

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****120m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 20, Total count: 105

ALIN	Algae spp.		1	
FU	Fungal hyphae		7	
FU	Inapertisporites sp.		6	
FU	Papulosporonites sp.		1	
FU	Reduviasporonites sp.		1	
FU	Striadiporites multistriatus	Rw	1	a-36.2/7.8
SP	Alnus 4-porate		1	
SP	Alnus 5-porate		1	
SP	Deltoidospora sp.		5	
SP	Inaperturopollenites dubius		5	a-15.9/14.6, probably T-C-T unsplit
SP	Laevigatosporites sp.		2	
SP	Lycopodium spike		36	
SP	Picea sp.		6	
SP	Pinaceae undiff.		5	
SP	Pinus sp.		5	
SP	Recycled palynomorphs	Rw	5	
SP	Retimonocolpites sp.		1	
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		4	
SP	Undeterminable spp.		10	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****130m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 13, Total count: 96

FU	Inapertisporites sp.		1
SP	Betula <= 20 um		1
SP	Betula >20 um		1
SP	Deltoidospora sp.		3
SP	Laevigatosporites sp.		2
SP	Lycopodium spike		44
SP	Picea sp.		2
SP	Pinaceae undiff.		3
SP	Pinus sp.		1
SP	Recycled palynomorphs	Rw	17
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		2
SP	Triporopollenites sp.		2
SP	Undeterminable spp.		17

StrataBugs: Palynofloral Sample Logging Sheet
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Mallik 5L-38

140m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015
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Taxa: 0, Total count: 0

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

150m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 0, Total count: 0

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

160m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 0, Total count: 0

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****170m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 14, Total count: 56

ALIN	Algae spp.		1
FU	Inapertisporites sp.		2
SP	Deltoidospora sp.		2
SP	Laevigatosporites sp.		3
SP	Lycopodium spike		19
SP	Picea sp.		1
SP	Pinaceae undiff.		5
SP	Pinus sp.		2
SP	Recycled palynomorphs	Rw	5
SP	Retitricolpites sp.		1
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		2
SP	Tripoporollenites sp.		1
SP	Undeterminable spp.		11
SP	Unknown spp.		1

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****185m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 17, Total count: 81

FU	Fungal hyphae		1
FU	Inapertisporites sp.		3
SP	Alnus 5-porate		1
SP	Betula <= 20 um		1
SP	Betula >20 um		1
SP	Classopollis classoides	Rw	1
SP	Deltoidospora sp.		1
SP	Inaperturopollenites dubius		4
SP	Lycopodium spike		37
SP	Picea sp.		5
SP	Pinaceae undiff.		3
SP	Pinus sp.		2
SP	Recycled palynomorphs	Rw	7
SP	Sphagnum sp.		4
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		1
SP	Triporopollenites sp.		1
SP	Undeterminable spp.		8

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****200m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 20, Total count: 95

DC	Labyrinthodinium truncatum	?	1	a-20.0/22.1, 35/33 µm with many 4µm processes; good
FU	Fractisporonites sp.		2	
FU	Papulosporonites sp.		1	
SP	Alnus 4-porate		2	
SP	Alnus 5-porate		1	
SP	Betula <= 20 um		3	
SP	Deltoidospora sp.		2	
SP	Inaperturopollenites dubius		11	
SP	Laevigatosporites sp.		4	
SP	Lycopodium spike		34	
SP	Picea sp.		1	
SP	Pinaceae undiff.		1	
SP	Pinus sp.		1	
SP	Recycled palynomorphs	Rw	3	
SP	Retitricolpites sp.		2	a-15.9/18.2, 27.8/4.2; good
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	
SP	Triporopollenites sp.		2	
SP	Undeterminable spp.		18	
SP	Unknown spp.		2	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****210m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 18, Total count: 154

ALIN	Algae spp.		1	
FU	Fungal hyphae		1	
FU	Inapertisporites sp.		1	
SP	Alnus 4-porate		2	
SP	Classopollis classoides	Rw	1	
SP	Deltoidospora sp.		9	
SP	Equisetum sp.		1	a-14.0/1.6
SP	Inaperturopollenites dubius		17	
SP	Laevigatosporites sp.		5	
SP	Lycopodium spike		71	
SP	Picea sp.		2	
SP	Pinaceae undiff.		10	
SP	Pinus sp.		4	
SP	Recycled palynomorphs	Rw	7	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		7	
SP	Tripoporollenites sp.		2	a-32.0/11.0, Myrica -type?
SP	Undeterminable spp.		12	
SP	Unknown spp.		1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****220m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 19, Total count: 174

DC	Spiniferites sp.	?	1	a-14.3/18.7, processes distorted
FU	Unknown fungal spp.		1	
SP	Alnus 5-porate	Rw	1	
SP	Artemisia sp.	?	1	a-12.0/6.9; obscured
SP	Deltoidospora sp.		9	
SP	Gleicheniidites senonicus	Rw	2	a-20.0/5.6
SP	Inaperturopollenites dubius		6	
SP	Laevigatosporites sp.		1	
SP	Lycopodium spike		88	
SP	Onagraceae undiff.	?	1	a-10.0/15.2
SP	Osmunda sp.		1	a-22.1/18.4
SP	Picea sp.		2	
SP	Pinaceae undiff.		4	
SP	Recycled palynomorphs	Rw	9	
SP	Sphagnum sp.		3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		16	
SP	Tripoporollenites sp.		2	
SP	Tsuga sp.	?	1	a-14.2/9.6
SP	Undeterminable spp.		25	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****230m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:19:59 MDT 2015

Taxa: 15, Total count: 168

DC	Dinoflagellate indet.	?	3	a-12.2/20.7, 28.0/6.3, thin crinkled sphere with "eye spot"
FU	Fractisporonites sp.		2	
SP	Alnus 4-porate		1	
SP	Alnus 5-porate		1	
SP	Betula >20 um		1	
SP	Deltoidospora sp.		4	
SP	Inaperturopollenites dubius		6	
SP	Laevigatosporites sp.		3	
SP	Lycopodium spike		98	
SP	Picea sp.		4	
SP	Pinaceae undiff.		3	
SP	Pinus sp.		3	
SP	Recycled palynomorphs	Rw	7	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		7	
SP	Undeterminable spp.		25	

StrataBugs: Palynofloral Sample Logging Sheet

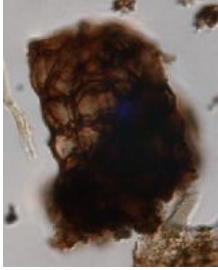
Mallik 5L-38

240m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 19, Total count: 121

ALIN	Algae spp.		1	
DC	Dinoflagellate indet.		1	a-37.8/4.9
FU	Fungal hyphae		9	
FU	Inapertisporites sp.		1	
FU	Papulosporonites sp.		1	a-14.0/19.3
				
FU	Striadiporites inflexus	?	1	a-12.2/5.2, striae very faint, almost psilate
SP	Alnus 4-porate		1	
SP	Deltoidospora sp.		1	
SP	Inaperturopollenites dubius		6	
SP	Lycopodium spike		45	
SP	Osmunda sp.		1	
SP	Picea sp.		2	
SP	Pinaceae undiff.		8	
SP	Pinus sp.		6	
SP	Recycled palynomorphs	Rw	10	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		1	
SP	Tricolpites sp.		1	
SP	Tripoporollenites sp.		1	
SP	Undeterminable spp.		24	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****250m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 14, Total count: 171

DC	Dinoflagellate indet.		1	
FO	Microforaminiferal test lining		1	a-28.1/7.5
SP	Alnus 5-porate		1	
SP	Deltoidospora sp.		2	
SP	Inaperturopollenites dubius		10	
SP	Laevigatosporites sp.		2	
SP	Lycopodium spike		125	
SP	Picea sp.		1	
SP	Pinaceae undiff.		1	
SP	Pinus sp.		3	
SP	Recycled palynomorphs	Rw	10	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		2	
SP	Undeterminable spp.		11	

StrataBugs: Palynofloral Sample Logging Sheet


Mallik 5L-38

260m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 192

DC	Filisphaera filifera		1	a-39.9/9.9, more like pilosa, but no scattered granules
FU	Fungal hyphae		1	
FU	Reduviasporonites sp.		1	
SP	Alnus 4-porate		1	
SP	Alnus 6-porate		1	
SP	Artemisia sp.		1	a-24.0/19.8, Image 0242.tif
				
SP	Deltoidospora sp.		2	
SP	Gleicheniidites senonicus	Rw	1	
SP	Inaperturopollenites dubius		8	
SP	Laevigatosporites sp.		3	
SP	Lycopodium spike		115	
SP	Picea sp.		6	
SP	Pinaceae undiff.		7	
SP	Pinus sp.		2	
SP	Recycled palynomorphs	Rw	8	
SP	Sciadopitys sp.		1	a-39.9/9.5; somewhat eroded
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		7	
SP	Undeterminable spp.		26	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****270m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 172

DC	Dinoflagellate indet.	Rw	2	a-10.0/4.6, 20.1/10.2
FU	Fungal hyphae		1	
FU	Inapertisporites sp.		1	
FU	Papulosporonites sp.		1	
SP	Artemisia sp.		1	a-16.0/16.6
SP	Deltoidospora sp.		1	
SP	Inaperturopollenites dubius		1	
SP	Laevigatosporites sp.		2	
SP	Lycopodium spike		110	
SP	Osmunda sp.		1	a-34.2/8.0
SP	Picea sp.		5	
SP	Pinaceae undiff.		4	
SP	Pinus sp.		1	
SP	Recycled palynomorphs	Rw	7	
SP	Retimonocolpites sp.		1	
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		6	
SP	Undeterminable spp.		25	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****280m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 10, Total count: 92

FU	Fungal hyphae		2
FU	Papulosporonites sp.		1
SP	Deltoidospora sp.		1
SP	Laevigatosporites sp.		1
SP	Lycopodium spike		53
SP	Pinaceae undiff.		3
SP	Recycled palynomorphs	Rw	5
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3
SP	Undeterminable spp.		21
SP	Unknown spp.		2

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****290m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 9, Total count: 86

FU	Fungal hyphae		1
FU	Papulosporonites sp.		1
SP	Lycopodium spike		53
SP	Osmunda sp.		1
SP	Pinaceae undiff.		1
SP	Pinus sp.		1
SP	Recycled palynomorphs	Rw	6
SP	Sphagnum sp.		2
SP	Undeterminable spp.		20

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****300m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 14, Total count: 162

FU	Dicellaesporites sp.		1	
FU	Fractisporonites sp.		1	
FU	Fungal hyphae		2	
FU	Papulosporonites sp.		3	
SP	Gleicheniidites senonicus	Rw	2	
SP	Inaperturopollenites dubius		2	
SP	Laevigatosporites sp.		1	
SP	Lycopodium spike		98	
SP	Picea sp.		1	
SP	Pinus sp.		2	
SP	Recycled palynomorphs	Rw	13	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	
SP	Undeterminable spp.		32	
SP	Unknown spp.		1	a-16.0/7.0, egg case?

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

310m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 11, Total count: 104

AC	Veryhachium sp.	Rw ?	1	a-12.1/14.0
FU	Fungal hyphae		1	
SP	Chenopodiineae undiff.		1	a-12.0/18.5



SP	Cornus sp.		1	a-12.1/14.0, previously misidentified as Shepherdia canadensis
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SP	Lycopodium spike		66	
SP	Pinaceae undiff.		2	
SP	Recycled palynomorphs	Rw	5	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		2	
SP	Tripoporollenites sp.		2	
SP	Undeterminable spp.		22	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****320m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 11, Total count: 121

DC	Dinoflagellate indet.	Rw	3	a-9.9/7.5, apical horn, a-14.1/14.1,
FU	Fungal hyphae		1	
FU	Papulosporonites sp.		2	
FU	Reduviasporonites sp.		1	
SP	Deltoidospora sp.		2	
SP	Lycopodium spike		75	
SP	Picea sp.		3	
SP	Pinaceae undiff.		1	
SP	Recycled palynomorphs	Rw	11	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	
SP	Undeterminable spp.		19	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****330m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 14, Total count: 86

DC	Dinoflagellate indet.		1	a-22.0/10.6
FU	Fungal hyphae		1	
FU	Papulosporonites sp.		1	
SP	Alnus 5-porate		1	
SP	Deltoidospora sp.		1	
SP	Inaperturopollenites dubius		2	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		36	
SP	Pinaceae undiff.		1	
SP	Recycled palynomorphs	Rw	2	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		4	a-16.0/15.3 -pristine condition
SP	Undeterminable spp.		32	
SP	Unknown spp.		2	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****340m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 16, Total count: 133

ALIN	Algae spp.		1	
DC	Dinoflagellate indet.	Rw	3	
DC	Odontochitina operculata	Rw	1	a-9.8/8.1
FU	Fungal hyphae		1	
FU	Papulosporonites sp.		1	
SP	Gleicheniidites senonicus	Rw	1	
SP	Inaperturopollenites dubius		2	
SP	Laevigatosporites sp.		2	
SP	Lycopodium spike		72	
SP	Recycled palynomorphs	Rw	9	
SP	Retitricolpites sp.		1	a-16.1/10.5
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		4	
SP	Triporopollenites sp.		1	a-28.1/13.7, yellow, but good preservtion
SP	Undeterminable spp.		32	
SP	Unknown spp.		1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****350m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 15, Total count: 133

ALIN	Algae spp.		1	
FU	Fungal hyphae		2	
SP	Betula <= 20 um		1	
SP	Caryophyllaceae undiff.		1	a-39.8/3.7
SP	Deltoidospora sp.		1	
SP	Gleicheniidites senonicus	Rw	1	
SP	Inaperturopollenites dubius		1	
SP	Laevigatosporites sp.		1	
SP	Lycopodium spike		74	
SP	Pinaceae undiff.		4	
SP	Recycled palynomorphs	Rw	5	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		1	
SP	Undeterminable spp.		37	
SP	Unknown spp.		2	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****360m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 12, Total count: 109

