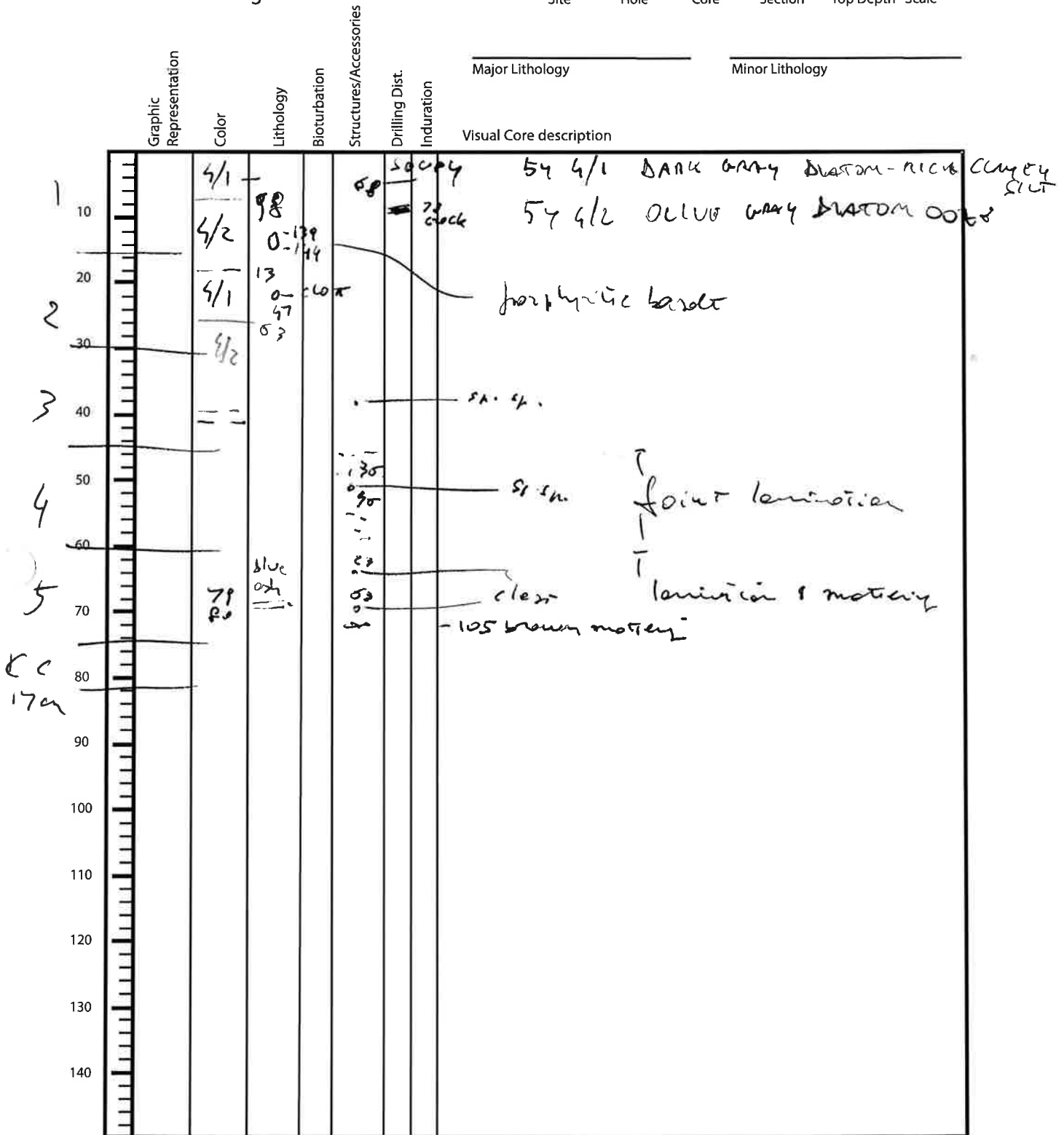
mpr lith

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
	Glaucanite
	Chert
	Zircon
	Ferromagnesium minerals
Authigenic minerals	
	Barite
	Phosphorite/Apatite
	Zeolite
Opaque minerals	
4	Pyrite 21
	Magnetite
	Fe-oxide
Carbonates	
13	Calcite 3
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
	Vitric grain
	Lithic grain

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

Expedition 323
Bering Sea

Site 1341C-11 Hole oll Core oll Section oll Top Depth oll Scale oll



Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	134	C	11	H	1	80	

Sediment/Rock Name	diatom ooze	Observer	AKM
--------------------	-------------	----------	-----

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
70	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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1341	C	11	H4		80	

Sediment/Rock Name	diatom-rich clayey silt	Observer	AKM
--------------------	-------------------------	----------	-----

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
	Glaucanite
	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 ✓ 15
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Expedition 323
Bering Sea

1341 Site C Hole 12 Core Section Top Depth

Depth (m)	Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
						Visual Core description	
10	✓	10Y 4/1		m			
20	✓	5Y 4/3		m			Sec 20 ~ Sec 3 120 very faint lam ✓
30	✓			m			18 mottled ad ✓
40	✓	120		m	120		3A-60 diatom-rich silty clay
50	✓			m			87-90. mottled
60	✓	10		m			4A-90 diatom clay
70	✓	5Y 9/4		m			Sec 5 90 ~ Sec 7 60. very faint lam
80	✓	10		m			32 mottled with ad 50-70 g.b (42-44 dark layer.)
90	✓			m			
100	✓	60		m	60		91
110							23
120							major <input type="checkbox"/> diatom rich silty clay
130							2nd <input type="checkbox"/> diatom clay
140							

Observer: _____ Date: _____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	12		3	60m	

Sediment/Rock Name	DIATOM-RICH SILTY CLAY	Observer	IWA
--------------------	------------------------	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments: MARL 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
	Glaucosite
	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
	Centric
	Pennate
	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	12		5	90m	

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
	Glaucanite
	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

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
1	5/1	0					50cm ss 5y 4/1 DARK GRAY	
	↓	55						
2	5/2	100						5y 4/2 OLIVE GRAY
	5/1	0						
	5/2	50						
3	5/1	0						DIATOM SILTY CLAY
	5/2	50						
4	5/1	0						
	5/2	50						
5	5/1	0						
	5/2	78						
6	T	17						
	5/2							
7	5/1	0						50cm ss OLIVE GRAY
	5/1	21						NANNO-RICH DIATOM CLAY
CC 21								

Observer: _____ Date: _____

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	12		1	50cm	

Sediment/Rock Name	DADOM SILTY CLAY	Observer	IWA
--------------------	------------------	----------	-----

Percent Texture		
Sand	Silt	Clay

MAIN LITHO

Comments:

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

X

SKY

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	DANNO-RICH DIATOM CLAY	Observer	ICM
--------------------	------------------------	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments: MAIN C140

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. E1. Worksheet used to determine the sediment lithology when examining smear slides.

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

Expedition 323
Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	10Y4/1		sh. soft					
								106 white spot
								145
					1.5	3		0-3 cracks
	5Y4/2							19-25 slump tilted
								137 clast, black, 1cm
								148 white spot

Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 Site G Hole 14H Core 3+4 Section _____ Top Depth _____ Scale

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
								Visual Core description	
10		5Y4/2							
20		5Y 5/3		slight					10-20 grad.
30									
40		5Y4/2							64 sharp
50		10Y 4/1		mod.	110				115-120 grad., tilted
60									
70									
80		5Y4/2							
90		10Y 4/1		slight					30-35 grad.
100									
110									
120									
130									
140		5Y4/2							130-140 grad.

Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 Site G Hole 14H Core 5+6 Section _____ Top Depth _____ Scale

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
	5K412		sharp					
							80-85 grad.	
	101 411							
	↓							
	5K411						35-40 grad.	
	101 412						60-65 grad	
	5K411						87 sharp	
	5K412						98 sharp	
	101 311						142 sharp	

Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
10	10Y 4/1							4-10 sharp, tilted
20	5Y 4/2 10Y 4/1		slight worm					25-45 grad.
30	10Y 4/1							85
40	↓							
50	PAZ							23
60								
70								
80								
90								
100								
110								
120								
130								
140								

Observer: _____ Date: _____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1341	C	1411		2A	60	60

Sediment/Rock Name	Diatom Ooze	Observer	Hiro
--------------------	-------------	----------	------

Percent Texture		
Sand	Silt	Clay

Comments: Main Litho Ooze

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
	Glaucanite
	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 /
	Chaetoceros Resting Spores
67	Silicoflagellates 0.5
	Sponge spicules /
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. E1. Worksheet used to determine the sediment lithology when examining smear slides.

14H460
14.H 260

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	Diatom-rich clayey silt	Observer	Hiro
--------------------	-------------------------	----------	------

Percent Texture		
Sand	Silt	Clay
15	60	20
3	70	15

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
	Glaucconite
	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 57%	
Calcareous	
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
Siliceous	
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
53	Centric 20
3	Pennate 1
	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. E1. Worksheet used to determine the sediment lithologic number, examining smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	1411		5A	50	50

Sediment/Rock Name	Diatom - rich Silty Clay	Observer	
--------------------	--------------------------	----------	--

Percent Texture		
Sand	Silt	Clay
5	35	60

Comments: Main Litho frag

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
6-7% total	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%	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

Expedition 323
Bering Sea

1341 Site 5 Hole 15H Core 1+2 Section _____ Top Depth _____ Scale

	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology	Visual Core description
10		SY4/2								
20		10Y 4/1		slight						50-70 grad.
30										
40										
50										91-95 intermixed light and
60										
70										
80		SY3/1								7-11 sharp, tilted
90		10Y 4/1								
100										
110										62-68 several fine pebbles
120										
130		10Y 4/1		mod.						100-120 grad. 100-150 brownish and reddish burrows
140										

Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
10	SY 4/2 							
20	10Y 4/1		dist.				30-40 grad.	
30								
40								
50								
60								
70								
80	SY 4/2							
90								
100								
110							85-95 grad.	
120								
130	10Y 4/1							
140								