ALIN	Algae spp.		1	
FU	Fungal hyphae		1	
FU	Unknown fungal spp.		1	a-30.0/9.5; thin, multicellate
SP	Gleicheniidites senonicus	Rw	1	
SP	Inaperturopollenites dubius		2	
SP	Lycopodium spike		48	
SP	Podocarpus sp.		1	a-27.7/11.4
SP	Recycled palynomorphs	Rw	2	
SP	Retitricolpites sp.		2	a-26.2/4.8
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		1	
SP	Undeterminable spp.		48	
SP	Unknown spp.		1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****370m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 15, Total count: 141

ALIN	Algae spp.		2	
FU	Fungal hyphae		2	
SP	Alnus 4-porate		1	
SP	Betula <= 20 um		3	
SP	Cicatricosisporites sp.	Rw	1	
SP	Inaperturopollenites dubius		6	
SP	Lycopodium spike		46	
SP	Paraalnipollenites alterniporus	Rw	1	a-34.1/5.3
SP	Pinaceae undiff.		6	
SP	Recycled palynomorphs	Rw	6	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		10	
SP	Tubuliflorae undiff.		1	a-36.0/18.0
SP	Undeterminable spp.		52	
SP	Unknown spp.		3	
SP	Vitreisporites pallidus	Rw	1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****380m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 21, Total count: 85

ALIN	Algae spp.		2	
FU	Dicellaesporites sp.		1	a-22.0/5.0
FU	Fungal hyphae		1	
FU	Papulosporonites sp.		1	
SP	Alnus 4-porate		2	
SP	Alnus 5-porate		2	
SP	Betula <= 20 um		1	
SP	Betula >20 um		1	
SP	Deltoidospora sp.		1	
SP	Ericales undiff.		1	a-22.2/9.3
SP	Gleicheniidites senonicus	Rw	1	
SP	Inaperturopollenites dubius		2	
SP	Lycopodium spike		15	
SP	Pinaceae undiff.		5	
SP	Recycled palynomorphs	Rw	2	
SP	Sphagnum sp.		3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		9	
SP	Triporopollenites sp.		2	
SP	Undeterminable spp.		30	
SP	Unknown sp. A		1	a-20.1/6.5 - dense tricolpate, occurs in 370 m also
SP	Unknown spp.		2	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****390m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 15, Total count: 108

ALIN	Algae spp.		1	
FU	Reduviasporonites sp.		1	
SP	Alnus 4-porate		4	
SP	Alnus 5-porate		2	
SP	Betula >20 um		1	
SP	Deltoidospora sp.		2	
SP	Laevigatosporites sp.		2	
SP	Lycopodium spike		43	
SP	Pinaceae undiff.		2	
SP	Pinus sp.		2	
SP	Recycled palynomorphs	Rw	3	
SP	Selaginella sp.		1	a-22.1/15.3
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		4	
SP	Triporopollenites sp.		5	
SP	Undeterminable spp.		35	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****400m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 17, Total count: 131

FU	Papulosporonites sp.		1	
SP	Alnus 4-porate		4	
SP	Alnus 5-porate		2	
SP	Betula >20 um		1	
SP	Cicatricosisporites hallei	Rw ?	1	a-26.2/9.5; brown
SP	Ericales undiff.		2	
SP	Inaperturopollenites dubius		2	
SP	Lycopodium spike		52	
SP	Picea sp.		1	
SP	Pinaceae undiff.		3	
SP	Pinus sp.		1	
SP	Recycled palynomorphs	Rw	11	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		8	
SP	Triporopollenites sp.		7	
SP	Ulmus -type		1	a-18.1/19.9
SP	Undeterminable spp.		33	
SP	Unknown sp. A		1	a-20.0/12.6 - not tricolpate -same as above?

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****410m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 23, Total count: 122

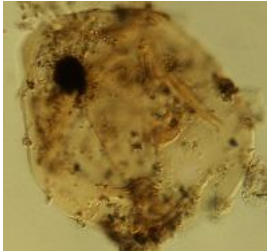
FU	Fungal hyphae		4	
FU	Hypoxylonites sp.	?	1	
SP	Alnus 4-porate		3	
SP	Alnus 5-porate		6	
SP	Alnus 6-porate		1	
SP	Betula <= 20 um		2	
SP	Betula >20 um		2	
SP	Deltoidospora sp.		2	
SP	Ericales undiff.		2	
SP	Inaperturopollenites dubius		3	
SP	Laevigatosporites sp.		1	
SP	Lycopodium spike		38	
SP	Picea sp.		2	
SP	Pinaceae undiff.		2	
SP	Pinus sp.		2	
SP	Recycled palynomorphs	Rw	6	
SP	Retimonocolpites sp.		1	
SP	Retitricolpites sp.		1	a-10.0/19.9
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		5	
SP	Tripoporollenites sp.		3	
SP	Undeterminable spp.		31	
SP	Unknown spp.		3	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****420m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 120

FU	Unknown fungal spp.		1	a-10.0/18.6
SP	Alnus 5-porate		2	
SP	Betula <= 20 um		1	
SP	Betula >20 um		3	
SP	Cicatricosisporites australiensis	Rw	2	a-18.2/13.4
SP	Deltoidospora sp.		2	
SP	Inaperturopollenites dubius		5	
SP	Laevigatosporites sp.		1	
SP	Larix/Pseudotsuga -type		3	a-15.9/21.4, 60/50 µm
				
SP	Lycopodium spike		49	
SP	Pinaceae undiff.		5	
SP	Pinus sp.		1	
SP	Recycled palynomorphs	Rw	3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		14	
SP	Triporopollenites sp.		1	
SP	Undeterminable spp.		25	
SP	Unknown sp. A		1	a-35.9/15.1, inaperturate, 20µm
SP	Unknown spp.		1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****430m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 97

ALIN	Algae spp.		1	
FU	Fungal hyphae		1	
SP	Alnus 4-porate		2	
SP	Alnus 5-porate		2	
SP	Betula >20 um		1	
SP	Ericales undiff.		1	
SP	Inaperturopollenites dubius		4	
SP	Laevigatosporites sp.		1	
SP	Larix/Pseudotsuga -type	?	2	a-28.0/15.3, 76/60 µm, strange fold?
SP	Lycopodium spike		45	
SP	Picea sp.		3	
SP	Pinaceae undiff.		4	
SP	Recycled palynomorphs	Rw	6	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	
SP	Tricolpites sp.		1	a-18.1/15.8, 18/10 µm
SP	Tripoporollenites sp.		1	
SP	Undeterminable spp.		18	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****440m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 24, Total count: 129

AC	Micrhystridium sp.			1	
ALIN	Algae spp.			2	
DC	Polysphaeridium zoharyi		?	1	a-38.0/4.5; good; light
FU	Multicellites sp.			1	a-26.0/16.3
SP	Alnus 5-porate			2	
SP	Betula <= 20 um			4	
SP	Deltoidospora sp.			1	
SP	Ericales undiff.			5	
SP	Gleicheniidites senonicus	Rw		1	
SP	Inaperturopollenites dubius			6	
SP	Laevigatosporites sp.			4	
SP	Larix/Pseudotsuga -type			3	
SP	Lycopodium spike			53	
SP	Osmunda sp.		?	1	
SP	Paraalnipollenites alterniporus	Rw	?	1	a-22.0/10.1
SP	Pinaceae undiff.			6	
SP	Pinus sp.			1	
SP	Recycled palynomorphs	Rw		2	
SP	Retitricolpites sp.			1	a-30.0/8.0, ?/20 µm; good
SP	Sphagnum sp.			1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			5	
SP	Tetrad pollen (scabrate)			1	
SP	Undeterminable spp.			24	
SP	Unknown spp.			2	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****450m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 96

DC	Dinoflagellate indet.	1	a-9.9/12.9
FU	Fungal hyphae	1	
SP	Alnus 3-porate	1	a-13.9/17.4
SP	Alnus 4-porate	5	a-12.0/14.0, malformed arci
SP	Alnus 5-porate	1	
SP	Betula <= 20 um	2	
SP	Deltoidospora sp.	3	
SP	Ericales undiff.	5	
SP	Laevigatosporites sp.	2	
SP	Larix/Pseudotsuga -type	1	
SP	Lycopodium spike	30	
SP	Osmunda sp.	2	
SP	Picea sp.	3	
SP	Pinaceae undiff.	4	
SP	Pinus sp.	2	
SP	Sphagnum sp.	2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	3	
SP	Triporopollenites sp.	2	
SP	Tsuga sp.	1	?
SP	Undeterminable spp.	25	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

454m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 25, Total count: 197

DC	Dinoflagellate indet.			3	b-38.1/5.7, 38.3/5.6, 32.0/3.3
DC	Habibacysta tectata	?	P		b-32.0/15.8, 24.1/2.6
DC	Polysphaeridium sp.	?	P		b-20.0/2.3
SP	Acer sp.			1	b-10.0/?
SP	Alnus 4-porate			2	
SP	Alnus 5-porate			6	
SP	Betula >20 um	?		6	b-10.1/5.4, colp-like pores
SP	Betula >20 um			2	
SP	Corylus -type			2	b-10.1/5.4, elongated pore
SP	Deltoidospora sp.			24	
SP	Ericales undiff.			10	
SP	Gleicheniidites senonicus	Rw	? P		b-15.9/18.4
SP	Inaperturopollenites dubius			25	
SP	Laevigatosporites sp.			10	
SP	Larix/Pseudotsuga -type			3	
SP	Picea sp.			2	
SP	Pinaceae undiff.			5	
SP	Pinus sp.			1	
SP	Sciadopitys sp.			4	b-13.8/10.2, 38.1/17.1
SP	Sphagnum sp.			3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			27	
SP	Tricolpites sp.			3	b-29.9/18.2, 21/16µm, , microclavate
SP	Tsuga canadensis-type			1	b-30.1/10.0
SP	Undeterminable spp.			55	
SP	Unknown spp.			2	echinate ?algae

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****460m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 22, Total count: 136

AC	Micrhystridium sp.		1	
ALIN	Algae spp.		2	
FU	Fungal hyphae		3	
FU	Papulosporonites sp.		2	
SP	Alnus 4-porate		5	
SP	Alnus 5-porate		2	
SP	Betula <= 20 um		1	
SP	Betula >20 um		11	
SP	Corylus -type		1	a-30.0/17.3
SP	Deltoidospora sp.		2	
SP	Laevigatosporites sp.		3	
SP	Larix/Pseudotsuga -type		3	
SP	Lycopodium spike		43	
SP	Momipites wyomingensis	Rw ?	1	a-14.1/6.8
SP	Pinaceae undiff.		9	
SP	Pinus sp.		4	
SP	Pterocarya sp.		1	a-21.9/18.4
SP	Recycled palynomorphs	Rw	5	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		12	
SP	Undeterminable spp.		23	
SP	Unknown spp.		1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****464m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 25, Total count: 123

ALIN	Algae spp.		2	
DC	Dinoflagellate indet.		1	b-17.8/19.7, cavate
DC	Palaeocystodinium golzowense	?	1	b-26.0/9.1, whole specimen not seen, may be its apical horn
SP	Abies sp.		1	b-9.9/20.0
SP	Alnus 5-porate		1	
SP	Betula >20 um		2	
SP	Corylus -type		1	
SP	Deltoidospora sp.		8	
SP	Ericales undiff.		2	
SP	Hamulatisporis sp.		2	b-9.9/12.8*, Lycopodiella/ Lycopodium inundatum?
SP	Inaperturopollenites dubius		17	
SP	Laevigatosporites sp.		11	
SP	Larix/Pseudotsuga -type		4	b-22.1/19.3*, 82/48 µm, folded
SP	Picea sp.		1	
SP	Pinaceae undiff.		6	
SP	Pinus sp.		4	
SP	Polypodiaceae-Dennstaedtiaceae form 2		1	b-29.9/20.3
SP	Retitricolpites sp.		2	
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		11	
SP	Tetrad pollen (scabrate)		1	b-10.0/11.4
SP	Tripoporollenites sp.		4	
SP	Tsuga sp.	?	1	
SP	Undeterminable spp.		36	
SP	Unknown spp.		1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****470m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 12, Total count: 147

SP	Alnus 4-porate		1
SP	Betula >20 um		1
SP	Corylus -type		1
SP	Deltoidospora sp.		4
SP	Ericales undiff.		1
SP	Inaperturopollenites dubius		5
SP	Laevigatosporites sp.		2
SP	Lycopodium spike		108
SP	Pinaceae undiff.		2
SP	Recycled palynomorphs	Rw	3
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		4
SP	Undeterminable spp.		15

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

474m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 26, Total count: 210

ALIN	Algae spp.			2	
SP	Alnus 4-porate			3	
SP	Azonia sp.	Rw	?	1	b-34.0/9.6
SP	Cicatricosisporites sp.		?	1	a-28.0/19.1, looks in place; broken
SP	Corylus -type			1	
SP	Cranwellia sp.	Rw		2	b-31.9/9.9
SP	Deltoidospora sp.	Rw		27	
SP	Ericales undiff.	Rw		3	
SP	Gleicheniidites senonicus	Rw		2	
SP	Inaperturopollenites dubius	Rw		23	
SP	Laevigatosporites sp.	Rw		9	
SP	Larix/Pseudotsuga -type	Rw		2	
SP	Magnoliaceae undiff.		?	1	b-28.1/7.3
SP	Osmunda sp.	Rw		15	
SP	Pinaceae undiff.	Rw		4	
SP	Recycled palynomorphs	Rw		5	
SP	Retitricolpites sp.	Rw		8	
SP	Retitricolporopollenites sp.	Rw		1	b-15.3/6.2*, 30/24 µm
SP	Rousea sp.	Rw	?	1	b-28.0/14.2
SP	Sphagnum sp.	Rw		9	larger than above
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	Rw		21	
SP	Tetrad pollen (scabrate)	Rw		1	
SP	Triporopollenites sp.	Rw		3	
SP	Undeterminable spp.	Rw		59	
SP	Unknown spp.	Rw		5	
SP	Wodehouseia spinata	Rw		1	b-31.9/8.9, ~38 µm long, broken

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****480m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 16, Total count: 96

FU	Fungal hyphae		5	
SP	Alnus 5-porate		3	
SP	Cicatricosisporites sp.	Rw	1	
SP	Deltoidospora sp.		2	
SP	Inaperturopollenites dubius		2	
SP	Laevigatosporites sp.		4	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		49	
SP	Pinaceae undiff.		3	
SP	Pinus sp.		1	
SP	Recycled palynomorphs	Rw	2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		1	
SP	Tricolpites sp.		1	
SP	Triporopollenites sp.		1	
SP	Tsuga sp.		1	broken
SP	Undeterminable spp.		19	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

484m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 3, Total count: 0

SP	Gleicheniidites senonicus	Rw	P	
SP	Paraalnipollenites alterniporus	Rw	P	b-14.0/4.3, thin exine
SP	Wodehouseia sp.	Rw	? P	b-16.5/6.9

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****490m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 164

SP	Alnus 4-porate		2	
SP	Alnus 5-porate		2	
SP	Araucariacites australis	Rw	1	a-14.0/7.2
SP	Betula <= 20 um		1	
SP	Betula >20 um		2	
SP	Corylus -type		2	a-18.0/17.7
SP	Deltoidospora sp.		5	
SP	Ericales undiff.		3	
SP	Inaperturopollenites dubius		10	
SP	Laevigatosporites sp.		4	
SP	Larix/Pseudotsuga -type		2	
SP	Lycopodium spike		65	
SP	Picea sp.		2	broken but probably in place
SP	Pinaceae undiff.		4	
SP	Pinus sp.		4	a-18.0/13.0, good condition; good
SP	Recycled palynomorphs	Rw	6	
SP	Sphagnum sp.		3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		9	
SP	Tripoporollenites sp.		2	
SP	Undeterminable spp.		35	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****494m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 10, Total count: 0

FU	Monoporisporites sp.	P	
SP	Ericales undiff.	P	b-12.0/10.6, some big, 36, 22 μ m
SP	Laevigatosporites sp.	P	
SP	Larix/Pseudotsuga -type	P	b-10.0/8.7, 66/56 μ m
SP	Lycopodium annotinum/complanatum	P	
SP	Picea sp.	P	good
SP	Pinus sp.	P	
SP	Stereisporites maximalis	P	b-20.0/12.7; excellent; light yellow
SP	Triporepollenites sp.	P	
SP	Tsuga sp.	P	b-32.0/8.6, 30 μ m

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****500m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 115

ALIN	Algae spp.			1	
SP	Betula >20 um			1	
SP	Cicatricosisporites spiralis	Rw	?	1	a-33.8/19.0, broken
SP	Deltoidospora sp.			2	
SP	Ericales undiff.			1	
SP	Inaperturopollenites dubius			5	
SP	Laevigatosporites sp.			6	
SP	Larix/Pseudotsuga -type			1	
SP	Lycopodium annotinum/complanatum			1	
SP	Lycopodium spike			39	
SP	Osmunda sp.			1	
SP	Picea sp.			3	
SP	Pinaceae undiff.			2	
SP	Pinus sp.			2	
SP	Recycled palynomorphs	Rw		9	
SP	Selaginella selaginoides		?	1	a-26.0/3.4, some spines short, squarish
SP	Sphagnum sp.			1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			2	
SP	Tripoporollenites sp.			3	
SP	Undeterminable spp.			33	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****504m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 23, Total count: 203

FU	Fractisporonites sp.		1	b-21.0/5.7
FU	Fungal hyphae		3	b-24.1/12.2 - new type?
FU	Inapertisporites sp.		1	
SP	Alnus 4-porate		2	
SP	Alnus 5-porate		3	b-30.3/11.5
SP	Carya sp.		2	b- 33.8/12.3, ?24.0/6.3
SP	Cicatricosisporites sp.		1	
SP	Deltoidospora sp.		22	
SP	Hamulatisporis sp.		1	b-20.1/10.2
SP	Inaperturopollenites dubius		47	
SP	Laevigatosporites sp.		25	b-12.0/18.0*, 46/36 µm,
SP	Larix/Pseudotsuga -type		3	b-19.8/17.9, 76/60 µm, 30.0/4.9, 112/88 µm
SP	Osmunda sp.		2	
SP	Picea sp.		1	
SP	Pinaceae undiff.		12	
SP	Pinus sp.		4	
SP	Recycled palynomorphs	Rw	5	
SP	Retitricolpites sp.		2	a-9.9/9.8
SP	Retitricolporopollenites sp.		5	b-24.0/5.6, microreticulate 30.1/10.0, 38.1/18.9
SP	Sphagnum sp.		4	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		12	b-24.2/13.8*
SP	Tripoporollenites sp.		3	b-13.8/7.5
SP	Undeterminable spp.		42	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****510m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 22, Total count: 179

ALIN	Algae spp.		1	
MP	Scolecodont undiff.		1	a-36.0/13.1
SP	Alnus 4-porate		7	
SP	Alnus 5-porate		4	
SP	Asteraceae undiff.	?	1	a-27.9/6.2
SP	Betula <= 20 um		3	
SP	Betula >20 um		5	
SP	Corylus -type		1	
SP	Deltoidospora sp.		4	
SP	Ericales undiff.		1	
SP	Inaperturopollenites dubius		4	
SP	Laevigatosporites sp.		11	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		73	
SP	Picea sp.		2	
SP	Pinaceae undiff.		7	
SP	Pinus sp.		3	
SP	Recycled palynomorphs	Rw	4	
SP	Sphagnum sp.		4	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		14	
SP	Triporopollenites sp.		2	
SP	Undeterminable spp.		26	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****514m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 7, Total count: 0

SP	Cicatricosisporites sp.	Rw	R	b-14.3/9.5, very gracile
SP	Deltoidospora sp.	Rw	C	
SP	Gleicheniidites senonicus	Rw	P	
SP	Kurtzipites sp.	Rw	P	b-16.1/12.2
SP	Laevigatosporites sp.	Rw	D	
SP	Sphagnum sp.	Rw	C	
SP	Wodehouseia sp.	Rw	P	b-22.2/7.3

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****520m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 16, Total count: 128

SP	Alnus 4-porate		3
SP	Alnus 5-porate		1
SP	Betula >20 um		6
SP	Deltoidospora sp.		2
SP	Ericales undiff.		2
SP	Inaperturopollenites dubius		6
SP	Laevigatosporites sp.		2
SP	Larix/Pseudotsuga -type		1
SP	Lycopodium spike		63
SP	Pinaceae undiff.		5
SP	Pinus sp.		1
SP	Recycled palynomorphs	Rw	2
SP	Sphagnum sp.		6
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		5
SP	Triporopollenites sp.		3
SP	Undeterminable spp.		20

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****524m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 13, Total count: 0

SP	Alnus 4-porate	P	
SP	Deltoidospora sp.	P	
SP	Ericales undiff.	P	
SP	Laevigatosporites sp.	P	
SP	Lycopodium sp.	P	
SP	Osmunda sp.	P	
SP	Picea sp.	P	
SP	Pinus sp.	P	
SP	Sphagnum sp.	P	
SP	Stereisporites maximalis	P	b-30.0/17.1
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	
SP	Triporopollenites sp.	P	
SP	Ulmus -type	P	b-26.0/13.5

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****530m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 22, Total count: 151

ALIN	Algae spp.		1	
FU	Fungal hyphae		1	
FU	Reduviasporonites sp.		1	
SP	Abies sp.		1	broken
SP	Alnus 4-porate		2	
SP	Alnus 6-porate		1	
SP	Betula <= 20 um		4	
SP	Betula >20 um		4	
SP	Ericales undiff.		5	
SP	Inaperturopollenites dubius		2	
SP	Laevigatosporites sp.		4	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		73	
SP	Osmunda sp.		2	
SP	Pinaceae undiff.		7	
SP	Pinus sp.		4	
SP	Pterocarya sp.		2	a-10.0/4.3, 15.9/2.8
SP	Recycled palynomorphs	Rw	8	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		2	
SP	Undeterminable spp.		24	
SP	Unknown spp.		1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****534m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 12, Total count: 0

DC	Dinoflagellate indet.	P	b-30.2/7.0
FU	Fungal hyphae	P	b-14.0/13.7, complexely linked
SP	Corylus -type	P	b-28.0/7.9
SP	Deltoidospora sp.	C	
SP	Laevigatosporites sp.	C	
SP	Larix/Pseudotsuga -type	C	
SP	Osmunda sp.	P	
SP	Pinus sp.	P	
SP	Stereisporites antiquasporites	C	
SP	Stereisporites maximalis	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	C	
SP	Vitreisporites pallidus	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****540m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 14, Total count: 140

FU	Trichopeltina sp.	?	1	a-22.0/8.8, irregular cells, fragment
SP	Alnus 4-porate		2	
SP	Alnus 5-porate		3	
SP	Betula >20 um		3	
SP	Inaperturopollenites dubius		4	
SP	Laevigatosporites sp.		4	
SP	Lycopodium spike		84	
SP	Picea sp.		2	
SP	Pinaceae undiff.		4	
SP	Pinus sp.		3	
SP	Recycled palynomorphs	Rw	2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		8	
SP	Tripoporollenites sp.		1	
SP	Undeterminable spp.		19	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****544m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 13, Total count: 0

FU	Scolecospores scalaris	Rw	P	b-38.0/16.7, incomplete
SP	Alnus 5-porate		P	
SP	Ericales undiff.		P	b-32.0/14.4, 24 µm, relatively thin
SP	Gleicheniidites senonicus	Rw	P	
SP	Hazaria sheopariariae	Rw	P	b-27.9/14.9
SP	Laevigatosporites sp.	Rw	P	
SP	Paraalnipollenites alterniporus	Rw	P	b-26.0/6.8
SP	Retitricolpites sp.	Rw	P	
SP	Sciadopitys sp.	Rw	P	b-20.0/4.2
SP	Stereisporites antiquasporites	Rw	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	Rw	P	
SP	Triatriopollenites pulcher		P	b-29.9/16.0, robust, pores near equator
SP	Triporopollenites sp.	Rw	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****550m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 110

DC	Dinoflagellate indet.		2	
FU	Fungal hyphae		4	
SP	Alnus 4-porate		4	
SP	Alnus 6-porate		1	
SP	Betula >20 um		4	
SP	Deltoidospora sp.		1	
SP	Inaperturopollenites dubius		2	
SP	Laevigatosporites sp.		3	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		63	
SP	Pinaceae undiff.		5	
SP	Pterocarya sp.	?	1	c-24.0/11.0
SP	Recycled palynomorphs	Rw	2	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		6	
SP	Tricolporopollenites sp.		1	c-16.0/9.5
SP	Tripoporopollenites sp.		4	
SP	Undeterminable spp.		5	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****554m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 17, Total count: 0

SP	Alnus 4-porate		P	
SP	Alnus 5-porate		P	
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Gleicheniidites senonicus	Rw	P	
SP	Hamulatisporis sp.		P	b-24.1/11.1
SP	Hazaria sheopiariae		P	b-10.0/11.6
SP	Laevigatosporites sp.		P	
SP	Momipites wyomingensis	?	P	b-20.0/11.6
SP	Osmunda sp.		P	
SP	Pinaceae undiff.		P	
SP	Pterocarya sp.		P	b-20.0/4.2, crushed
SP	Sphagnum sp.		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triporopollenites sp.		P	b-11.0/19.7, protruding pores, not refound-15Sept04
SP	Tsuga canadensis-type		P	b-17.9/7.6
SP	Unknown sp. A		P	b-23.9/20.3, 44µm, v. small trilete mark, v. sparse, large v

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****560m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 167

ALIN	Algae spp.		2	
DC	Dinoflagellate indet.	Rw	1	
SP	Alnus 4-porate		1	
SP	Alnus 5-porate		1	
SP	Betula >20 um		3	
SP	Classopollis classoides	Rw	1	
SP	Deltoidospora sp.		4	
SP	Ericales undiff.		2	
SP	Inaperturopollenites dubius		1	
SP	Laevigatosporites sp.		4	
SP	Lycopodium spike		114	
SP	Picea sp.		1	
SP	Pinaceae undiff.		4	
SP	Pinus sp.		2	
SP	Recycled palynomorphs	Rw	4	
SP	Sphagnum sp.		3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	
SP	Tilia -type		1	c-20.0/10.7
SP	Tripoporollenites sp.		2	
SP	Undeterminable spp.		13	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****564m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 15, Total count: 0

DC	Dinoflagellate indet.	P	b-18.0/13.2
SP	Alnus 5-porate	P	
SP	Betula >20 um	P	
SP	Deltoidospora sp.	P	
SP	Ericales undiff.	P	
SP	Inaperturopollenites dubius	P	
SP	Laevigatosporites sp.	P	
SP	Larix/Pseudotsuga -type	P	
SP	Osmunda sp.	P	
SP	Picea sp.	P	b-18.0/13.2
SP	Pinaceae undiff.	R	
SP	Retitricolpites sp.	P	
SP	Sciadopitys sp.	P	
SP	Sphagnum sp.	R	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****570m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 19, Total count: 173

ALIN	Algae spp.		1	
FU	Fungal hyphae		1	
FU	Inapertisporites sp.		2	
SP	Alnus 4-porate		3	
SP	Alnus 5-porate		2	
SP	Betula >20 um		4	
SP	Deltoidospora sp.		1	
SP	Ericales undiff.		1	
SP	Inaperturopollenites dubius		1	
SP	Laevigatosporites sp.		1	
SP	Lycopodium spike		115	
SP	Pinaceae undiff.		5	
SP	Pinus sp.		2	
SP	Recycled palynomorphs	Rw	3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		8	
SP	Tricolpites sp.		1	
SP	Tripoporollenites sp.		4	
SP	Tsuga canadensis-type		1	c-39.9/17.4
SP	Undeterminable spp.		17	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****574m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 17, Total count: 0

SP	Alnus 5-porate		P	
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Gleicheniidites circinidites	Rw	P	b-10.0/12.5
SP	Gleicheniidites senonicus	Rw	P	
SP	Hamulatisporis sp.		P	b-19.9/16.4
SP	Hazaria sheopiariae		P	
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		P	
SP	Momipites wyomingensis	?	P	
SP	Osmunda sp.		P	
SP	Pinaceae undiff.		P	
SP	Pinus sp.		P	
SP	Retitricolpites sp.		P	b-36.0/10.0
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****580m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 181