Observer: _____ Date: _____

Expedition 323
Bering Sea

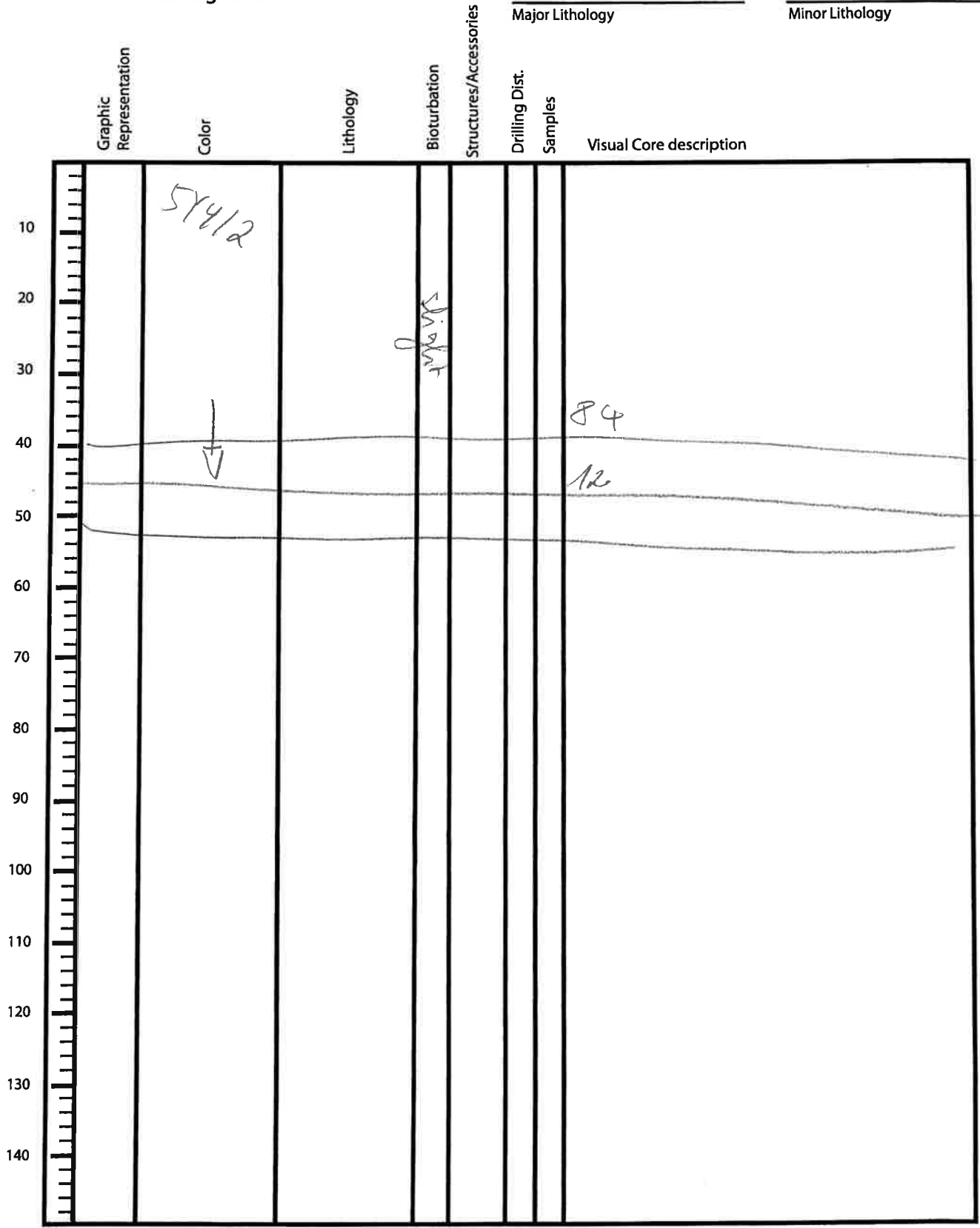
1341 Site G Hole 15H Core 5+6 Section _____ Top Depth _____ Scale

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
								Visual Core description	
10		5Y 4/2							16 white spot
20				5Y 4/2					
30									
40									
50		10Y 4/1							105-115 grad.
60									
70									
80		5Y 4/1							
90									
100		5Y 4/2							50-60 grad
110									
120									
130									
140									

Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 Site G Hole 15H Core 7+CC Section _____ Top Depth



Observer: _____ Date: _____

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	15H		1	40	40

Sediment/Rock Name	Diatom ooze	Observer	Hiro
--------------------	-------------	----------	------

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
	Glaucanite
	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. E1. Worksheet used to determine the sediment lithology from smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	Diatom ooze	Observer	H. I. W.
--------------------	-------------	----------	----------

Percent Texture		
Sand	Silt	Clay

Comments:

Green Litho

Percent	Component
SILICICLASTIC GRAINS/MINERAL 8%	
Framework minerals	
48%	Quartz /
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucanite
	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 1/6
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

X

Hole

C 14 15(1-3)
 Hole A 14 17 (15H)
 B 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
70	60	20
7	15	

Comments:

Gray Litho

Percent	Component
SILICICLASTIC GRAINS/MINERAL 58	
Framework minerals	
37 36	Quartz = 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. E1 Worksheet used to determine the sediment lithology when examining smear slides

Expedition 323
Bering Sea

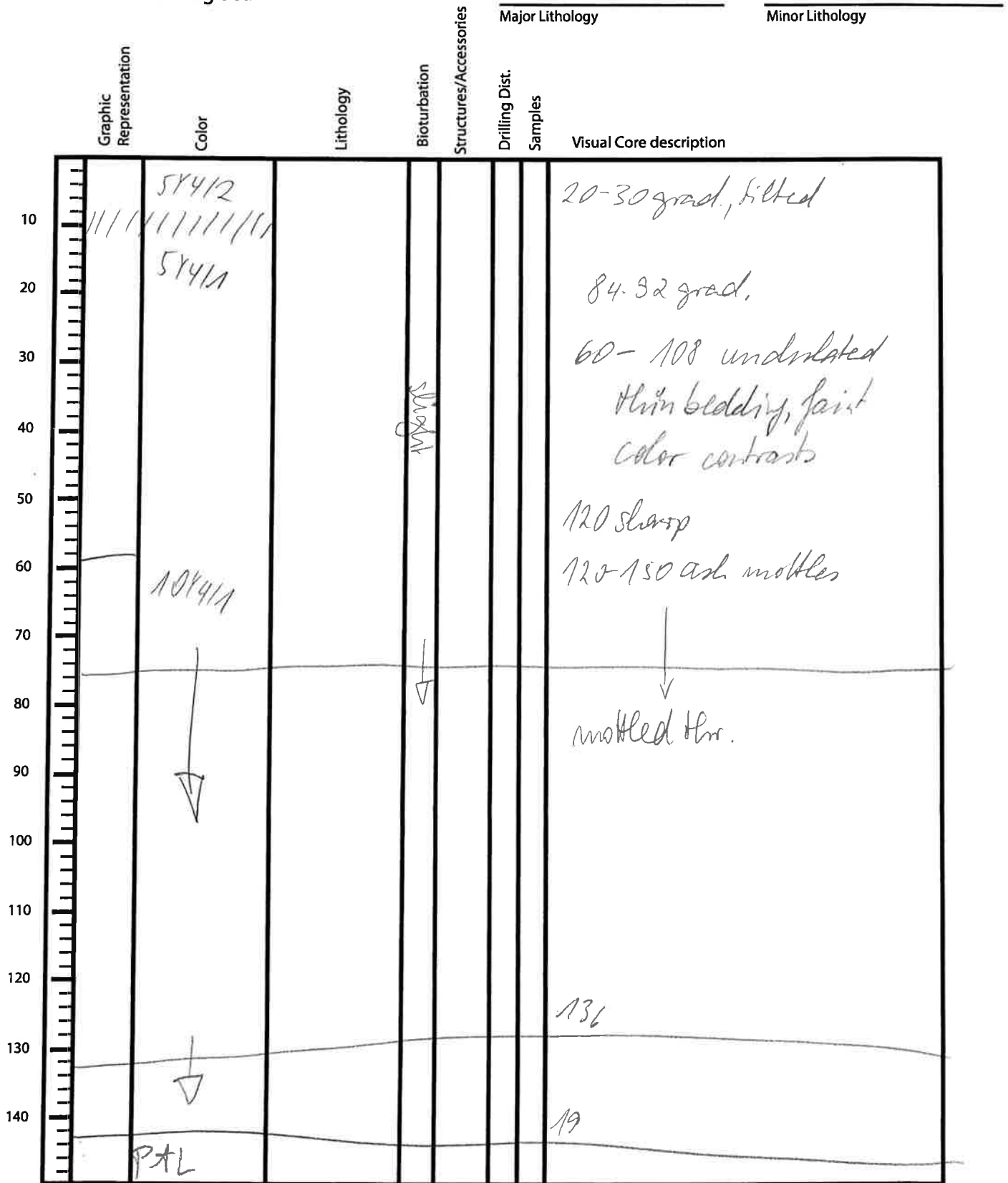
1341 G 16H 142
 Site Hole Core Section Top Depth

Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
					Visual Core description	
	10Y4/1			heavy	0-85 flow-in, soupy, totally mixed	
	SY4/2			mod.	soupy at liner walls, internal structure preserved in core center	
				74	5-15 grad.	
					125-131 tilted grad.	

Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 Site 5 Hole 16H Core 3+4+CC Section Top Depth



Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	10Y4/1		Slight				33 pebbly, well-rounded, black	
							111 pebbly, fine, gray	
							124 - 133 lapilli layer, angular, light + dark gray	
							0-30 mottled	
							110 white spot	

Observer: _____ Date: _____

Expedition 323
Bering Sea

1741 Site C Hole 17H Core 3+4 Section _____ Top Depth

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
						Visual Core description	
10		10Y4/1		slight			
20							
30							70-30 grad
40							
50		5Y4/1					93 ash layer
60				125			
70							70-150 mottled, ash patches, blueish brown
80		5Y5/1+					50% auth. carb.-rich diatom silt
90		5Y4/1					50%
100				28			24-34 grad. biot.
110		5Y4/1					
120		5Y4/2					50-70 grad.
130							
140							125-135 grad.

Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
					Visual Core description	
	5Y4/2					
			shaly			
	10Y4/2				100-120 grad.	135 white spot
	5Y4/2				24 wood frag.	
			45		44-45 whitish layer	
			85		45-150 mottled, ash patches	
					133-135 pebble, subangular, black	

Observer: _____ Date: _____

Expedition 323
Bering Sea

1341 C 17H 7+CL
Site Hole Core Section Top Depth

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
								Visual Core description	
0-10		5Y5/2		slight					
10-20		↓							
20-30							48		
30-40							10		
40-50									
50-60									
60-70									
70-80									
80-90									
90-100									
100-110									
110-120									
120-130									
130-140									

Observer: _____ Date: _____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	1714		1	80	80

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
	Glaucanite
	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 54	
Calcareous	
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
Siliceous	
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
76	45 Centric
16 to 15	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

X

SM

174

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	(pennate) diatom rich silty clay	Observer	Hiro
--------------------	----------------------------------	----------	------

Percent Texture		
Sand	Silt	Clay
10	30	60

Comments: ~~White~~ patch
~~Greenish~~ Patch
Greenish. Patch

Percent	Component
SILICICLASTIC GRAINS/MINERAL 58	
Framework minerals	
46	Quartz 0.25
46	Feldspar 0.25
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
50	Rock fragments 0.25 F3
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucconite
	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
4	Centric 0.25
34	Pennate 2
	Chaetoceros Resting Spores
	Silicoflagellates
46	Sponge spicules 0.25
	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	Bottom
	1341	C	17H		4	7	7

diatom-bearing Silty Clay (Authigenic Carbonate)

Sediment/Rock Name	diatom-bearing Authigenic Clay	Observer	H:va
--------------------	---	----------	------

Biogenic 8% Siliciclastic 92%

Percent Texture		
Sand	Silt	Clay
5	20	75
80		75

Comments:

Light Grey Patches

Percent	Component
SILICICLASTIC GRAINS/MINERAL 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
	Glaucinite
	Chert
	Zircon
	Ferromagnesium minerals
Authigenic minerals	
	Barite
	Phosphorite/Apatite
	Zeolite
Opaque minerals	
	Pyrite
	Magnetite
	Fe-oxide
Carbonates	
4% 5%	Calcite 40 89%
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
< 1	Vitric grain 0.1
	Lithic grain

Percent	Component
BIOGENIC GRAINS 8%	
Calcareous	
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
Siliceous	
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
5%	Centric 4%
	Pennate 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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1341	C	174		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
	Glaucanite
	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. E1. Worksheet used to determine the sediment lithology from smear slides.