ALIN	Algae spp.	1	
FU	Brachysporisporites sp.	1	
SP	Alnus 4-porate	2	
SP	Alnus 5-porate	1	
SP	Alnus 6-porate	1	
SP	Betula >20 um	2	
SP	Deltoidospora sp.	2	
SP	Laevigatosporites sp.	2	
SP	Larix/Pseudotsuga -type	4	
SP	Lycopodium spike	119	
SP	Pinaceae undiff.	4	
SP	Pinus sp.	4	
SP	Pterocarya sp.	1	c-17.9/13.2
SP	Recycled palynomorphs	8	
SP	Retitricolpites sp.	1	
SP	Sparganium sp.	1	c-27.9/14.2
SP	Sphagnum sp.	2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	8	
SP	Triporopollenites sp.	3	
SP	Undeterminable spp.	14	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****584m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 12, Total count: 0

DC	Circulodinium distinctum	Rw	?	P	b-13.8/13.0, DJ McIntyre, pers. comm., 13 Jan 2004.
SP	Cicatricosisporites sp.	Rw		P	poor presentation
SP	Deltoidospora sp.			P	
SP	Hamulatisporis sp.			P	
SP	Laevigatosporites sp.			P	
SP	Larix/Pseudotsuga -type			P	
SP	Pinus sp.			P	very large, not like most late Tertiary Pinus
SP	Sciadopitys sp.			P	
SP	Sphagnum sp.			P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			P	
SP	Tricolpites sp.			P	
SP	Vitreisporites pallidus	Rw		P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****590m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 204

DC	Dinoflagellate indet.	1	
FU	Inapertisporites sp.	3	
SP	Alnus 4-porate	1	
SP	Alnus 5-porate	1	
SP	Betula >20 um	2	
SP	Corylus -type	1	
SP	Deltoidospora sp.	4	
SP	Inaperturopollenites dubius	1	
SP	Laevigatosporites sp.	4	
SP	Lycopodium spike	141	
SP	Picea sp.	2	
SP	Pinaceae undiff.	2	
SP	Pinus sp.	3	
SP	Recycled palynomorphs	9	
SP	Sphagnum sp.	1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	3	c-26.0/18.0
SP	Tripoporollenites sp.	3	
SP	Undeterminable spp.	22	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****594m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 14, Total count: 0

FU	Fractisporonites sp.		P	b-10.1/14.4
FU	Fungal hyphae		P	
FU	Helicosporiates pirozynskii	Rw	P	b-10.1/9.8, 34.3/12.8
FU	Pluricellaesporites sp.		P	b-34.2/11.0, ?n. sp.
SP	Gleicheniidites senonicus	Rw	P	
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		P	
SP	Lycopodium sp.		P	b-16.0/6.9
SP	Osmunda sp.		P	
SP	Pinus sp.		P	
SP	Retitricolpites sp.		P	b-30.0/18.3
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	

StrataBugs: Palynofloral Sample Logging Sheet

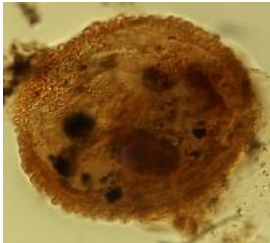
Mallik 5L-38

600m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 26, Total count: 225

ALIN	Algae spp.		2	
FU	Fungal hyphae		1	
SP	Alnus 4-porate		7	
SP	Alnus 5-porate		3	
SP	Betula >20 um		3	
SP	Corylus -type		1	
SP	Deltoidospora sp.		4	
SP	Ericales undiff.		2	
SP	Inaperturopollenites dubius		3	
SP	Iridaceae-Liliaceae undiff.		1	
SP	Laevigatosporites sp.		6	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		118	
SP	Magnoliaceae undiff.	?	1	c-32.0/9.4
SP	Osmunda sp.		1	
SP	Picea sp.		2	
SP	Pinaceae undiff.		9	
SP	Pinus sp.		2	
SP	Pterocarya sp.		1	c-33.8/10.0
SP	Recycled palynomorphs	Rw	8	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		8	
SP	Tripoporollenites sp.		2	
SP	Tsuga canadensis-type		3	c-18.0/11.0, 22.1/12.5*, Image 0252
				
SP	Ulmus -type		1	c-34.0/13.0
SP	Undeterminable spp.		34	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****604m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 13, Total count: 0

FU	Papulosporonites sp.			P	
SP	Betula >20 um			P	
SP	Deltoidospora sp.			P	
SP	Distaltriangulisporites perplexus	Rw	?	P	
SP	Laevigatosporites sp.			P	
SP	Larix/Pseudotsuga -type			P	
SP	Osmunda sp.			P	b-26.0/8.1
SP	Pinaceae undiff.			P	
SP	Pinus sp.			P	
SP	Sciadopitys sp.			P	
SP	Sphagnum sp.			R	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			P	
SP	Tetrad pollen (scabrate)			P	

StrataBugs: Palynofloral Sample Logging Sheet

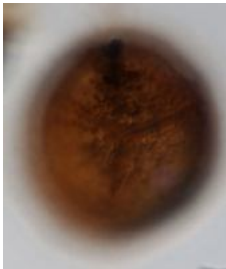
Mallik 5L-38

610m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 25, Total count: 238

ALIN	Algae spp.		1	
DC	Dinoflagellate indet.	Rw	4	
FU	Foveodiporites sp.		1	c-28.1/13.0
FU	Fungal hyphae		1	
FU	Inapertisporites sp.		1	
SP	Alnus 4-porate		11	
SP	Alnus 5-porate		4	
SP	Baculatisporites crassiprimarius		1	c-32.0/9.2* Image 0249a,b
				
SP	Betula >20 um		7	
SP	Classopollis classoides	Rw	1	c-31.4/7.7
SP	Corylus -type		2	
SP	Deltoidospora sp.		5	
SP	Ericales undiff.		3	
SP	Inaperturopollenites dubius		4	
SP	Laevigatosporites sp.		10	
SP	Lycopodium spike		131	
SP	Momipites wyomingensis	?	1	c-27.9/18.9
SP	Picea sp.		3	
SP	Pinaceae undiff.		6	
SP	Pinus sp.		5	
SP	Recycled palynomorphs	Rw	9	
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		5	
SP	Triporopollenites sp.		3	
SP	Undeterminable spp.		17	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****614m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 0

DC	Dinoflagellate indet.	Rw	P	
FU	Fungal hyphae		P	
FU	Papulosporonites sp.		P	
SP	Alnus 4-porate		P	
SP	Betula >20 um		P	
SP	Cicatricosisporites dorogensis		P	b-38.0/19.6
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Laevigatosporites sp.		P	
SP	Larix/Pseudotsuga -type		P	
SP	Osmunda sp.		P	b-20.0/6.0
SP	Picea sp.		P	
SP	Pterocarya sp.		P	b-26.0/3.8
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		C	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Tricolporopollenites sp.		P	
SP	Tripoporopollenites sp.		C	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****620m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 16, Total count: 174

SP	Alnus 4-porate		9
SP	Alnus 5-porate		4
SP	Betula >20 um		3
SP	Corylus -type		2
SP	Deltoidospora sp.		4
SP	Ericales undiff.		1
SP	Inaperturopollenites dubius		3
SP	Laevigatosporites sp.		10
SP	Lycopodium spike		101
SP	Magnoliaceae undiff.	?	1
SP	Pinaceae undiff.		9
SP	Recycled palynomorphs	Rw	2
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		6
SP	Triporopollenites sp.		5
SP	Tsuga canadensis-type		1
SP	Undeterminable spp.		13

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****624m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 14, Total count: 0

DC	Chatangiella ditissima	Rw	P	b-37.0/19.2
SP	Alnus 4-porate		P	
SP	Alnus 5-porate		P	
SP	Deltoidospora sp.		P	
SP	Gleicheniidites senonicus	Rw	P	b-26.0/14.6
SP	Hamulatisporis sp.		P	b-11.9/8.4
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		A	
SP	Osmunda sp.		P	b-34.0/9.1
SP	Pinus sp.		P	
SP	Retimonocolpites sp.	?	P	b-35.0/18.7
SP	Striatocarpus sp.		P	b-24.1/7.8, 35/44 µm
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Tetrad pollen (scabrate)		P	b-20.0/15.4

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****630m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 132

DC	Dinoflagellate indet.	Rw	1	
FU	Inapertisporites sp.		1	
FU	Multicellites sp.		3	
SP	Abies sp.	?	1	c-38.0/14.5
SP	Alnus 4-porate		1	
SP	Alnus 5-porate		3	
SP	Betula >20 um		3	
SP	Deltoidospora sp.		3	
SP	Laevigatosporites sp.		1	
SP	Lycopodium spike		85	
SP	Momipites wyomingensis	?	1	
SP	Osmunda sp.		2	
SP	Picea sp.		1	
SP	Pinaceae undiff.		5	
SP	Pinus sp.		6	
SP	Recycled palynomorphs	Rw	3	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		1	
SP	Tripoporollenites sp.		1	
SP	Undeterminable spp.		9	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****634m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 8, Total count: 0

DC	Chatangiella verrucosa	Rw	P	b-11.8/5.2
SP	Betula >20 um	Rw	P	
SP	Deltoidospora sp.	Rw	R	
SP	Gleicheniidites senonicus	Rw	P	
SP	Laevigatosporites sp.	Rw	C	
SP	Sciadopitys sp.	Rw	P	
SP	Stereisporites antiquasporites	Rw	P	b-34.0/4.8
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	Rw	P	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

640m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 30, Total count: 217

FU	Inapertisporites sp.		1	
FU	Papulosporonites sp.		1	
SP	Abies sp.		1	c-18.0/14.9
SP	Alnus 4-porate		11	
SP	Alnus 5-porate		4	
SP	Apiaceae undiff.		1	c-32.1/8.4
SP	Betula <= 20 um		1	
SP	Betula >20 um		3	
SP	Deltoidospora sp.		9	
SP	Ericales undiff.		2	
SP	Gleicheniidites senonicus	Rw	1	
SP	Inaperturopollenites dubius		2	
SP	Klukisporites foveolatus	Rw ?	1	c-30.0/3.7, fragment
SP	Laevigatosporites sp.		9	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		102	
SP	Magnoliaceae undiff.	?	1	c-36.0/13.3
SP	Picea sp.		1	
SP	Pinaceae undiff.		10	
SP	Pinus koraiensis-type		1	c-11.8/11.7
SP	Pinus sp.		9	
SP	Recycled palynomorphs	Rw	8	
SP	Sphagnum sp.		1	
SP	Stereisporites antiquasporites	Rw	1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	c-26.0/7.7, papillate
SP	Tricolpites sp.		1	
SP	Tricolporopollenites sp.		1	
SP	Tripoporopollenites sp.		7	
SP	Tsuga canadensis-type		1	c-34.0/10.7*
SP	Undeterminable spp.		22	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****644m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 11, Total count: 0

SP	Ericales undiff.	P	
SP	Lycopodium sp.	P	b-18.1/16.1, very coarse reticulum
SP	Osmunda sp.	P	
SP	Pachysandra-Sarcococca spp.	P	b-36.0/8.1, 42 µm
SP	Picea sp.	P	
SP	Pinaceae undiff.	P	
SP	Podocarpus sp.	P	b-16.0/7.9
SP	Retitricolpites sp.	R	
SP	Sphagnum sp.	P	
SP	Stereisporites antiquasporites	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****650m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 19, Total count: 158

FU	Brachysporisporites sp.	1	c-12.0/15.7, 90/50 µm
SP	Alnus 3-porate	1	
SP	Alnus 4-porate	11	
SP	Alnus 5-porate	6	
SP	Baculatisporites crassiprimarius	1	
SP	Betula >20 um	3	
SP	Caryophyllaceae undiff.	1	c-24.4/19.3
SP	Deltoidospora sp.	5	
SP	Inaperturopollenites dubius	2	
SP	Labrapollis sp.	1	c-24.2/12.7*, 20 µm protruding pores like Brosipollis, but p
SP	Laevigatosporites sp.	5	
SP	Lycopodium spike	68	
SP	Picea sp.	3	
SP	Pinaceae undiff.	8	
SP	Pinus sp.	7	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	6	
SP	Triporopollenites sp.	4	
SP	Undeterminable spp.	24	
SP	Unknown spp.	1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****654m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 18, Total count: 0


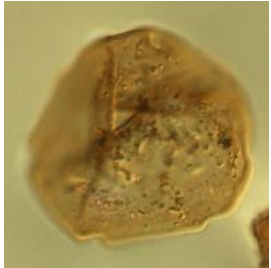
DC	Chatangiella ditissima	Rw	P	b-28.1/19.8*
FU	Fractisporonites sp.		P	
SP	Appendicisporites sp.	Rw	P	fragment
SP	Deltoidospora sp.		P	
SP	Distaltriangulisporites irregularis	Rw	P	b-14.0/8.9, 32.1/8.6*
SP	Distaltriangulisporites perplexus	Rw	P	b-36.0/5.8*
SP	Ericales undiff.		P	
SP	Hamulatisporis sp.		P	
SP	Inaperturopollenites dubius		P	
SP	Iridaceae-Liliaceae undiff.		P	b-34.0/5.3
SP	Laevigatosporites sp.		P	
SP	Pinus sp.		P	
SP	Podocarpus sp.		P	
SP	Sciadopitys sp.		P	b-38.0/12.4
SP	Stereisporites antiquasporites	Rw	P	b-14.0/11.2
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triatriopollenites pulcher		P	b-12.0/13.6, 24 µm
SP	Tricolpites sp.		P	

Mallik 5L-38**660m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 35, Total count: 198

ALIN	Algae spp.			1	
DC	Dinoflagellate indet.	Rw		2	
FU	Monoporisporites sp.			1	
FU	Multicellites sp.			1	c-10.0/13.3
SP	Abies sp.			2	
SP	Alnus 4-porate			2	
SP	Alnus 5-porate			8	
SP	Baculatisporites sp.			1	c-29.8/10.6, 56 µm, spathulate ornament,
SP	Betula <= 20 um			2	
SP	Betula >20 um			4	
SP	Corylus -type			2	c-23.0/5.6
SP	Deltoidospora sp.			3	
SP	Distaltriangulisporites perplexus	Rw		1	c-10.0/12.6
SP	Ericales undiff.			2	
SP	Gleicheniidites senonicus	Rw		2	
SP	Inaperturopollenites dubius			1	
SP	Iridaceae-Liliaceae undiff.			1	
SP	Laevigatosporites sp.			5	
SP	Lycopodium sp.			2	
SP	Lycopodium spike			91	
SP	Mallik5L-38 unknown 01			1	c-36.2/15.8, 28 µm, Tilia-like but striate at 5 o'clock
					
SP	Mallik5L-38 unknown 02			1	c-40.1/11.0, 44 µm, trilete, microfoveolate, dense; specimen not relocated, JMW, 16Mar2011
SP	Momipites wyomingensis	Rw	?	1	c-31.9/5.5, 28 µm
SP	Picea sp.			6	
SP	Pinaceae undiff.			7	
SP	Pinus sp.			3	
SP	Podocarpus sp.			1	
SP	Pterocarya sp.			1	c-28.0/7.2, Image 0253.tif
					

StrataBugs: Palynofloral Sample Logging Sheet

660m CU JMW/1 - Page 2 of 2

SP	Recycled palynomorphs	Rw	1	
SP	Sphagnum sp.		3	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		5	
SP	Triporopollenites sp.		7	
SP	Undeterminable spp.		25	
SP	Verrucosisporites obscurilaesuratus	Rw	1	c-26.2/17.4
SP	Vitreisporites pallidus	Rw	1	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****664m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 0

FU	Inapertisporites sp.		P	
SP	Alnus 4-porate		P	
SP	Betula >20 um		P	
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	b-32.1/13.7, strongly tricolpate - Ericales??
SP	Gleicheniidites senonicus	Rw	P	
SP	Ilex -type	?	P	b-30.3/10.8
SP	Inaperturopollenites dubius		C	
SP	Laevigatosporites sp.		P	
SP	Osmunda sp.		P	
SP	Pinaceae undiff.		P	
SP	Pterocarya sp.		P	b-39.8/8.3
SP	Quercus sp.		P	b-39.8/8.4*
SP	Retitricolpites sp.		P	b-20.0/3.6, 36.1/11.1
SP	Retitricolporopollenites sp.		C	b-14.0/5.2*, 14.0/16.4, 16.0/2.9* 32/24 µm
SP	Sciadopitys sp.		P	
SP	Stereisporites antiquasporites		P	
SP	Tripoporopollenites sp.		P	
SP	Tsuga canadensis-type		P	b-34.0/5.6
SP	Ulmus -type		P	b-39.9/6.0

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****670m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:01 MDT 2015

Taxa: 20, Total count: 156

ALIN	Algae spp.		1	
FU	Dicellaesporites sp.		1	
SP	Abies sp.		1	
SP	Alnus 4-porate		2	
SP	Alnus 5-porate		3	
SP	Betula <= 20 um		2	
SP	Betula >20 um		1	
SP	Deltoidospora sp.		2	c-16.0/10.4, unusual trilete, irregular ornament
SP	Inaperturopollenites dubius		3	
SP	Laevigatosporites sp.		2	
SP	Lycopodium spike		89	
SP	Pinaceae undiff.		5	
SP	Pinus sp.		5	
SP	Recycled palynomorphs	Rw	5	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		6	
SP	Triporopollenites sp.		3	
SP	Tsuga canadensis-type		1	
SP	Undeterminable spp.		22	
SP	Unknown sp. A		1	c-16.0/10.4, trilete, irregular ornament

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

674m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 27, Total count: 0

AL	Ovoidites ligneolus		P	b-13.9/4.4*
DC	Dinoflagellate indet.		P	b-18.1/18.2, 34 µm, rugulate, 33.9/15.3
SP	Acer sp.		P	b-10.1/3.8*
SP	Aesculipollis wyomingensis	Rw	P	b-20.0/22.2, 24/19 µm, Image 0291, microreticulate, open, laddered colps or baculae on colp margin; similar to Aesculus (Heath, 1984) but no pore; See Parsons, 2000, Plate 4, fig. 24, 31-39
				
SP	Alnus 4-porate		P	
SP	Azonia pulchella	Rw	P	b-25.9/16.3*
SP	Betula >20 um		P	
SP	Carya sp.		P	b-13.9/15.2, good Carya 34.1/8.5, 28 µm - towards T pulcher
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Gleicheniidites senonicus	Rw	P	
SP	Hamulatisporis sp.		P	b-26.0/10.9, 29.8/12.2 (reworked?)
SP	Ilex -type		P	b-10.0/20.3
SP	Iridaceae-Liliaceae undiff.		P	b-22.0/11.8
SP	Laevigatosporites sp.		P	
SP	Larix/Pseudotsuga -type		R	
SP	Liliacidites mirus	Rw	P	b-23.8/18.1 (foveolate)
SP	Picea sp.		P	
SP	Pinaceae undiff.		P	
SP	Proteacidites sp.		P	b-38.0/15.4, fragment
SP	Retitricolpites sp.		P	b- 29.8/7.6
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Tripoporollenites sp.		P	
SP	Tsuga sp.		P	b-36.0/18.6
SP	Vitreosporites pallidus	Rw	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****680m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 22, Total count: 194

ALIN	Algae spp.		1	
FU	Inapertisporites sp.		1	
SP	Abies sp.		1	
SP	Alnus 4-porate		9	
SP	Alnus 5-porate		4	
SP	Betula <= 20 um		2	
SP	Betula >20 um		12	
SP	Chenopodiineae undiff.	?	1	c-23.8/16.0
SP	Deltoidospora sp.		7	
SP	Inaperturopollenites dubius		3	
SP	Laevigatosporites sp.		5	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		89	
SP	Osmunda sp.		3	c-21.7/10.5
SP	Picea sp.		1	
SP	Pinaceae undiff.		6	
SP	Pinus sp.		8	
SP	Recycled palynomorphs	Rw	5	
SP	Sphagnum sp.		1	
SP	Tripoporollenites sp.		3	
SP	Tsuga sp.		1	c-34.0/3.8, 38 µm
SP	Undeterminable spp.		30	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****684m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 20, Total count: 0

ALBO	Botryococcus sp.		P	
DC	Dinoflagellate indet.		P	b-16.0/12.4
SP	Alnus 4-porate		P	b-35.9/8.1
SP	Cicatricosisporites sp.		P	b-19.8/17.7*, irregular
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Gleicheniidites senonicus	Rw	P	
SP	Inaperturopollenites dubius		P	
SP	Osmunda sp.	?	P	
SP	Picea sp.		P	b-11.9/5.8*
SP	Pinus sp.		P	
SP	Retitricolpites sp.		P	
SP	Retitricolporopollenites sp.		P	b-17.9/9.2
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Stereisporites antiquasporites		P	
SP	Striatocarpus sweetii		P	b-35.9/8.1, 24/28 µm, heteropolar, striate, subretic, like 0199.tif
SP	Tigrisporites sp.	?	P	b-30.0/5.8, 80 µm
SP	Tripoporopollenites sp.		C	
SP	Vitreisporites pallidus		P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****690m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 24, Total count: 129

DC	Peridinioid dinoflagellate	?	1	c-28.1/12.8
FU	Papulosporonites sp.		1	
SP	Alnus 4-porate		5	
SP	Alnus 5-porate		2	
SP	Alnus 6-porate		1	
SP	Appendicisporites sp.	Rw	1	c-30.0/19.3, fragment
SP	Betula <= 20 um		1	
SP	Betula >20 um		2	
SP	Deltoidospora sp.		3	
SP	Gleicheniidites senonicus	Rw	1	
SP	Inaperturopollenites dubius		1	
SP	Kurtzipites sp.	Rw ?	1	c-37.8/12.7
SP	Laevigatosporites sp.		2	
SP	Lycopodium spike		69	
SP	Picea sp.		2	
SP	Pinaceae undiff.		3	
SP	Pinus sp.		9	
SP	Pterocarya sp.		1	
SP	Sphagnum sp.		4	
SP	Stereisporites antiquasporites	Rw ?	1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		2	
SP	Triporopollenites sp.		5	
SP	Undeterminable spp.		10	
SP	Unknown sp. A	Rw	1	c-40.0/8.2, polyporate, 80 µm; eroded; brown

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****694m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 17, Total count: 0

ALBO	Botryococcus sp.			P	b-16.1/16.8, 30 µm
SP	Azonia cribrata	Rw		P	b-22.1/8.1
SP	Cranwellia sp.	Rw	?	P	b-14.0/8.4
SP	Deltoidospora sp.			P	
SP	Ericales undiff.			P	
SP	Hamulatisporis sp.			P	
SP	Laevigatosporites sp.			P	
SP	Osmunda sp.			P	
SP	Picea sp.			P	
SP	Pinus sp.			P	
SP	Pristinuspollenites sp.			P	b-22.2/15.6
SP	Sciadopitys sp.			P	
SP	Sphagnum sp.			P	
SP	Stereisporites antiquasporites			P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			P	
SP	Triporopollenites sp.			P	
SP	Trudopollis sp.		?	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****700m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 23, Total count: 136

ALIN	Algae spp.		1	
FU	Fungal hyphae		1	
FU	Inapertisporites sp.		1	
SP	Abies sp.		1	
SP	Alnus 4-porate		2	
SP	Alnus 5-porate		6	
SP	Deltoidospora sp.		1	
SP	Ericales undiff.		2	
SP	Inaperturopollenites dubius		5	
SP	Laevigatosporites sp.		8	
SP	Larix/Pseudotsuga -type		1	
SP	Lycopodium spike		57	
SP	Osmunda sp.		2	
SP	Pinaceae undiff.		4	
SP	Pinus sp.		3	
SP	Polypodiaceae-Dennstaedtiaceae form 1		1	
SP	Pterocarya sp.		1	
SP	Recycled palynomorphs	Rw	11	
SP	Shepherdia canadensis-type		1	c-38.2/7.3, 28/18 µm, scabrate-verrucate intercolps
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		4	
SP	Triporopollenites sp.		3	
SP	Tsuga canadensis-type		2	
SP	Undeterminable spp.		18	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****704m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 18, Total count: 0

FU	Fractisporonites sp.	P	b-28.0/16.7, cf. F. canalis, L Cretaceous
FU	Inapertisporites sp.	P	
FU	Papulosporonites sp.	P	
SP	Cicatricosisporites sp.	P	b-34.0/3.0
SP	Deltoidospora sp.	P	
SP	Ericales undiff.	P	
SP	Hamulatisporis sp.	P	
SP	Inaperturopollenites dubius	P	
SP	Laevigatosporites sp.	P	
SP	Osmunda sp.	P	
SP	Pachysandra-Sarcococca spp.	P	b-38.1/8.1*, 44 µm
SP	Picea sp.	P	
SP	Retimonocolpites sp.	P	b-34.0/9.9
SP	Sciadopitys sp.	P	
SP	Sphagnum sp.	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	
SP	Triatriopollenites pulcher	P	b-15.8/15.7, 18.0/7.7
SP	Tripoporollenites sp.	P	

StrataBugs: Palynofloral Sample Logging Sheet


Mallik 5L-38

710m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 26, Total count: 183

AL	Ovoidites ligneolus		1	
FU	Brachysporisporites sp.		1	
SP	Acer sp.		1	c-18.0/16.1
SP	Alnus 4-porate		7	
SP	Alnus 5-porate		6	
SP	Baculatisporites crassiprimarius		1	c-34.0/3.7
SP	Baculatisporites quintus		6	c-16.0/9.8, 19.9/2.8, Image 0250.tif
				
SP	Betula <= 20 um		1	
SP	Betula >20 um		2	
SP	Deltoidospora sp.		2	
SP	Ericales undiff.		4	
SP	Inaperturopollenites dubius		6	
SP	Laevigatosporites sp.		12	
SP	Lycopodium sp.		2	
SP	Lycopodium spike		58	
SP	Osmunda sp.		2	
SP	Pinaceae undiff.		11	
SP	Pinus sp.		8	
SP	Sphagnum sp.		4	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		10	
SP	Tetraporate sp.	?	1	c-13.8/9.3
SP	Tricolpites sp.		2	
SP	Triporopollenites sp.		6	
SP	Tsuga sp.		1	c- 28.3/8.2, 38 µm
SP	Undeterminable spp.		27	
SP	Unknown sp. A		1	c-13.8/18.6, 20 µm, 3 pores on one side of equator, psilate-

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

714m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 25, Total count: 0

FU	Fractisporonites sp.		P	
FU	Papulosporonites sp.		P	
SP	Apiaceae undiff.	?	P	b-28.1/16.4
SP	Betula >20 um		P	
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Gleicheniidites senonicus	Rw	P	
SP	Hamulatisporis sp.		P	
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		P	
SP	Osmunda sp.		P	
SP	Pinaceae undiff.		P	
SP	Pinus koraiensis-type		P	b-24.0/18.1
SP	Podocarpus sp.	?	P	b-26.0/15.1
SP	Polypodiaceae-Dennstaedtiaceae form 1		P	
SP	Retimonocolpites sp.		P	b-18.0/18.3, small, coarse
SP	Retitricolpites sp.		P	b-16.0/14.2
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Stereisporites antiquasporites		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triatriopollenites pulcher		P	b-9.9/17.8, 11.9/8.8, 30 µm, 36.0/14.1*, 29 µm
SP	Tricolpites sp.		P	
SP	Triporopollenites sp.		P	-b-21.9/2.2, extended pores
SP	Unknown sp. A		P	b-29.8/11.7, >17/16µm, tricolpate, microreticulate, granulat