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	P11	C	B3		5	5070	50

Sediment/Rock Name	Diatom ooze	1714	Observer	Hiro
--------------------	-------------	------	----------	------

Percent Texture		
Sand	Silt	Clay

Comments:

Green 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
	Glaucconite
	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

Expedition 323
Bering Sea

134A C 1841 7+2
 Site Hole Core Section Top Depth

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	SY4/2							56,58 white spots
			small					85-95 grad. biot.
	1024/1							130-140 grad. biot.
	SY4/2							
	↓							


Observer: _____ Date: _____

Expedition 323
Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
						Visual Core description	
	5Y4/2						
			slight				94 burrow, blue
	10Y4/1						15-25 grad.
							43-46 fine ash, sharp bound, gray at base, green in middle, 59 crack white at top
	5Y4/2						59 ^{fine} ash layer
							60 sharp

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
					Visual Core description	
	5Y4/2					4-5 sharp
	5Y4/1		25 worm			25-60 brownish burrows
			60 shrimp			80-150 ash nodules
	5Y4/2					43-48 ash patches
						77 fine pebble

Observer: _____ Date: _____

1341 C 18H 7+cc
Site Hole Core Section Top Depth

Expedition 323
Bering Sea

Major Lithology _____
Minor Lithology _____

Graphic Representation

Color

Lithology

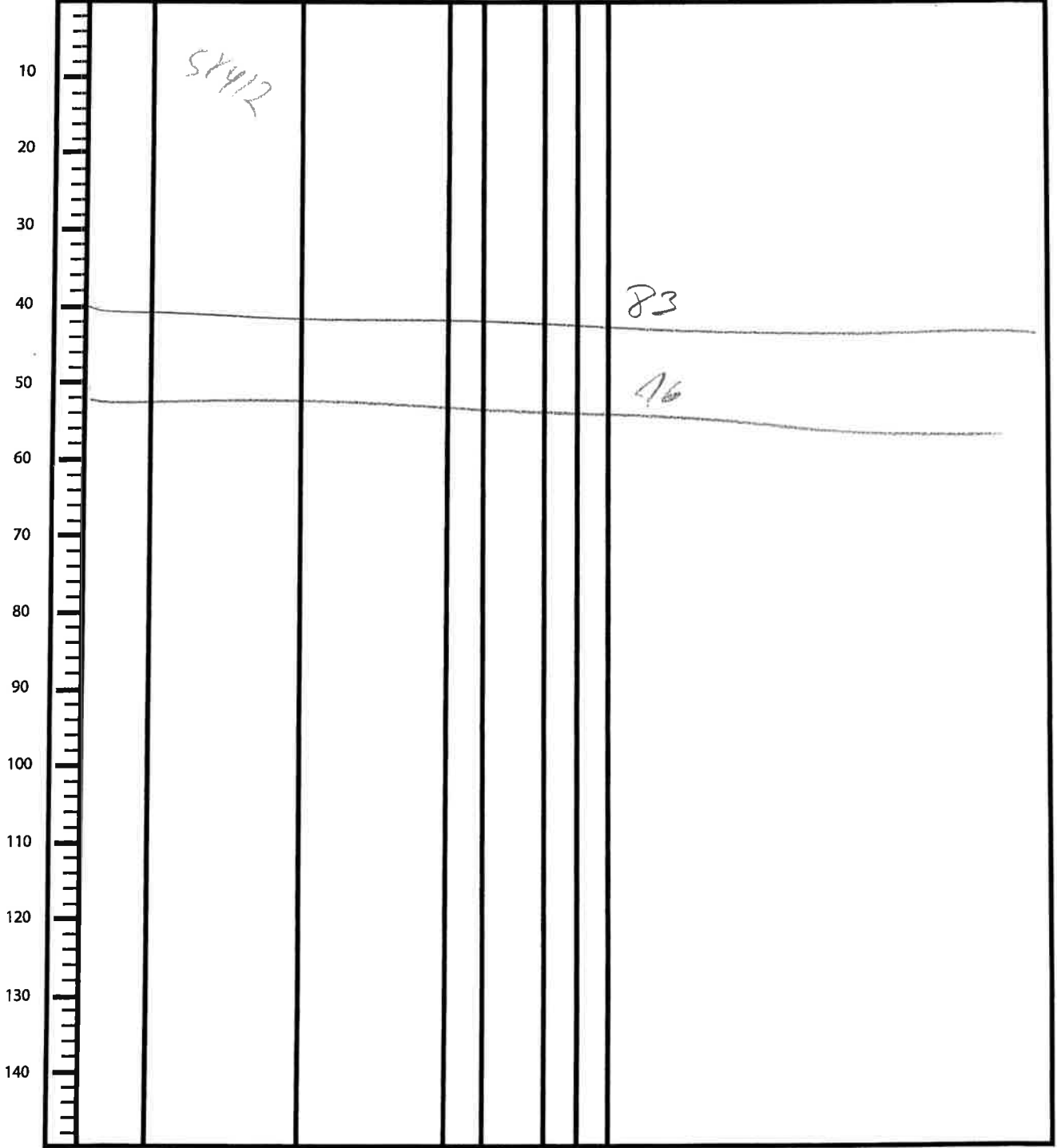
Bioturbation

Structures/Accessories

Drilling Dist.

Samples

Visual Core description



Observer: _____ Date: _____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
	1371	C	184		5	100	100

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
	Glaucanite
	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 to	Centric
20 to	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

X

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	Diatom-bearing Silty clay (Authigenic Carbonate)	Observer	
--------------------	---	----------	--

Percent Texture		
Sand	Silt	Clay
5	35	60

Comments: whitish patch

Percent	Component
SILICICLASTIC GRAINS/MINERAL 87.8%	
Framework minerals	
3	Quartz
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
5	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucconite
	Chert
	Zircon
	Ferromagnesium minerals
Authigenic minerals	
	Barite
	Phosphorite/Apatite
	Zeolite
Opaque minerals	
	Pyrite
	Magnetite
	Fe-oxide
Carbonates	
80	Calcite L
	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

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

5

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

Sediment/Rock Name	Diatom rich silty clay	Observer	
--------------------	------------------------	----------	--

Percent Texture		
Sand	Silt	Clay
10	35	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
	Glaucanite
	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1341	C	1914		3	65	

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
1	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	134	C	194		4	50	50

Sediment/Rock Name	diatom clayey silt	Observer	
--------------------	--------------------	----------	--

Percent Texture		
Sand	Silt	Clay
5	60	30

Comments:

1
15
20

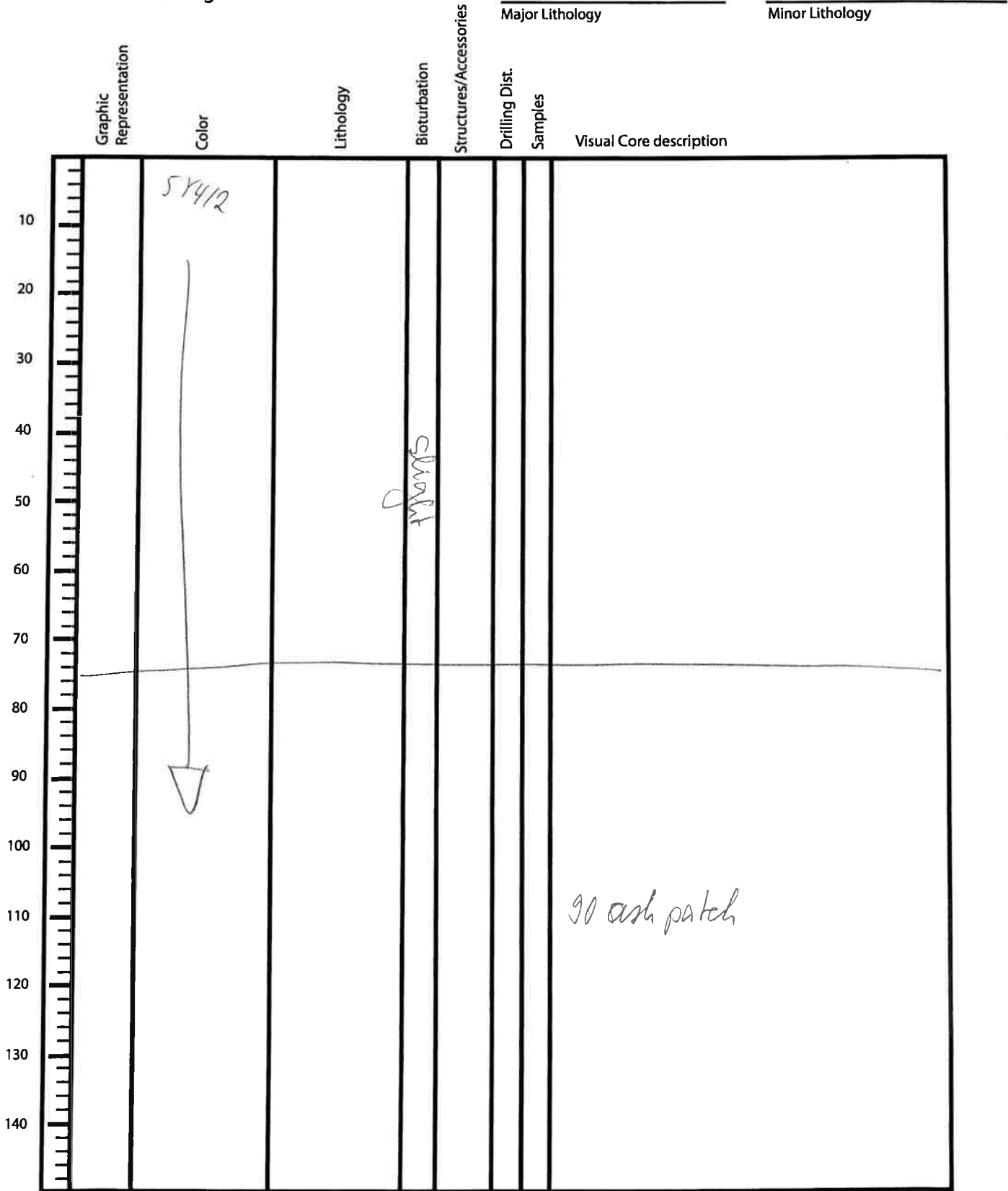
33
17
67

Percent	Component
SILICICLASTIC GRAINS/MINERAL 56%	
Framework minerals	
10%	Quartz 10
17%	Feldspar 25
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
2%	Rock fragments 2
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucanite
	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

Expedition 323
Bering Sea


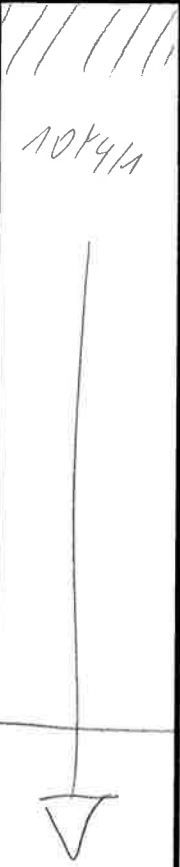

1341 Site C Hole 194 Core 1+2 Section _____ Top Depth



Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation Structures/Accessories	Drilling Dist. Samples	Major Lithology	Minor Lithology
					Visual Core description	
	 10Y4/1		 slight		0-20 grad. 20-42 (sec. 4) thin undulated bedding of grayish and reddish layers 51-80 ash mottles	
					70-73 ash mottling 78 clast, purple, black	