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

720m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 29, Total count: 339

SP	Alnus 4-porate		15	
SP	Alnus 5-porate		4	
SP	Alnus 6-porate		1	
SP	Baculatisporites quintus		5	
SP	Betula >20 um		7	
SP	Carya sp.		1	26 µm
SP	Chenopodiineae undiff.		1	c-35.1/4.7; broken
SP	Cicatricosisporites paradorogensis		1	c-27.8/12.8
SP	Deltoidospora sp.		6	
SP	Ericales undiff.		3	
SP	Inaperturopollenites dubius		9	
SP	Laevigatosporites sp.		21	
SP	Lycopodium spike		176	
SP	Momipites wyomingensis	?	1	c-32.1/7.3
SP	Paraalnipollenites alterniporus	Rw	1	
SP	Picea sp.	?	3	possibly broken P. koraiensis -type
SP	Pinaceae undiff.		7	
SP	Pinus koraiensis-type		1	c-10.0/7.1*
SP	Pinus sp.		8	
SP	Pterocarya sp.		1	c-18.0/16.2, aspidate pores
SP	Recycled palynomorphs	Rw	2	
SP	Sphagnum sp.		3	
SP	Stereisporites antiquasporites	Rw	1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		13	
SP	Tricolpites sp.		1	
SP	Triporopollenites sp.		16	c-21.9/13.2, aspidate pores
SP	Tsuga sp.		1	36 µm
SP	Ulmus -type	?	1	c-34.1/16.4
SP	Undeterminable spp.		29	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****724m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 19, Total count: 0

SP	Alnus 4-porate	P	
SP	Deltoidospora sp.	P	
SP	Ericales undiff.	P	
SP	Inaperturopollenites dubius	P	
SP	Laevigatosporites sp.	C	
SP	Larix/Pseudotsuga -type	P	
SP	Lycopodium sp.	P	
SP	Osmunda sp.	P	
SP	Pachysandra-Sarcococca spp.	P	b-15.9/7.7*, 36 µm
SP	Pinus sp.	R	
SP	Polypodiaceae-Dennstaedtiaceae form 1	P	
SP	Pristinuspollenites sp.	P	b-12.1/5.2*
SP	Pterocarya sp.	P	
SP	Retitricolpites sp.	P	
SP	Sciadopitys sp.	C	b-14.0/15.6*
SP	Sphagnum sp.	P	
SP	Stereisporites antiquasporites	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	A	b-32.0/6.8, anther
SP	Tripoporollenites sp.	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****730m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 20, Total count: 160

SP	Alnus 4-porate		6
SP	Baculatisporites quintus		1
SP	Betula >20 um		1
SP	Deltoidospora sp.		5
SP	Ericales undiff.		1
SP	Inaperturopollenites dubius		1
SP	Laevigatosporites sp.		6
SP	Lycopodium spike		84
SP	Osmunda sp.		1
SP	Picea sp.		2
SP	Pinaceae undiff.		12
SP	Pinus sp.		3
SP	Pterocarya sp.		1
SP	Recycled palynomorphs	Rw	5
SP	Sparganium sp.		1
SP	Sphagnum sp.		1
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		11
SP	Tripoporollenites sp.		3
SP	Tsuga canadensis-type		1
SP	Undeterminable spp.		14

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****734m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 22, Total count: 0

FU	Fungal hyphae		P	
FU	Papulosporonites sp.		R	
SP	Alnus 5-porate		P	
SP	Azonia sp.	?	P	b-12.0/11.8
SP	Betula >20 um		P	
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Laevigatosporites sp.		C	
SP	Osmunda sp.		P	
SP	Picea sp.		P	b-29.8/18.4
SP	Pinaceae undiff.		P	
SP	Pinus sp.		R	
SP	Retimonocolpites sp.		P	b-31.9/9.1
SP	Retitricolporopollenites sp.		P	b-24.0/12.0
SP	Sciadopitys sp.		P	
SP	Selaginella sp.	?	P	b-34.1/15.5*, 28 µm, tanlged, triangular, sharp spines
SP	Sphagnum sp.		C	
SP	Stereisporites antiquasporites		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Tricolpites sp.		P	
SP	Tripopollenites sp.		P	b-24.0/3.5
SP	Vitreisporites pallidus	?	P	b-28.0/7.1; broken

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****740m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 24, Total count: 283

ALIN	Algae spp.		2	
FU	Diporisorites sp.		1	c-23.8/10.2
FU	Papulosporonites sp.		1	
SP	Alnus 4-porate		8	
SP	Alnus 5-porate		2	
SP	Baculatisporites quintus		2	
SP	Betula >20 um		3	
SP	Callistopollenites sp.	Rw	1	c-18.1/14.0
SP	Deltoidospora sp.		7	
SP	Diervilla/Weigela sp.	?	1	c-15.1/6.9, broken
SP	Ericales undiff.		5	
SP	Inaperturopollenites dubius		17	
SP	Laevigatosporites sp.		21	
SP	Lycopodium spike		129	
SP	Picea sp.		5	
SP	Pinaceae undiff.		13	
SP	Pinus sp.		8	
SP	Pterocarya sp.		2	
SP	Recycled palynomorphs	Rw	6	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		7	
SP	Triporopollenites sp.		8	
SP	Tsuga canadensis-type		2	
SP	Undeterminable spp.		31	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****744m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 22, Total count: 0

FU	Fungal hyphae		P	
FU	Papulosporonites sp.		P	
SP	Alnus 4-porate		P	
SP	Carya sp.		P	b-9.8/8.1, 34 µm , good Carya!
SP	Celtis -type		P	b-22.0/4.4, see Erdtman, 1996, p. 443
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		P	
SP	Lycopodium sp.		P	
SP	Momipites wyomingensis	?	R	b-16.1/15.0
SP	Osmunda sp.		P	
SP	Picea sp.		P	
SP	Pinus sp.		P	
SP	Retitricolpites sp.		P	b-12.0/5.7, 18/12 µm
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Tilia -type		P	b-30.1/9.0
SP	Triatriopollenites granilabratus		P	b-16.1/10.6, 34 µm
SP	Triatriopollenites pulcher		P	b-17.8/7.7, 32 µm
SP	Tripoporollenites sp.		R	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****750m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 21, Total count: 139

AL	Ovoidites ligneolus		3
ALIN	Algae spp.		1
SP	Alnus 4-porate		7
SP	Alnus 5-porate		3
SP	Baculatisporites quintus		1
SP	Betula >20 um		3
SP	Deltoidospora sp.		2
SP	Ericales undiff.		1
SP	Inaperturopollenites dubius		1
SP	Laevigatosporites sp.		8
SP	Lycopodium spike		72
SP	Picea sp.		2
SP	Pinaceae undiff.		5
SP	Pinus sp.		1
SP	Pterocarya sp.		1
SP	Recycled palynomorphs	Rw	4
SP	Sphagnum sp.		1
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		5
SP	Triporopollenites sp.		2
SP	Tsuga canadensis-type		1
SP	Undeterminable spp.		15

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****754m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 17, Total count: 0

AL	Ovoidites ligneolus	P	
FU	Staphlosporites elsikii	P	b-34.0/5.7
SP	Alnus 4-porate	P	
SP	Alnus 5-porate	P	
SP	Deltoidospora sp.	P	
SP	Laevigatosporites sp.	R	
SP	Lycopodium annotinum/complanatum	C	
SP	Osmunda sp.	P	
SP	Picea sp.	P	
SP	Pinaceae undiff.	P	
SP	Retimonocolpites sp.	P	
SP	Sciadopitys sp.	P	
SP	Sphagnum sp.	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	
SP	Tetraporate sp.	P	b-26.0/9.8
SP	Tricolporopollenites sp.	P	
SP	Ulmus -type	P	b-36.1/11.2

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****760m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 19, Total count: 267

SP	Abies sp.		3	c-22.0/16.5
SP	Alnus 4-porate		1	
SP	Alnus 5-porate		2	
SP	Baculatisporites quintus		5	
SP	Betula <= 20 um		1	
SP	Betula >20 um		1	
SP	Deltoidospora sp.		2	
SP	Ericales undiff.		2	
SP	Laevigatosporites sp.		8	
SP	Lycopodium spike		167	
SP	Osmunda sp.		1	
SP	Pinaceae undiff.		10	
SP	Pinus sp.		10	
SP	Recycled palynomorphs	Rw	5	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		13	
SP	Tricolpites sp.		1	
SP	Tsuga canadensis-type		1	
SP	Tsuga sp.		1	42 µm
SP	Undeterminable spp.		33	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

764m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 14, Total count: 0

FU	Fractisporonites sp.	P	
FU	Fungal hyphae	P	
FU	Inapertisporites sp.	P	
FU	Papulosporonites sp.	P	
SP	Deltoidospora sp.	R	
SP	Ericales undiff.	P	b-26.0/18.3*
SP	Laevigatosporites sp.	P	
SP	Lycopodium sp.	P	b-16.0/17.5, not the spike, shows thin muri on amb
SP	Osmunda sp.	P	
SP	Picea sp.	R	
SP	Pinus sp.	R	
SP	Sphagnum sp.	R	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	R	
SP	Triporopollenites sp.	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****770m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 27, Total count: 377

FU	Inapertisporites sp.		2	
SP	Alnus 4-porate		8	
SP	Alnus 5-porate		9	
SP	Baculatisporites crassiprimarius		2	c-21.0/17.9
SP	Baculatisporites quintus		1	
SP	Betula <= 20 um		1	
SP	Betula >20 um		5	
SP	Deltoidospora sp.		3	
SP	Ericales undiff.		3	
SP	Laevigatosporites sp.		21	
SP	Lycopodium spike		222	
SP	Momipites wyomingensis	?	1	c-22.9/10.7
SP	Osmunda sp.		2	
SP	Picea sp.		6	
SP	Pinaceae undiff.		7	
SP	Pinus sp.		6	
SP	Retitricolpites sp.		1	c-25.0/13.1
SP	Selaginella sp.	?	1	
SP	Shepherdia canadensis-type		1	c-26.1/15.5
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		17	
SP	Tetrad pollen (scabrate)		2	c-19.1/18.1
SP	Tetraporate sp.		2	c-27.0/10.2*
SP	Triporopollenites sp.		13	one has aspidate pores, c-27.0/4.8
SP	Tsuga canadensis-type		2	
SP	Tsuga sp.		1	42 µm
SP	Undeterminable spp.		37	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****774m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 17, Total count: 0

FU	Fungal hyphae	P	
FU	Fungal hyphae type A	P	b-18.3/11.8**
FU	Inapertisporites sp.	C	
SP	Alnus 3-porate	P	b-24.0/16.9*
SP	Alnus 4-porate	P	
SP	Cicatricosisporites paradorogensis	R	b-11.6/16.8*, 39.7/4.5*, very foveolate
SP	Ericales undiff.	R	
SP	Laevigatosporites sp.	P	
SP	Lycopodium annotinum/complanatum	P	b-16.0/20.3*
SP	Magnolia sp.	P	b-11.6/8.2*
SP	Picea sp.	P	
SP	Pinus sp.	R	
SP	Quercus sp.	P	b-20.1/3.1*
SP	Sphagnum sp.	P	
SP	Stereisporites antiquasporites	P	b-11.6/8.2
SP	Stereisporites microgranulus	P	b-18.3/12.6
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****780m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 24, Total count: 336

SP	Acer sp.	?	1	c-11.9/19.3
SP	Alnus 3-porate		1	
SP	Alnus 4-porate		19	
SP	Alnus 5-porate		17	c-28.9/11.0, irregular striate ornament like A.serrulata (Li)
SP	Betula <= 20 um		2	
SP	Betula >20 um		3	
SP	Corylus -type		1	
SP	Deltoidospora sp.		1	
SP	Ericales undiff.		4	
SP	Inaperturopollenites dubius		5	
SP	Laevigatosporites sp.		16	
SP	Lycopodium spike		162	
SP	Momipites wyomingensis	?	1	c-27.9/11.7
SP	Picea sp.		5	
SP	Pinaceae undiff.		25	
SP	Pinus sp.		12	
SP	Poaceae undiff.		1	c-11.8/3.4
SP	Recycled palynomorphs	Rw	1	
SP	Retitricolpites sp.		1	c-22.9/13.3, ?Platanus see Lieux, 1980, Pl. XXIV
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		17	
SP	Triporopollenites sp.		2	
SP	Tsuga canadensis-type		2	
SP	Undeterminable spp.		36	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****784m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 27, Total count: 0

AL	Ovoidites ligneolus		P	
FU	Fractisporonites sp.		P	
FU	Fungal hyphae		P	b-32.0/5.0, coiled, verrucate, 34.1/5.1
FU	Inapertisporites sp.		P	
FU	Monoporisporites sp.		P	
FU	Papulosporonites sp.		P	
SP	Alnus 3-porate		P	
SP	Alnus 4-porate		P	
SP	Cicatricosisporites sp.		P	
SP	Ericales undiff.		P	
SP	Hamulatisporis sp.		P	b-30.0/3.9*
SP	Inaperturopollenites dubius		P	
SP	Kuylisporites lunaris		P	b-31.8/14.5, probably from Cyatheaceae
SP	Laevigatosporites sp.		R	
SP	Osmunda sp.		P	b-22.1/4.0
SP	Picea sp.		P	
SP	Pinus koraiensis-type	?	P	b-12.2/9.0
SP	Pinus sp.		P	
SP	Polypodiaceae-Dennstaedtiaceae form 1		P	
SP	Retitricolpites sp.		P	b-28.0/11.4 (?/18 µm), 20.1/11.0 (obscured)
SP	Rosaceae undiff.		P	b-36.1/5.9
SP	Sphagnum sp.		C	
SP	Stereisporites microgranulus		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Tricolpopollenites sp.		P	
SP	Triporopollenites sp.		P	
SP	Tsuga canadensis-type		R	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****790m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 20, Total count: 312

FU	Lacrimasporonites sp.		1	c-22.2/7.7, 38/18 µm, n. sp.?
SP	Alnus 4-porate		7	
SP	Alnus 5-porate		7	
SP	Baculatisporites quintus		2	
SP	Betula >20 um		3	
SP	Ericales undiff.		3	
SP	Inaperturopollenites dubius		9	
SP	Laevigatosporites sp.		7	
SP	Lycopodium spike		199	
SP	Mallik5L-38 unknown 04		1	c-22.4/16.4*, 28/>32 µm, Image 0292a,b, trirectate, rhombic, broken, faint ?reticulum; broken; TAI 2 to 2+
SP	Momipites wyomingensis	?	1	c-20.0/13.6
SP	Picea sp.		2	
SP	Pinaceae undiff.		10	
SP	Pinus sp.		3	
SP	Selaginella microdendron-type		1	
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		8	
SP	Tetraporate sp.		1	c-45.1/19.8, 18 µm
SP	Triporepollenites sp.		5	
SP	Undeterminable spp.		40	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

794m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 28, Total count: 0

FU	Fractisporonites sp.		P	
FU	Papulosporonites sp.		P	
FU	Phragmothyrites spp.		P	b-26.1/12.9
FU	Reduviasporonites sp.		P	b-36.0/17.5
SP	Alnus 5-porate		P	b-22.0/12.1*, robust grain
SP	Baculatisporites crassiprimarius		P	b-13.9/20.1
SP	Cicatricosisporites dorogensis	?	P	
SP	Ericales undiff.		P	
SP	Gleicheniidites senonicus		P	b-26.1/7.4, probably not recycled
SP	Hamulatisporis sp.	?	P	b-36.0/13.3
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		R	
SP	Momipites wyomingensis	?	P	b-26.0/20.9*
SP	Osmunda sp.		P	
SP	Picea sp.		P	
SP	Pinus sp.		P	
SP	Polypodiaceae-Dennstaedtiaceae form 1		P	b-22.1/11.0*, biodegraded giving dentate appearance
SP	Reticulosporis oligocaenicus		P	b-36.2/9.7*, 80/66 µm, even, very fine angular reticulum
SP	Retitricolpites sp.		P	
SP	Retitricolporopollenites sp.		P	b-32.2/12.1, very fine reticulum
SP	Rosaceae undiff.		P	b-22.0/17.2*, tricolporate, striate
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triporopollenites sp.		R	
SP	Tsuga canadensis-type		P	
SP	Unknown sp. A		P	b-15.9/19.0, 38/24 µm, tricol(?por)ate, foveolate, tectate
SP	Unknown sp. B		P	b-16.0/9.8, strongly striate, crushed

StrataBugs: Palynofloral Sample Logging Sheet


Mallik 5L-38

800m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 33, Total count: 406

AL	Sigmopollis carbonis		1	
FO	Microforaminiferal test lining		1	c-18.0/14.0
FU	Fungal hyphae		1	
SP	Abies sp.		1	
SP	Alnus 4-porate		10	
SP	Alnus 5-porate		8	
SP	Arecipites symmetricus		1	c-16.1/11.7, 16 µm, straight furrow
SP	Baculatisporites crassiprimarius		2	
SP	Baculatisporites quintus		1	
SP	Betula <= 20 um		1	
SP	Betula >20 um		3	
SP	Deltoidospora sp.		5	
SP	Ericales undiff.		1	
SP	Inaperturopollenites dubius		9	
SP	Laevigatosporites sp.		13	
SP	Lycopodium spike		260	
SP	Mallik5L-38 unknown 05		1	c-16.0/16.9, 30/20 µm, Image 0293, tricolporate, rugulate in intercolp,
				
SP	Momipites wyomingensis	?	1	
SP	Osmunda sp.		2	c-25.9/8.1*
SP	Picea sp.		3	
SP	Pinaceae undiff.		6	
SP	Pinus sp.		8	
SP	Polypodiaceae-Dennstaedtiaceae form 1		1	
SP	Recycled palynomorphs	Rw	4	very mature silhouettes
SP	Selaginella microdendron-type		1	c-12.1/7.0, coarse baculate trilete
SP	Sparganium sp.		2	c-24.1/4.7
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		14	
SP	Tricolpites sp.		1	c-28.9/9.0, might be a badly eroded Quercus
SP	Tripoporollenites sp.		4	
SP	Tsuga canadensis-type		3	
SP	Ulmus -type	?	1	obscured
SP	Undeterminable spp.		34	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

804m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 31, Total count: 0

FU	Didymoporisporonites conicus		P	b-22.0/9.9*
FU	Fractisporonites sp.		P	
FU	Inapertisporites sp.		P	
FU	Papulosporonites sp.		R	
FU	Phragmothyrites spp.		P	b- 22.0/7.6*
SP	Alnus 6-porate		P	
SP	Baculatisporites quintus		P	
SP	Carya sp.		P	b-12.3/9.0 (35 µm), 24.0/2.8 (44 µm)
SP	Cicatricosisporites sp.		P	
SP	Ericales undiff.		P	
SP	Fraxinus sp.		P	b-14.0/7.1*
SP	Gleicheniidites senonicus		P	b-16.1/3.8
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		P	
SP	Lycopodium sp.		P	
SP	Mallik2L-38 unknown 14		P	b-12.0/16.8*, ?Foraminisporis
SP	Momipites wyomingensis	?	P	b-16.1/5.4
SP	Osmunda sp.		P	b-12.0/16.8*
SP	Paraalnipollenites alterniporus	Rw	P	
SP	Pinus sp.		P	
SP	Polypodiaceae-Dennstaedtiaceae form 1		P	
SP	Retitricolpites sp.		R	
SP	Sciadopitys sp.		P	b-40.0/12.2
SP	Sparganium sp.		P	b-32.0/15.1
SP	Sphagnum sp.		R	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triatriopollenites pulcher		P	26.0/3.3 (32 µm, scabrate), 26.0/5.7 (29 µm)
SP	Tripoporollenites sp.		P	b-18.0/5.1 ?Jussiaea, 32.1/4.5 - these have robust pores
SP	Tsuga canadensis-type		P	
SP	Ulmus -type		P	b-18.1/16.1
SP	Unknown sp. A		P	b-38.3/8.4, thick interradial crassitudes

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****810m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 28, Total count: 467

FU	Fractisporonites sp.	1	
SP	Abies sp.	1	
SP	Alnus 4-porate	10	
SP	Alnus 5-porate	9	
SP	Baculatisporites crassiprimarius	1	
SP	Baculatisporites quintus	3	c-18.0/14.1
SP	Betula <= 20 um	5	
SP	Betula >20 um	4	
SP	Deltoidospora sp.	3	
SP	Ericales undiff.	2	
SP	Inaperturopollenites dubius	3	
SP	Laevigatosporites sp.	15	
SP	Lycopodium sp.	1	
SP	Lycopodium spike	300	
SP	Picea sp.	8	c- 9.9/9.8*, 140/104 µm
SP	Pinaceae undiff.	10	
SP	Pinus sp.	17	
SP	Pterocarya sp.	2	c-12.0/10.6
SP	Retitricolpites sp.	1	
SP	Sparganium sp.	1	
SP	Sphagnum sp.	2	
SP	Stereisporites antiquasporites	1	
SP	Stereisporites maximalis	1	c-18.9/12.4
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	19	c-9.9/9.8*
SP	Tricolpopollenites sp.	1	
SP	Tricolporopollenites sp.	1	
SP	Triporopollenites sp.	11	
SP	Undeterminable spp.	34	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****814m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 16, Total count: 0

SP	Betula >20 um		R	
SP	Ericales undiff.		P	
SP	Gleicheniidites senonicus		P	
SP	Hamulatisporis sp.		P	b-12.0/9.8, 16.1/10.8*
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		R	
SP	Momipites wyomingensis	?	P	b-36.0/6.8
SP	Pinaceae undiff.		P	
SP	Pinus sp.		R	
SP	Pistillipollenites macgregorii	Rw	P	b-23.9/6.1*, 2 specimens
SP	Sciadopitys sp.		R	
SP	Sparganium sp.	?	P	b-13.8/14.4*
SP	Sphagnum sp.		P	
SP	Stereisporites maximalis		P	b-12.0/12.4
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triporopollenites sp.		R	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****820m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 24, Total count: 397

AL	Sigmopollis carbonis		1	
SP	Alnus 4-porate		11	
SP	Alnus 5-porate		8	
SP	Alnus 6-porate		1	
SP	Betula <= 20 um		1	
SP	Betula >20 um		3	
SP	Cicatricosisporites paradoxogenis		1	c-20.0/8.3
SP	Deltoidospora sp.		7	
SP	Ericales undiff.		1	
SP	Inaperturopollenites dubius		12	
SP	Laevigatosporites sp.		20	
SP	Lycopodium spike		232	
SP	Picea sp.		4	
SP	Pinaceae undiff.		11	
SP	Pinus sp.		16	
SP	Pterocarya sp.		1	
SP	Recycled palynomorphs	Rw	1	black
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		13	
SP	Triporopollenites sp.		13	
SP	Tsuga canadensis-type		2	
SP	Tsuga sp.		1	41 µm
SP	Ulmus -type		1	
SP	Undeterminable spp.		34	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****824m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 25, Total count: 0

FU	Fractisporonites sp.	P	
SP	Alnus 4-porate	P	
SP	Carya sp.	P	c-13.9/4.0, small, 32 µm, also similar to Carya inelegans Nichols and Ott 1978
SP	Ericales undiff.	R	
SP	Hamulatisporis sp.	P	
SP	Hazaria sheopiariae	P	b-15.8/20.6*, 26.1/12.0
SP	Inaperturopollenites dubius	P	
SP	Laevigatosporites sp.	P	
SP	Lycopodium sp.	P	
SP	Pinaceae undiff.	R	
SP	Polypodiaceae-Dennstaedtiaceae form 1	P	b-38.1/5.9, gracile ornament
SP	Pterocarya sp.	P	b-17.9/12.8, scabrate
SP	Sciadopitys sp.	P	
SP	Singularia sp.	P	b-34.0/6.6*, 36/26 µm, 38.2/8.3, Azonia colp with small spin
SP	Sphagnum sp.	P	
SP	Stereisporites antiquasporites	R	
SP	Stereisporites maximalis	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	
SP	Triatriopollenites granilabratus	P	b-16.2/10.1, 24 µm (as in Parsons, 2000, Pl. 9, 31-33,39)
SP	Tricolpate type H	P	b-15.6/21.1*, 13.8/15.4
SP	Triporopollenites sp.	P	
SP	Tsuga canadensis-type	P	
SP	Undeterminable spp.	P	b-17.9/14.7
SP	Unknown sp. A	P	b-10.1/11.8, 36/24 µm, tricol(por?)ate, striate, tectate
SP	Unknown sp. B	P	b-22.1/2.4, trilete, thin-walled, microechinate

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

830m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 26, Total count: 373

FU	Brachysporisporites sp.		1	
SP	Alnus 4-porate		14	
SP	Alnus 5-porate		1	
SP	Baculatisporites quintus		1	
SP	Betula <= 20 um		1	
SP	Betula >20 um		3	
SP	Deltoidospora sp.		2	
SP	Ericales undiff.		3	
SP	Gleicheniidites senonicus		1	
SP	Inaperturopollenites dubius		11	
SP	Laevigatosporites sp.		18	
SP	Lycopodium spike		220	
SP	Magnoliaceae undiff.	?	4	c-40.0/4.0
SP	Picea sp.		8	
SP	Pinaceae undiff.		11	
SP	Pinus sp.		6	
SP	Pterocarya sp.		1	
SP	Recycled palynomorphs	Rw	2	
SP	Reticulosporis sp.	?	1	c-23.0/15.1, 26/22 µm
SP	Sphagnum sp.		5	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		8	
SP	Triatriopollenites granilabratus		1	c-14.0/6.8
SP	Tripoporollenites sp.		12	c-35.4/9.1- note one has Eucaptytus -like pores, 30 µm
SP	Tsuga canadensis-type		2	
SP	Undeterminable spp.		35	
SP	Unknown sp. A		1	c-39.1/11.3, 26 µm, foveolate ?spore,

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****834m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 22, Total count: 0

FU	Fractisporonites sp.		P	
FU	Fungal hyphae		P	
FU	Fungal hyphae type A		P	
FU	Inapertisporites sp.		P	
FU	Papulosporonites sp.		P	
FU	Pluricellaesporites sp.		P	
FU	Staphlosporonites sp.		P	
FU	Trichothyrites sp.		P	b-22.4/14.6*, attached to wood by ostiole, obscured
SP	Alnus 5-porate		P	
SP	Castanea -type	?	P	b-30.0/11.6, 15/6 µm
SP	Ericales undiff.		P	
SP	Inaperturopollenites dubius		P	
SP	Osmunda sp.		P	
SP	Pinus sp.		P	
SP	Podocarpus sp.		P	b-20.0/6.5
SP	Retitricolpites sp.		P	
SP	Sphagnum sp.		P	
SP	Stereisporites antiquasporites		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triatriopollenites pulcher		P	b-17.9/3.1
SP	Tricolpopollenites sp.		P	
SP	Tripoporollenites sp.		P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****840m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 24, Total count: 266

DC	Dinoflagellate indet.	?	1	c-10.0/5.1
SP	Alnus 4-porate		4	
SP	Alnus 5-porate		6	
SP	Arecipites symmetricus	?	1	c-10.9/9.7
SP	Baculatisporites crassiprimarius		3	c-14.0/17.0
SP	Betula >20 um		3	c-12.0/11.8
SP	Chenopodiineae undiff.		1	c-30.0/16.4*
SP	Deltoidospora sp.		2	
SP	Ericales undiff.		1	
SP	Inaperturopollenites dubius		2	
SP	Laevigatosporites sp.		9	
SP	Lycopodium spike		154	
SP	Momipites wyomingensis	?	1	c-18.2/14.5
SP	Osmunda sp.		1	
SP	Picea sp.		6	
SP	Pinaceae undiff.		4	
SP	Pinus sp.		7	
SP	Recycled palynomorphs	Rw	1	
SP	Sphagnum sp.		4	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		6	
SP	Triatriopollenites granilabratus		1	c-15.0/15.2 (32 µm)
SP	Triporate type D		1	c-29.0/11.3, 27 µm
SP	Triporopollenites sp.		13	
SP	Undeterminable spp.		34	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

844m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 28, Total count: 0

FU	Brachysporisorites sp.		P	
FU	Fractisporonites sp.		P	
FU	Fungal hyphae		P	
FU	Fungal hyphae type A		P	
FU	Inapertisporites sp.		P	
FU	Papulosporonites sp.		P	
FU	Staphlosporonites sp.		P	
SP	Alnus 6-porate		P	
SP	Azonia sp.	Rw	P	b-11.9/8.4; broken
SP	Betula >20 um		P	b-10.2/13.3*
SP	Castanea -type		P	b-15.7/12.3
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Hazaria sheopiariae		P	b-23.9/16.4
SP	Laevigatosporites sp.		P	
SP	Magnolia sp.		P	b-15.9/17.7, unusually thick-walled
SP	Osmunda sp.		P	
SP	Paraalnipollenites alterniporus	Rw	P	b-33.9/20.3, 36.0/6.9
SP	Pinaceae undiff.		P	
SP	Pinus sp.		P	
SP	Retitricolpites sp.		P	
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Stereisporites microgranulus		P	b-15.7/4.3
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triatriopollenites pulcher		C	b-12.0/6.7*, 28 µm, thickwalled, textured scabate, no polar thinning, 21.9/5.9, 30 µm
SP	Unknown sp. A		P	b-27.9/5.0, 23 µm, Liquidambar-like but microreticulate, with elongated, "torn" pores
SP	Unknown sp. B		P	b-32.0/13.5, 18 µm, spheroid, composed of sub-pentagonal plates ~4 µm dia.