Observer: _____ Date: _____

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

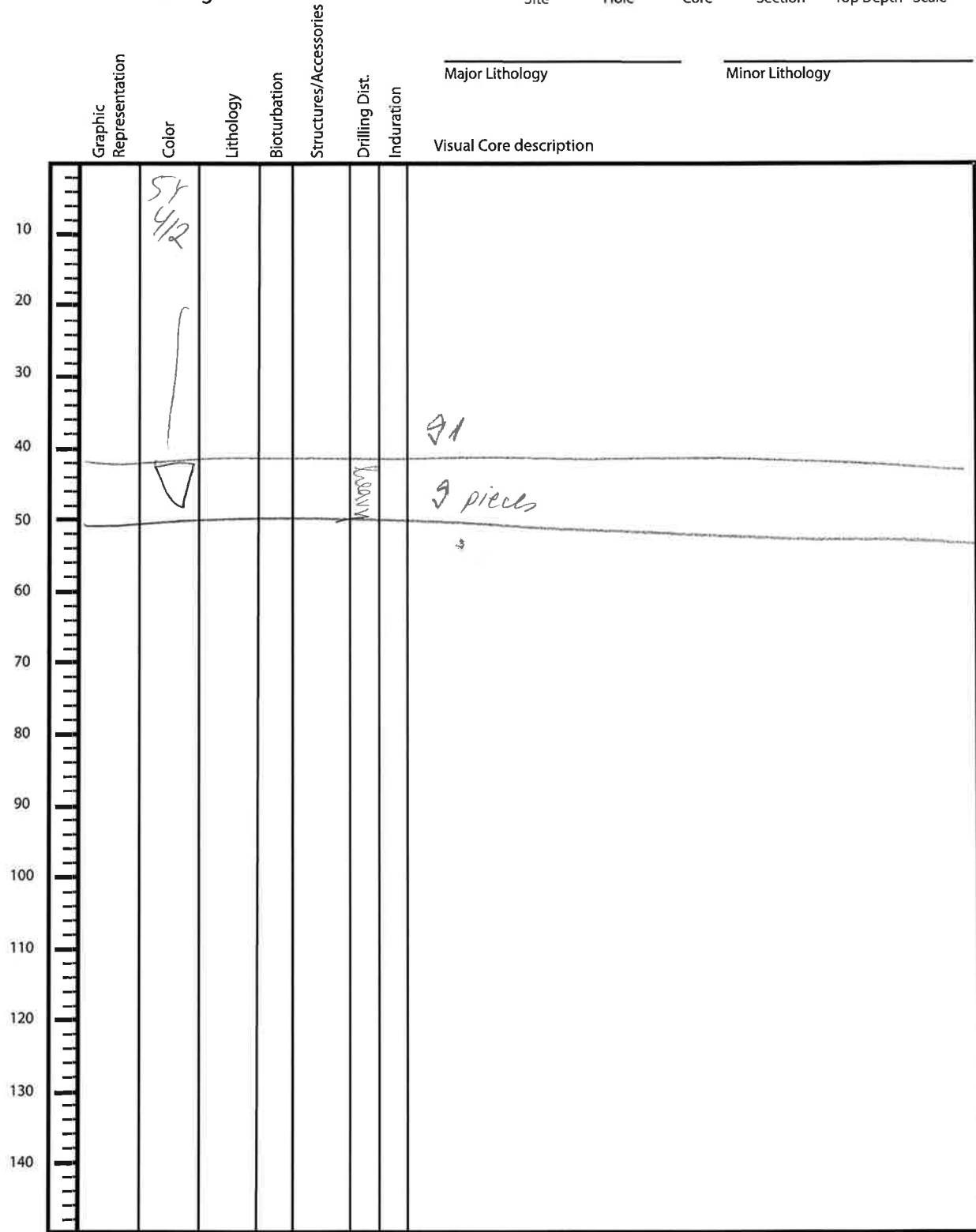
Expedition 323
 Bering Sea

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Samples	Major Lithology	Minor Lithology
							Visual Core description	
	10Y4/1							
	5Y4/2				sl.		0-3 cracks	
	10Y4/1						28-36 grad.	
	5Y4/2						80-90 grad.	
	10Y4/1						100-112 light undul. laminae	
	10Y4/1						122-130 grad	

Observer: _____ Date: _____

Expedition 323
Bering Sea

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



Observer: _____ Date: _____

Expedition 323
Bering Sea

134/ C 204 1-4
Site Hole Core Section Top Depth Scale

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
	10Y 8/1 5Y 4/1	D.S. D.O.			10		Green Mott	
	5Y 4/2	Diatom ooze				1	10-62	D.O. = Diatom ooze D.S. = Diatom silt
	5Y 4/1	1A						
	5Y 4/2	D.O.				2		
	10Y 4/1	D.S.						
	5Y 4/2	D.O.				3		
	10Y 4/1	D.S.						
	5Y 4/2	D.O.				4		

Observer: Hind A Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1341	C	194		2	40	40

Sediment/Rock Name	Diatom ooze	Observer	Hiro
--------------------	-------------	----------	------

Percent Texture		
Sand	Silt	Clay

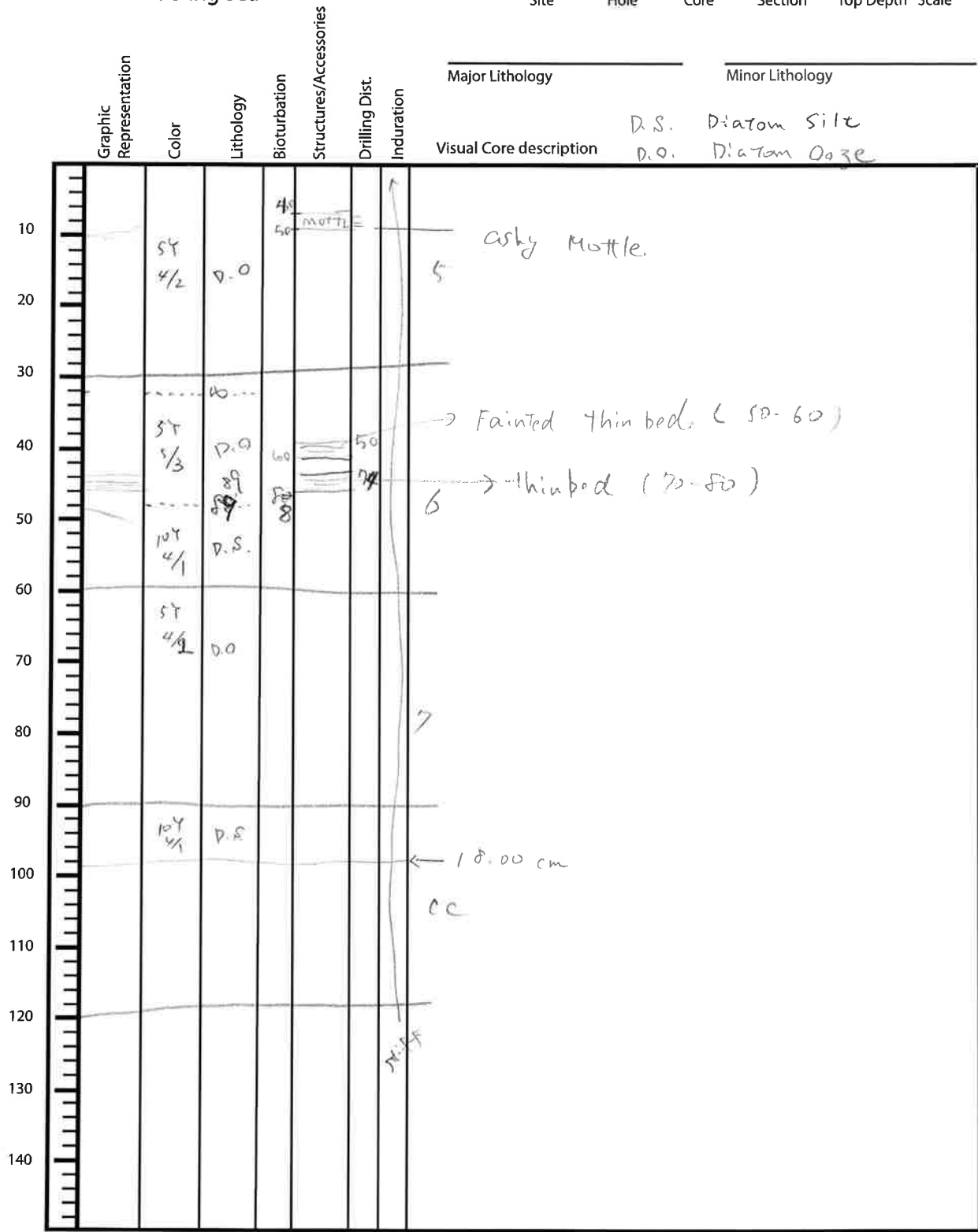
Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL 6	
Framework minerals	
64%	Quartz 1
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucconite
	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%	Centric 53
64%	Pennate 10
	Chaetoceros Resting Spores
10%	Silicoflagellates 051
	Sponge spicules
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Expedition 323
Bering Sea

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



Observer: _____ Date: _____

SM

306

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
			20H		33	10	10

Sediment/Rock Name	Diatom Ooze	Observer	
--------------------	-------------	----------	--

Percent Texture		
Sand	Silt	Clay

Comments: Frag

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
Framework minerals	
10	Quartz 10 5
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments 5
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glauconite
	Chert
	Zircon
	Ferromagnesium minerals
Authigenic minerals	
	Barite
	Phosphorite/Apatite
	Zeolite
Opaque minerals	
	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. E1. 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
			201f		5	20	22

Sediment/Rock Name	Piton Ooze	Observer	HA
--------------------	------------	----------	----

Percent Texture		
Sand	Silt	Clay

Comments: Olive Litho.

Percent	Component
SILICICLASTIC GRAINS/MINERAL 14	
Framework minerals	
11	Quartz 2
3	Feldspar 65
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucanite
	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 26 26	
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. E1 Worksheet used to determine the sediment lithology when examining smear slides

54

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:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
Framework minerals	
24	Quartz 7
7	Feldspar 2
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucconite
	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

731.0%

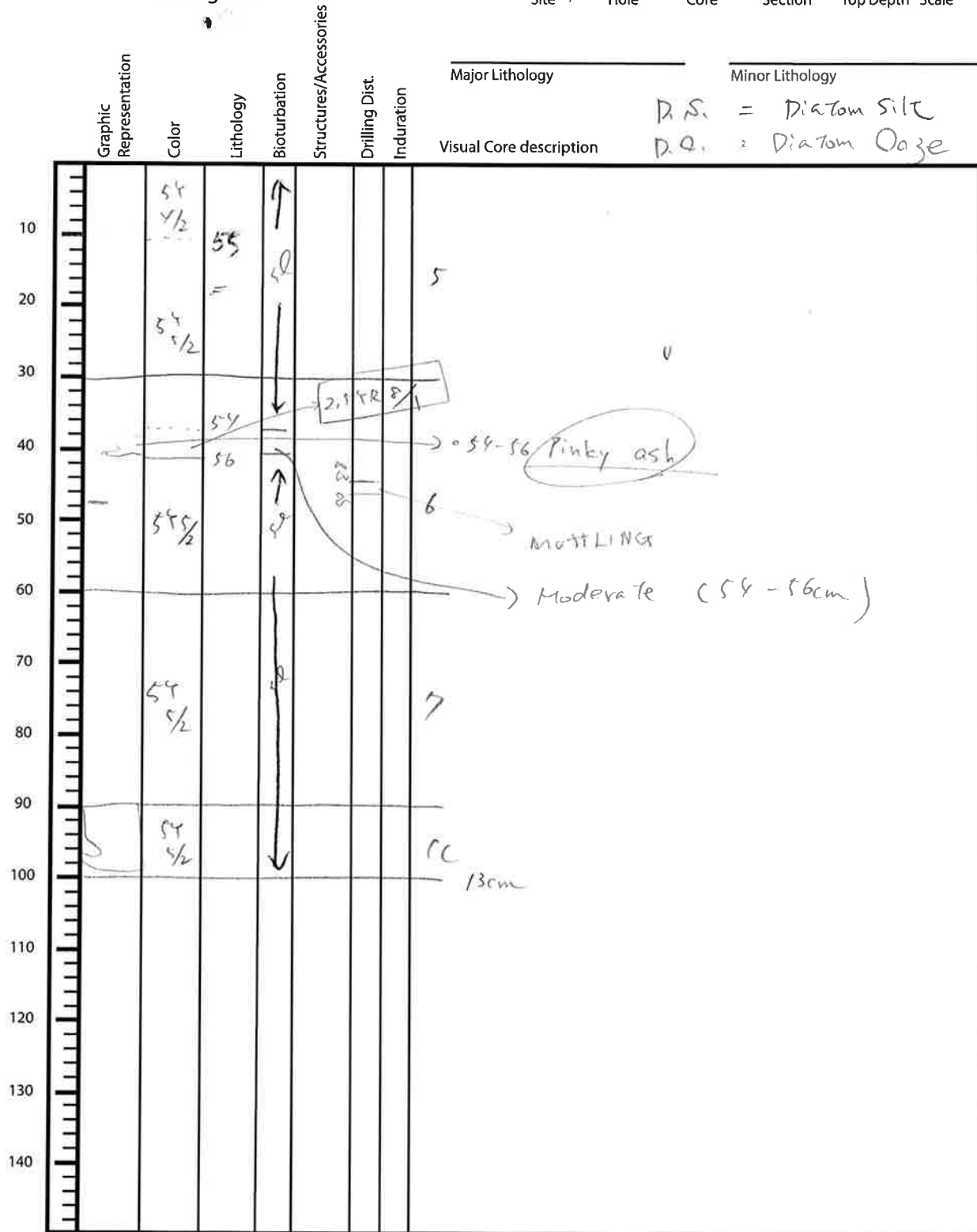
Percent	Component
 BIOGENIC GRAINS	
Calcareous	
	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
Siliceous	
	Radiolarians
	Spumellaria
	Nassellaria
	Diatoms
34	Centric 10
33	Pennate 10
	Chaetoceros Resting Spores
	Silicoflagellates
2	Sponge spicules 0.1
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

70.6%

Fig. E1. Worksheet used to determine the sediment lithology from examining smear slides

Expedition 323
Bering Sea

Site BY1 Hole C Core 24H Section 5-CC Top Depth _____ Scale _____



Observer: Hiro Date: _____

in SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

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

Sand	Percent Texture	
	Silt	Clay
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
8	Silicoflagellates
	Sponge spicules
	Dinoflagellates
	Others
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. E1. 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	Bottom
323	U1341	C	21	H	7	30	30

Sediment/Rock Name	Diatom-rich silt.	Observer	
--------------------	-------------------	----------	--

S

Percent Texture		
Sand	Silt	Clay
2	96	2

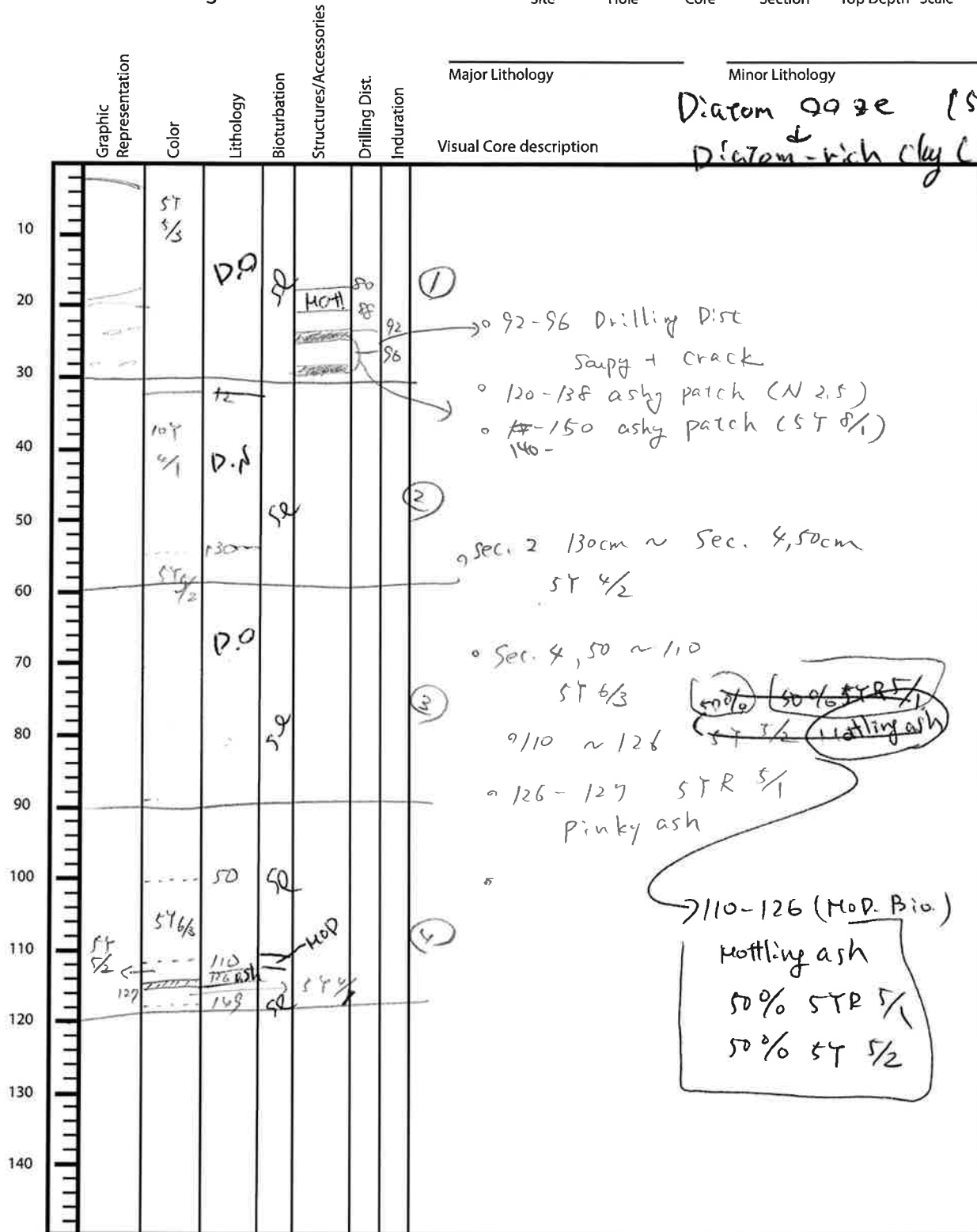
Comments: Main lithology

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

Expedition 323
Bering Sea

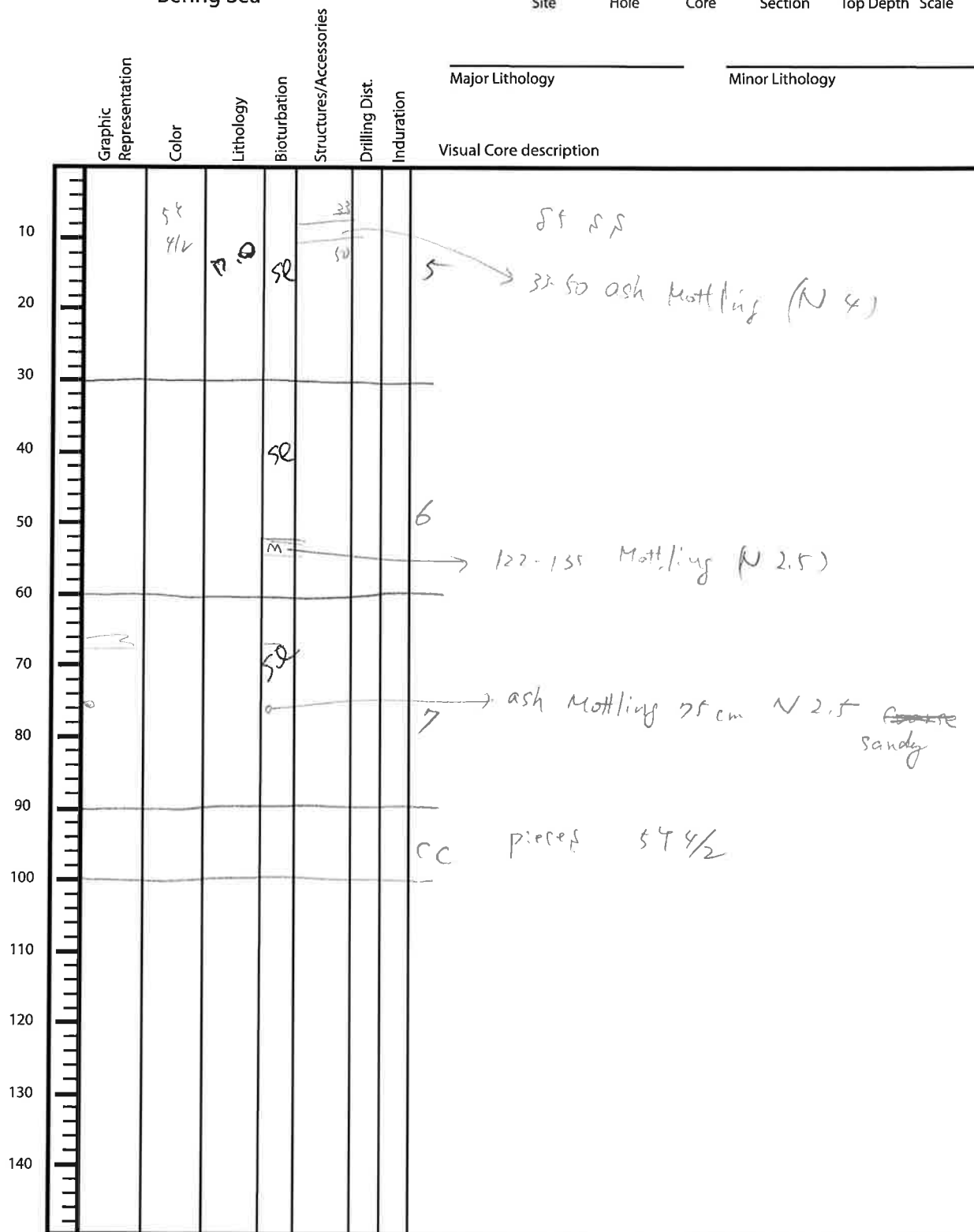
(341) C 2314 1-4
Site Hole Core Section Top Depth Scale



Observer: Hiro Date: _____

Expedition 323
Bering Sea

323 Site 1341 Hole 23H Core Section Top Depth Scale



Observer: _____ Date: _____

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	U1341	C	23	H	2	75	75

Sediment/Rock Name	Diatom-rich silty clay	Observer	Hin
--------------------	------------------------	----------	-----

Percent Texture		
Sand	Silt	Clay
10	60	30

Comments: Main lith (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
	Glaucanite
	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 1
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. E1. 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
323	U1341	C	23	H	5	85	85

Sediment/Rock Name	Diatom ooze	Observer	Hiro
--------------------	-------------	----------	------

Percent Texture		
Sand	Silt	Clay

Comments: Main lith (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 8%	
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

Expedition 323
Bering Sea

Site: 134 Hole: C Core: 24H Section: 1-4+CC Top Depth: _____ Scale: _____

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
	5Y 6/1 5Y 4/2	D.S.C.					4-5 0-5 MOD B.T. (Mottle 5Y 6/1) 4-5 pebble angular Black (N2.5)	D.S.C. → Diatom silty clay D.S.C. (A) → Diatom silty clay (Auth. Carb.)
							① Mottling ash (N2.5)	
							② 150cm slit	Drilling Dist. Sliphit
							③ 7-18 ash mottling (N2.5) Black 18-22 ash mottling (N2.5) Black 18-22 ash mottling (N2.5) Black (5Y 7/4) white	
	5Y 4/1 5Y 2/2 5Y 2/2 5Y 2/2	ash D.S.C. (A)	MOD B.T. ↑				0-28 gradational color change Ash? Bioturbated upward 28-60 Authogenic Carbonate Layer. 69-76 class Carbonate Dolomite (5Y 8/1) 85 Mottling 87-102 5Y 3/5 B.T. ash 87-103cm Mottling MOD Dist.	
	5Y 4/2						④ 103cm 65-96 class Carbonate Dolomite (5Y 8/1) 85 Mottling 87-102 5Y 3/5 B.T. ash 87-103cm Mottling MOD Dist.	
	5Y 3/2						⑤ 114cm 65-96 Mottling	
							⑥ 128cm 18 MOD CC 18-26 Mottling yellowish to white ash 5Y 7/4	PC Pieces 10-26cm

Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	U1341	C	24	H	3	26	26

Sediment/Rock Name	Diatom Silty Clay	Observer	
--------------------	-------------------	----------	--

Percent Texture		
Sand	Silt	Clay
20	65	20

Comments: *Mud layer (54 4/1)*

17 25 25 6

Percent	Component
SILICICLASTIC GRAINS/MINERAL <i>54</i>	
Framework minerals	
<i>41%</i>	Quartz <i>12 15</i>
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
<i>43%</i>	Rock fragments <i>/</i>
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucconite
	Chert
	Zircon
	Ferromagnesium minerals
	Authigenic minerals
	Barite
	Phosphorite/Apatite
	Zeolite
	Opaque minerals
<i>8%</i>	Pyrite <i>3</i>
	Magnetite
	Fe-oxide
	Carbonates
	Calcite
	Dolomite
VOLCANICLASTIC GRAINS	
	Crystal grain
<i>1%</i>	Vitric grain <i>D.5</i>
	Lithic grain

Percent	Component
BIOGENIC GRAINS <i>46%</i>	
Calcareous	
Foraminifera	
Planktonic foraminifera	
Benthic foraminifera	
Nannofossils	
Coccoliths	
Discoasters	
Pteropods	
Siliceous	
Radiolarians	
Spumellaria	
Nassellaria	
Diatoms	
<i>29%</i>	<i>5/10</i> Centric
<i>19%</i>	<i>5/7</i> Pennate
<i>Chaetoceros</i> Resting Spores	
Silicoflagellates	
Sponge spicules	
Dinoflagellates	
Others	
Pollen	
Organic debris	
Plant debris	
Ebridians	
Echinoderm	
Fish remains (teeth, bones, scales)	
Bryozoans	
Bivalves	
Others	

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

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

Percent Texture		
Sand	Silt	Clay
5	30	65

Comments: Carbonate

Percent	Component
	SILICICLASTIC GRAINS/MINERAL 71%
	Framework minerals
20%	Quartz 0.5
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
	Accessory/trace minerals
	Micas
	Biotite
	Muscovite
	Clay Minerals
	Chlorite
	Glaucanite
	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

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	M1341	C	24	H	4	81	81

Sediment/Rock Name	Diatom silty clay (Auth. Arb.)	Observer	
--------------------	--------------------------------	----------	--

Percent Texture		
Sand	Silt	Clay
20	30	50
5	10	15

Comments:

Main lithology (575/2)

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
	Glaucanite
	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	Chaetoceros Resting Spores
	Silicoflagellates
	Sponge spicules
	Dinoflagellates
Others	
	Pollen
	Organic debris
	Plant debris
	Ebridians
	Echinoderm
	Fish remains (teeth, bones, scales)
	Bryozoans
	Bivalves
	Others

Fig. E1. Worksheet used to determine the sediment lithology from examining smear slides.

Expedition 323
Bering Sea

Site 134C Hole 25 Core 5-CC
Section _____ Top Depth _____ Scale _____

57
4/1

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
								Visual Core description	
0-10	✓	16S							
10-20		57 4/2				94	5		
20-30									✓ Sect 94 ~ Sec 70 faint lar with 57 5/3 and 57 4/1
30-40	✓	57 4/2		✓			6		
40-50									720. granules black 2-3mm ✓
50-60									8-20 Dolomite Layer ✓
60-70	✓	57 5/3 57 4/3	20				7	5 20cm	57 4/1 ✓ 5
70-80									7A-KE dolomitized oolite ooze
80-90		57 4/3 ✓							
90-100								CC	170cm
100-110									
110-120									
120-130									
130-140									

Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	Diatom ooze	Observer	WJ
--------------------	-------------	----------	----

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%	Foraminifera
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
55%	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. E1. Worksheet used to determine the sediment lithology from examining smear slides

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

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

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
10%	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
	✓ 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. B1. Worksheet used to determine the sediment lithology from 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 m	

Sediment/Rock Name	DOLOMITIZED DIATOM Ooze	Observer	ruw
--------------------	-------------------------	----------	-----

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%	30% 30% DOLOMITE
	30% 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. B1. Worksheet used to determine the sediment lithology from smear slides.

Expedition 323
Bering Sea

1341 C 26
Site Hole Core Section Top Depth Scale

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
1			S				36. pebble blud 5mm	6-7 ^{gray} ash layer < 5mm
2	V	5Y 4/2	S					
3	V	146	S				Sec 3, 146 ~	
4			m				main color 5Y 5/2., 2.5Y 6/3, 5Y 4/2	
5		5Y 5/2 main	m				12-13, 13-16 gray ash 71-72 with ash black	
6			m				36-38 white ash	124. black ash 3mm
7		10 22 7	m				3-26 dolomitized 2.5Y 7/2	42 dol. layer -43
OC							72 12	

1A-80
diatom
silty clay

6A-50
diatom ooze

Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	XIATON - RICH SILTY CLAY	Observer	LWA
--------------------	--	----------	-----

- RICH SILTY CLAY

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
Framework minerals	
10%	3 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. E1. Worksheet used to determine the sediment lithology from 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	50cm	

Sediment/Rock Name	DIATOM Ooze	Observer	IWA
--------------------	-------------	----------	-----

Percent Texture		
Sand	Silt	Clay

Comments:

Percent	Component
SILICICLASTIC GRAINS/MINERAL	
	Framework minerals
5%	Quartz
10%	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

5%

10%

10%

2%

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

Expedition 323
Bering Sea

27X

1341 C ~~26~~ 6-CC
 Site Hole Core Section Top Depth Scale

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
								Visual Core description	
0 - 10									
10 - 20									
20 - 30									
30 - 40									
40 - 50									
50 - 60									
60 - 70									
70 - 80									
80 - 90									
90 - 100									
100 - 110									
110 - 120									
120 - 130									
130 - 140									

Handwritten notes on the left margin: 'a' at 10cm, 'ga' and '7' between 30-40cm, and 'c' between 60-70cm.

SPICULE RICH DATUM Ooze

FAULT LAMINATION

50 cm, ss SPICULE-RICH DATUM Ooze

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	Akora
--------------------	-------------	----------	-------

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 70
	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. B1. Worksheet used to determine the sediment lithology from scanning smear slides

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
✓ 9	5Y 4/4		S					
✓ 25 3/2	25Y 3/2		m				9-28 25 ← 25Y 3/2 (bioturbated lam?)	1A-4 diatom-rich foraminifera ooze
✓ 54 4/2	5Y 4/2							1A-16 foraminifera nanno diatom ooze
✓ 65								
			S					
	10Y 4/1							
							132-138 mottled ash brown	
							142-145 mottled ash gray coarse	

CC 12V 120m 12-20 PAL

Observer: _____ Date: _____

SM

IODP Expedition 323
 SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	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 1570 (fragments that)
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils ✓
	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	

SM

Sediment/Rock Name	foraminifera-rich nannofossil + diatom ooze brownish layer	Observer	Akin
--------------------	--	----------	------

Percent Texture		
Sand	Silt	Clay

Comments:

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 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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
	54 3/2						54 3/2 - SILTY CLAY DARK OLIVE GRAY	
	54 4/2	78 cm					54 4/2 DIATOM-RICH OLIVE SILTY CLAY GRAY	
	54 3/2	90 cm					54 3/1 VERY DARK GRAY	
	54 4/2	114					54 5/4 OLIVE	
	54 3/2	136						
	54 3/2	150						
	54 4/2	30		20				
	54 3/2	60		40				
	54 4/2	70		0 chondrites				
	54 3/2	83						
	54 4/2	93						
	54 3/2	115						
	54 2/2	134						
	54 3/2							

DIATOM-RICH

60cm, SS

1

2

Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
	54 3/2							space 23, 24
	5/2 3/2 5/2	40 47 54 4/2						100 cm, SS FORAM-RICH DIATOM ooze
	3/2	93						PS LAMINATED Δ graded? 102 SHARP BOTTOM
	5/4 3/2 4/2	100 108			110			chondrites
	3/2 4/2	128 132			130			138-139, SLATE RESEMBLE
		7						
	54 3/2				37 52			chondrites
		70						
	4/2	77						
	54 3/2	103						103 LAMINATED 104 SHARP BOTTOM
	54 3/2	107						
	5/4 3/2	120 138						120 138 ←
		151						ROTTEN/LEAST 300 HOWS



34
5/3
FORAM-RICH
DIATOM
OOZE

Observer: _____ Date: _____

Expedition 323
Bering Sea

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

Depth (cm)	Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
								Visual Core description	
0		5y	0						
10		4/2			22 24			planolites	
20		5y 3/2 4/2	33 50 60					ASH LAYER 40-45	
30			-?						
40					(83)			92-95, gravel/pellets	
50		5y 3/2							
60									
70		4/2	17 26	I				planolites (20-22) -26 LAMINATION 26 SHARP BASE	
80		5y 3/2 4/2	42 79						
90		3/2							
100		4/2	93	I				planolites 92-124	
110		3/2 4/2	107 122 132					107 lamination fine lamination	
120		5y 5/4							
130		3/2 4/2	4cm 12cm 21					cross lamination?	
140									

5

6

7

CC

Observer: _____ Date: _____

X

SM

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 2/1
	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	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
	✓ 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	✓ Foraminifera 7
	Planktonic foraminifera
	Benthic foraminifera
	Nannofossils
	Coccoliths
	Discoasters
	Pteropods
	Siliceous
	Radiolarians
	Spumellaria
	Nassellaria
59	✓ 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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

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

Sediment/Rock Name	diatom-rich silty clay	Observer	Akima
--------------------	------------------------	----------	-------

Percent Texture		
Sand	Silt	Clay

Comments:

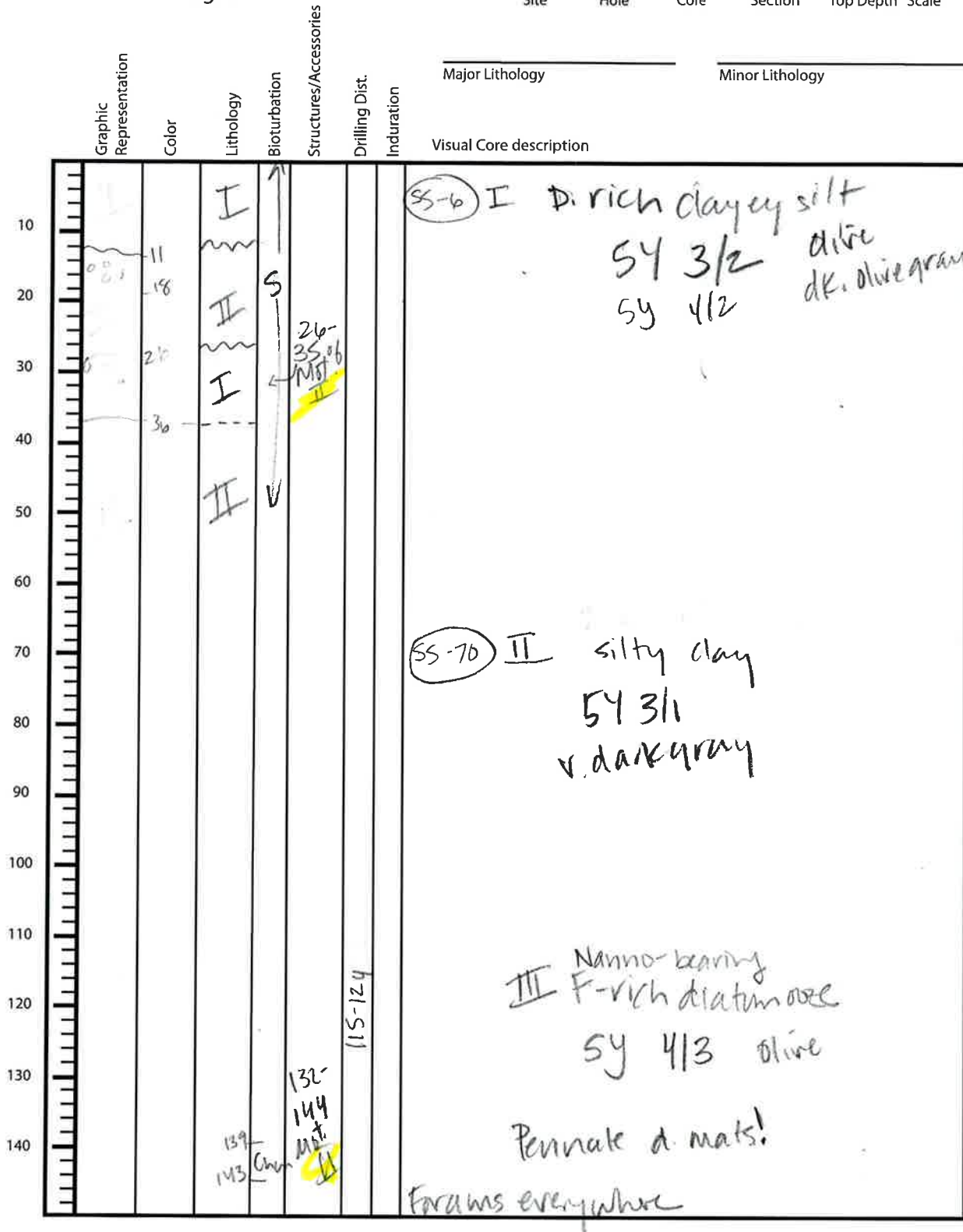


Percent	Component
SILICICLASTIC GRAINS/MINERAL	
Framework minerals	
15	Quartz 3
	Feldspar
	K-feldspar (Orthoclase, Microcline...)
	Plagioclase
	Rock fragments
Accessory/trace minerals	
	Micas
	Biotite
	Muscovite
15	Clay Minerals 3
	Chlorite
	Glaucanite
	Chert
	Zircon
	Ferromagnesium minerals
Authigenic 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

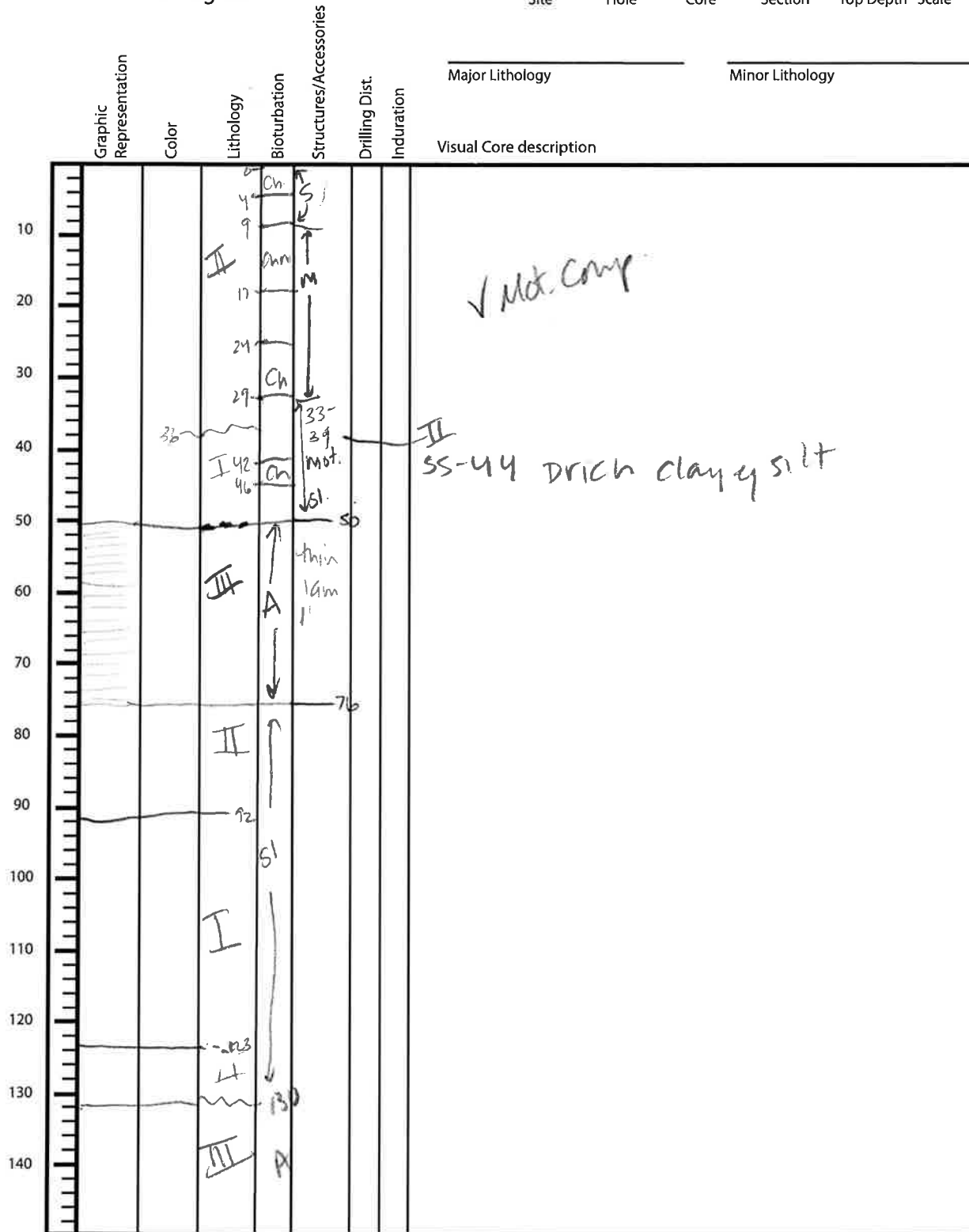
1342 A 3A 1A
Site Hole Core Section Top Depth Scale



Observer: _____ Date: _____

Expedition 323
Bering Sea

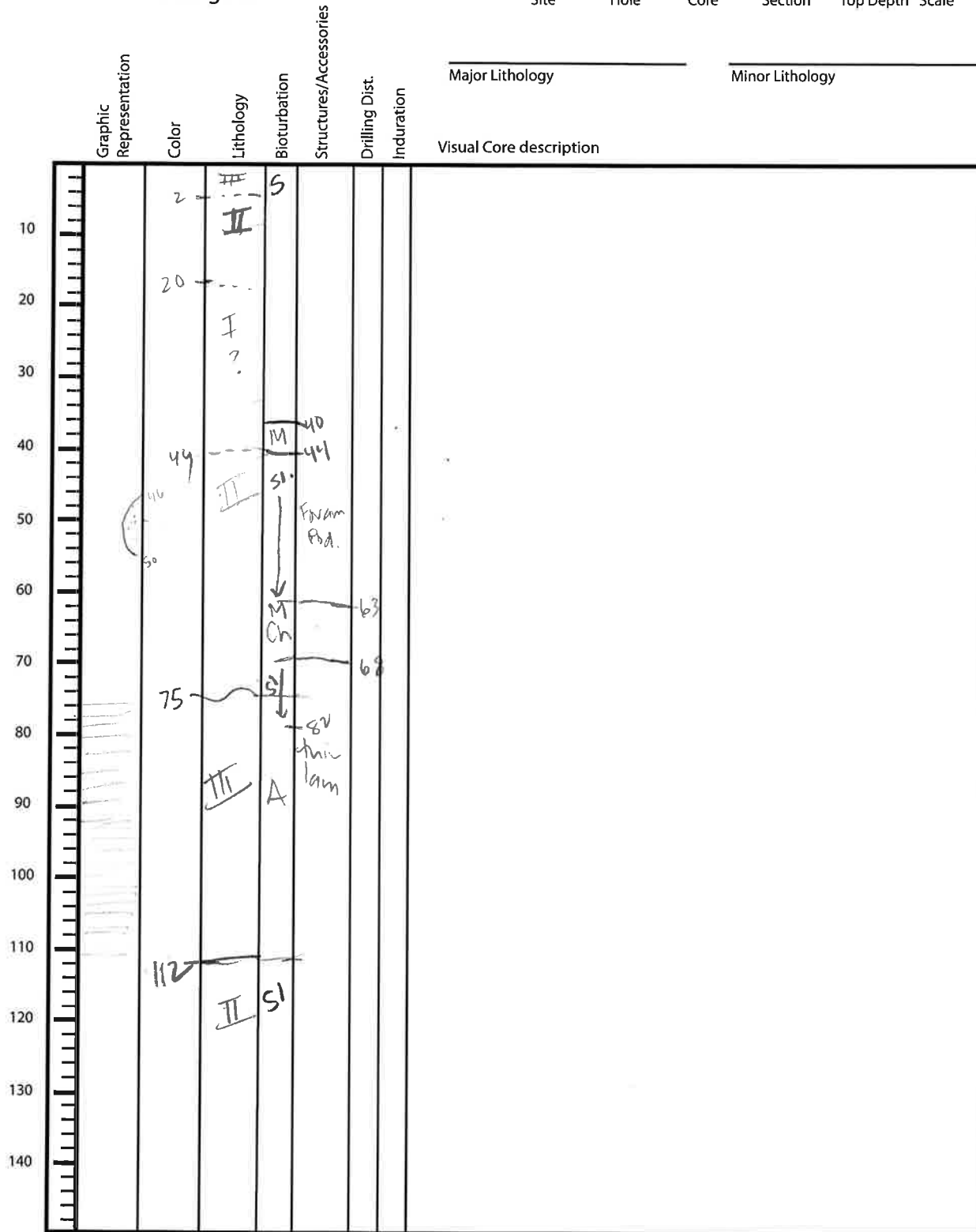
U1342 A 3H 2
 Site Hole Core Section Top Depth Scale



Observer: _____ Date: _____

Expedition 323
Bering Sea

V1342 Site A Hole 3A Core 3 Section _____ Top Depth _____ Scale



Observer: _____ Date: _____

Expedition 323
Bering Sea

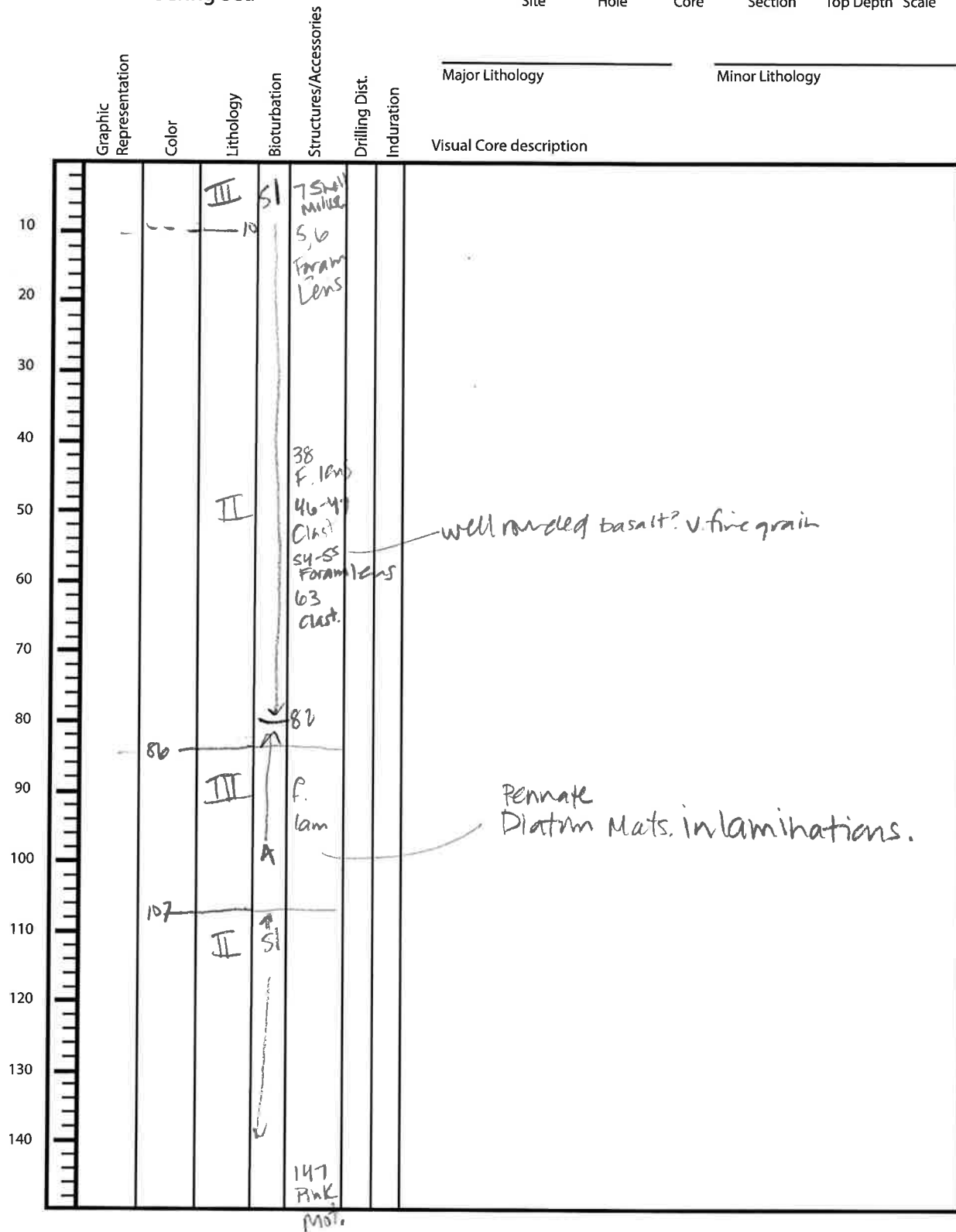
U1342 ~~31A~~ 3H 4
 Site Hole Core Section Top Depth Scale

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
10-15 cm: [Hand-drawn texture]		SI	SI		7			
		A			11			5-7 cm.
		II	SI					
		I	Ch					
		II	SI					
71-75 cm: [Hand-drawn texture]		II	SI					
		A	F. lam.					
84-88 cm: [Hand-drawn texture]		II	SI					55-76
		I	Ch					
		II	SI					
		A						

Observer: _____ Date: _____

Expedition 323
Bering Sea

V1342 A 34 5
Site Hole Core Section Top Depth Scale



Observer: _____ Date: _____

Expedition 323
Bering Sea

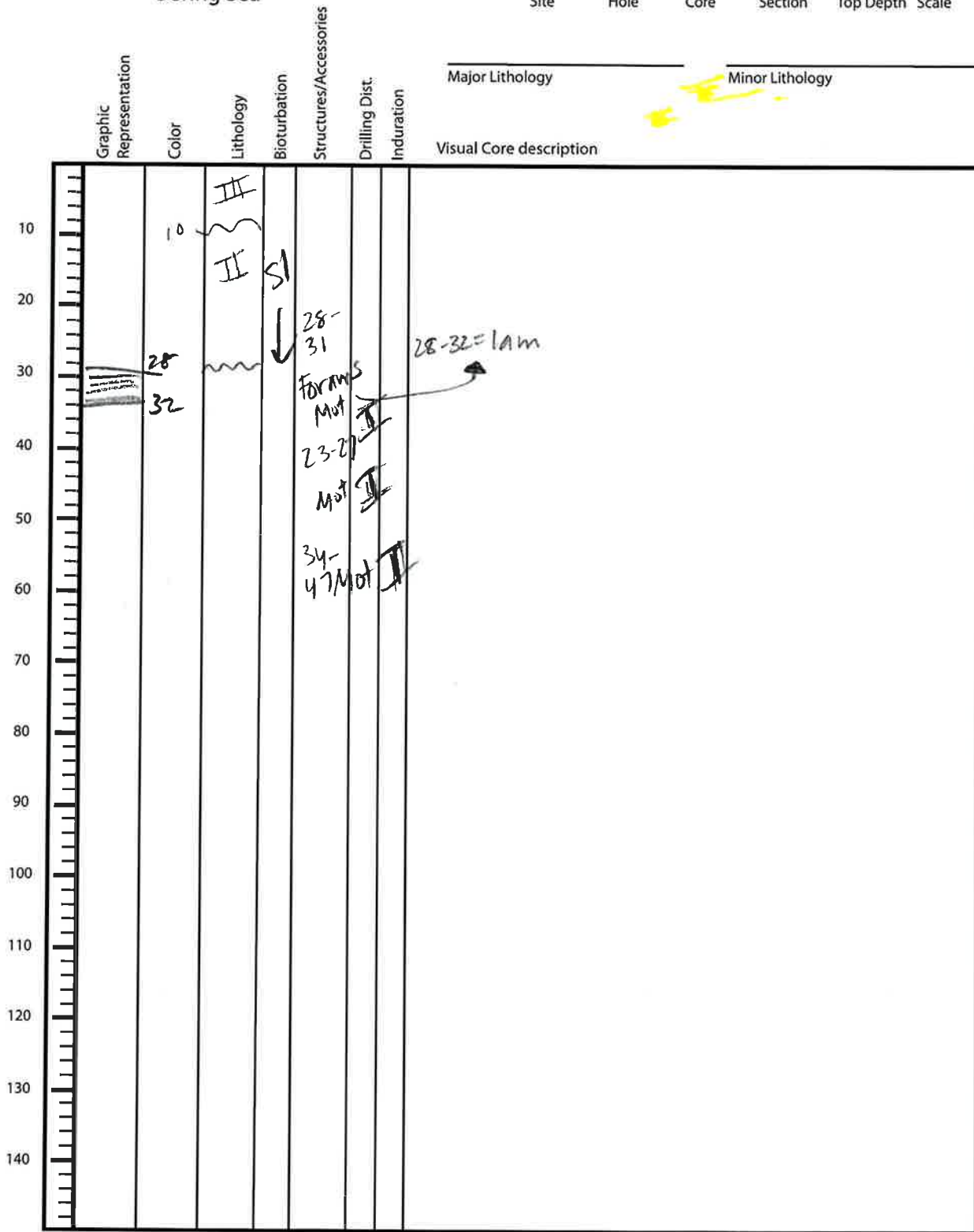
U1342 3A 3H 6
Site Hole Core Section Top Depth Scale

Graphic Representation	Color	Lithology	Bioturbation	Structures/Accessories	Drilling Dist.	Induration	Major Lithology	Minor Lithology
							Visual Core description	
		II	SI					
10		I	SI	2 Gran				
14		II	SI	76mm				
25-31		III	A					
45		II	SI					
81		I	SI	86-87 P.				
108-114				Ch.				
121-129		II		Ch				
139		III						

Observer: _____ Date: _____

Expedition 323
Bering Sea

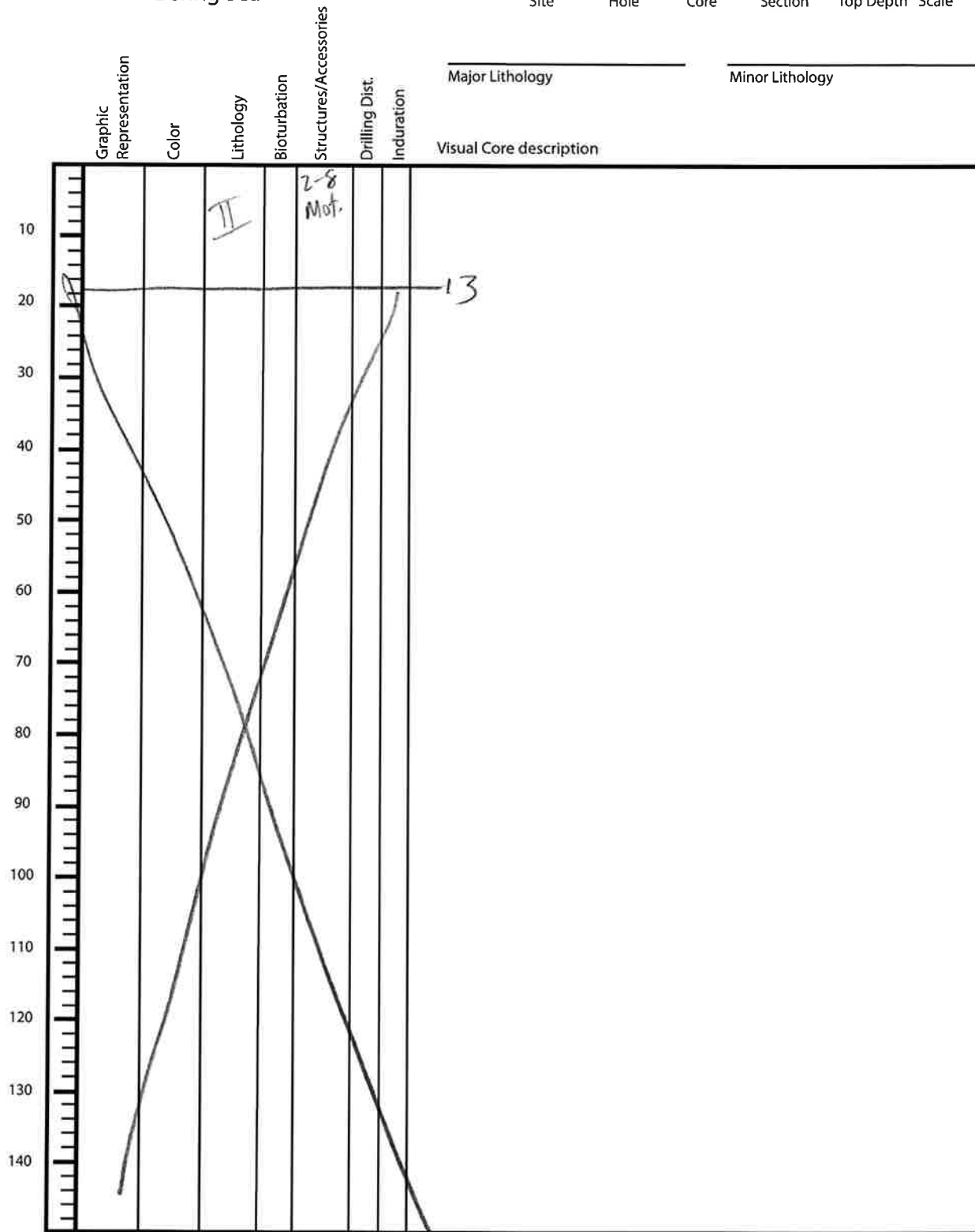
U1342 A 3H 7
 Site Hole Core Section Top Depth Scale



Observer: _____ Date: _____

Expedition 323
Bering Sea

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



Observer: _____ Date: _____

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	7342	A	3	H	1	6	

Sediment/Rock Name	diatom-bearing fine-ashy silt	Observer	akira
--------------------	-------------------------------	----------	-------

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

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	Bottom
323	1342	A	3	H	2	44	44

Sediment/Rock Name	Diatom-rich clayey silt	Observer	Kelsic
--------------------	-------------------------	----------	--------

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
21	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

SM

IODP Expedition 323
SEDIMENT SMEAR SLIDE WORKSHEET

Leg	Site	Hole	Core	Type	Sec	Interval (cm)	
						Top	Bottom
323	1349	A	3	H	4	18	

Sediment/Rock Name	foraminifera-rich diatom ooze	Observer	AKM
--------------------	-------------------------------	----------	-----

nanno-bearing

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	
77	Foraminifera ✓ 5 fragments
	Planktonic foraminifera
	Benthic foraminifera
7	Nannofossils 7.3
	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