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

850m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 17, Total count: 161

FU	Inapertisporites sp.		1
FU	Monoporisporites sp.		1
FU	Papulosporonites sp.		1
SP	Alnus 4-porate		6
SP	Baculatisporites quintus		1
SP	Betula >20 um		5
SP	Deltoidospora sp.		2
SP	Ericales undiff.		1
SP	Laevigatosporites sp.		2
SP	Lycopodium spike		105
SP	Picea sp.		1
SP	Pinaceae undiff.		3
SP	Pinus sp.		6
SP	Recycled palynomorphs	Rw	2
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3
SP	Triporopollenites sp.		4
SP	Undeterminable spp.		17

c-21.8/6.5, specimen previously called
Lonicerapollis gallwitzii, cf., poor presentation;
columellae in exine not pronounced, prob not.
JMW

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

854m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 31, Total count: 0

FU	Diporisorites major		P	b-15.5/15.4, 30.0/12.6, 36.0/9.4, with spiral twist
FU	Fractisporonites sp.		P	
FU	Fungal hyphae type A		P	
FU	Fungal hyphae type B		P	b-33.8/18.8*, like weiners strung together with gut, weiners 8-35/8 µm
FU	Monoporisorites sp.		P	
FU	Multicellaesporites sp.		P	
FU	Polyadosporites sp.		P	
SP	Alnus 5-porate		R	
SP	Azonia cribrata	Rw ?	P	b-22.3/5.4
SP	Castanea -type		P	b-36.0/11.9, 14/7 µm; refound specimens at 35.4/11.7, and 35.5/11.4
SP	Cicatricosisporites subrotundus		P	b-35.6/3.5*
SP	Ericales undiff.		P	
SP	Hazaria sheopiariae		P	b-18.0/9.2
SP	Ilex -type		P	b-15.5/10.8
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		P	
SP	Lycopodium annotinum/complanatum		P	
SP	Momipites wyomingensis	?	P	
SP	Osmunda sp.		P	
SP	Picea sp.		P	
SP	Pinus sp.		R	
SP	Polypodiaceae-Dennstaedtiaceae form 1		P	
SP	Retitricolpites sp.		P	b-10.0/13.7
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triatriopollenites pulcher		P	b- 22.4/7.4*, one pore off equator, b-15.5/20.0, 30 µm
SP	Ulmus -type		P	b-10.0/12.0
SP	Unknown sp. A		P	b-10.0/8.0, same as Unknown A of 843.66 m
SP	Unknown sp. B		P	b-11.9/16.5, 42 µm, 23.9/18.8*, 40 µm, baculate,gemmate, echinate monolete spore,
SP	Unknown sp. C		P	b-20.0/2.6, 11µm, spheroid of subangular plates, not exactly as in 843.66 m

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****860m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 20, Total count: 157

DC	Dinoflagellate indet.		1	c-30.0/9.0*, peridinoid?
SP	Alnus 4-porate		8	
SP	Alnus 5-porate		5	
SP	Betula <= 20 um		1	
SP	Betula >20 um		3	
SP	Inaperturopollenites dubius		2	
SP	Laevigatosporites sp.		12	
SP	Lycopodium spike		73	
SP	Momipites wyomingensis	?	2	c-39.0/13.7
SP	Osmunda sp.		2	
SP	Picea sp.		1	
SP	Pinaceae undiff.		3	
SP	Pinus sp.		2	
SP	Pterocarya sp.		1	c-30.9/16.9*
SP	Recycled palynomorphs	Rw	1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	
SP	Triatriopollenites pulcher		1	
SP	Tripoporollenites sp.		5	
SP	Undeterminable spp.		30	
SP	Unknown sp. A		1	c-14.0/9.8, 25 µm, triporate, thich walled, verrucate, Lonicerapollis??

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

864m CU

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 29, Total count: 0

FU	Brachysporisporites sp.			P	
FU	Fungal hyphae			P	
FU	Fungal hyphae type A			C	
FU	Monoporisporites sp.			P	
FU	Papulosporonites sp.			P	
SP	Ailanthipites fluens	Rw		P	b-26.2/16.3, 46/30 µm
SP	Apiaceae undiff.			P	b-18.0/18.7, 30/16 µm, scabrate, tectate, longer collumellae at poles
SP	Celtispollenites tschudyi	Rw	?	P	b-36.0/13.7, 36 µm, distinct scabrate-verrucate exine, ?37.9/3.9, scattered verrucae
SP	Cicatricosisporites paradorogensis		?	P	b-24.1/17.7, folded
SP	Ericales undiff.			P	
SP	Gleicheniidites circinidites	Rw		P	b-35.9/15.3
SP	Hamulatisporis sp.		?	P	b-14.1/11.4*, large
SP	Hazaria sheopiariae			P	b-20.0/6.7
SP	Inaperturopollenites dubius			P	
SP	Laevigatosporites sp.			P	
SP	Osmunda sp.			P	b-38.0/11.7
SP	Picea sp.			P	
SP	Pinus sp.			P	
SP	Pistillipollenites macgregorii	Rw		P	b-29.9/10.9*, gemmate-baculate
SP	Retitricolpites sp.			P	b-22.0/5.5, ?/18 µm, microriculate, tectate
SP	Sciadopitys sp.			P	
SP	Selaginella selaginoides			P	b-16.1/17.8, tetrad
SP	Sparganium sp.			P	
SP	Sphagnum sp.			P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			P	
SP	Triatriopollenites granilabratus		?	P	b-29.9/13.8
SP	Triatriopollenites pulcher			P	b-27.8/4.1, 14.0/4.5*, see with very even scabrate ornament, 28.0/4.3*
SP	Triporopollenites sp.			P	
SP	Unknown sp. A			P	b-10.0/9.7, 110/48 µm, planar, multicelled, toe-like appendages

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****870m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 29, Total count: 293

DC	Dinoflagellate indet.	?	1	c-16.0/15.1
FU	Multicellaesporites sp.		1	
FU	Papulosporonites sp.		1	
SP	Alnus 4-porate		25	
SP	Alnus 5-porate		7	
SP	Arecipites symmetricus		1	c-17.8/19.1
SP	Betula <= 20 um		1	
SP	Betula >20 um		1	
SP	Deltoidospora sp.		7	
SP	Ericales undiff.		3	
SP	Hamulatisporis sp.		1	
SP	Inaperturopollenites dubius		7	
SP	Laevigatosporites sp.		14	
SP	Lycopodium spike		124	
SP	Magnoliaceae undiff.	?	2	c-14.0/5.1, 34.0/13.1 (reticulation but no doublewall) JMW 18Mar2010
SP	Picea sp.		4	
SP	Pinaceae undiff.		16	
SP	Pinus sp.		13	
SP	Pterocarya sp.		1	
SP	Recycled palynomorphs	Rw	4	
SP	Sphagnum sp.		4	
SP	Stereisporites microgranulus		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		4	
SP	Tetrad pollen (scabrate)		1	c-12.1/7.8
SP	Tricolporopollenites sp.		2	
SP	Tripopollenites sp.		8	
SP	Tsuga sp.	?	1	c-34.0/21.1, 40 µm, very thick, dense vellum, and is possibly bisaccate
SP	Ulmus -type	?	1	
SP	Undeterminable spp.		37	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****874m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 21, Total count: 0

FU	Fractisporonites sp.		P	
FU	Fungal hyphae		P	
FU	Polyadosporites sp.		P	
SP	Alnus 4-porate		P	
SP	Alnus 5-porate		P	
SP	Azonia cribrata	Rw	P	b-15.9/21.5
SP	Deltoidospora sp.		P	
SP	Gleicheniidites senonicus		P	
SP	Inaperturopollenites dubius		P	
SP	Lycopodium sp.		P	
SP	Paraalnipollenites alterniporus	Rw	P	b-10.0/9.6*
SP	Picea sp.		P	
SP	Pinaceae undiff.		P	
SP	Polypodiaceae-Dennstaedtiaceae form 2		P	
SP	Pterocarya sp.		P	
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Stereisporites antiquasporites		P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		P	
SP	Triporopollenites sp.		P	
SP	Unknown sp. A		P	b-12.0/18.1, microverrucate, monolete spore

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

885m CU

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 0, Total count: 0

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****890m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 24, Total count: 425

AL	Sigmopollis sp.		2	
FU	Involutisporonites sp.	?	1	d-20.1/15.1, obscured
SP	Alnus 3-porate		1	
SP	Alnus 4-porate		6	
SP	Alnus 5-porate		5	
SP	Corylus -type		1	
SP	Deltoidospora sp.		5	
SP	Gleicheniidites senonicus		1	
SP	Hamulatisporis sp.		1	d-15.0/9.6
SP	Inaperturopollenites dubius		4	
SP	Laevigatosporites sp.		17	
SP	Lycopodium sp.		1	
SP	Lycopodium spike		309	
SP	Momipites wyomingensis	?	1	
SP	Picea sp.		3	
SP	Pinaceae undiff.		8	
SP	Pinus sp.		2	
SP	Pterocarya sp.		1	
SP	Recycled palynomorphs	Rw	2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		9	
SP	Tripoporollenites sp.		6	
SP	Tsuga sp.		1	d-20.2/8.1, 38 µm, wide velum
SP	Ulmus -type	?	1	d-29.0/10.5, folded
SP	Undeterminable spp.		37	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****894m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 29, Total count: 0

DC	Dinoflagellate indet.		P	only one specimen seen, probably a peridinoid
FU	Fungal hyphae		P	
FU	Inapertisporites sp.		P	
FU	Papulosporonites sp.		P	
FU	Trichothyrites sp.		P	
SP	Alnus 4-porate		P	
SP	Aquilapollenites sp.	Rw	P	b-15.9/18.9; very broken
SP	Baculatisporites quintus		P	
SP	Cicatricosisporites sp.		P	
SP	Deltoidospora sp.		P	
SP	Ericales undiff.		P	
SP	Hamulatisporis sp.		P	
SP	Hazaria sheopiariae		P	
SP	Inaperturopollenites dubius		P	
SP	Laevigatosporites sp.		P	
SP	Larix/Pseudotsuga -type		P	
SP	Lycopodium sp.		P	b-24.2/2.9, 30.0/20.7
SP	Pachysandra-Sarcococca spp.		P	b-26.6/7.9*
SP	Picea sp.		P	
SP	Pinus sp.		P	
SP	Sciadopitys sp.		P	
SP	Sphagnum sp.		P	
SP	Stereisporites antiquasporites		P	
SP	Tetrad pollen (scabrate)		P	
SP	Triatriopollenites granilabratus		P	b-27.6/20.7
SP	Triatriopollenites pulcher		P	b-27.5/8.4, 27.4/16.2
SP	Tricolpites sp.		P	
SP	Tripoporollenites sp.		P	
SP	Ulmus -type		P	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****895m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 18, Total count: 275

SP	Alnus 4-porate		7	
SP	Alnus 5-porate		1	
SP	Betula >20 um		1	
SP	Deltoidospora sp.		1	
SP	Equisetum sp.		1	c-38.0/19.1, 42/38 µm
SP	Ericales undiff.		1	
SP	Inaperturopollenites dubius		1	
SP	Laevigatosporites sp.		3	
SP	Lycopodium spike		233	
SP	Picea sp.		1	
SP	Pinaceae undiff.		2	
SP	Pinus sp.		3	
SP	Recycled palynomorphs	Rw	1	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		2	
SP	Tetrad pollen (scabrate)		1	
SP	Triporopollenites sp.		2	
SP	Undeterminable spp.		13	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****899m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 26, Total count: 0

FU	Dicellaesporites sp.	P	
FU	Fractisporonites sp.	R	
FU	Polyadosporites sp.	P	
SP	Alnus 4-porate	P	
SP	Baculatisporites quintus	P	b=26.0/8.7
SP	Betula >20 um	P	
SP	Cercidiphyllum sp.	P	b-9.9/18.9
SP	Deltoidospora sp.	P	
SP	Ericales undiff.	P	
SP	Gleicheniidites senonicus	P	
SP	Hamulatisporis sp.	P	b-13.9/18.2, 20.1/18.6*
SP	Inaperturopollenites dubius	P	
SP	Iridaceae-Liliaceae undiff.	P	b-32.0/7.8
SP	Laevigatosporites sp.	P	
SP	Lycopodium sp.	P	
SP	Picea sp.	P	
SP	Reticuloidosporites pseudomurii	P	b-36.0/17.7*
SP	Retitricolpites sp.	P	b-18.0/15.0
SP	Sciadopitys sp.	R	
SP	Sphagnum sp.	P	
SP	Stereisporites antiquasporites	P	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	P	
SP	Triatriopollenites granilabratus	P	b-36.0/5.8
SP	Triatriopollenites pulcher	P	b-9.8/21.0
SP	Unknown sp. A	P	b-9.9/6.6, compare with Unknown sp. A of 843.66 m
SP	Unknown sp. B	P	b-9.9/6.9, baculate, gemmate, echinate, trilete, compare with 853.66 m

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****900m CU**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 20, Total count: 444

FU	Polyadosporites sp.		1	
SP	Alnus 4-porate		7	
SP	Alnus 5-porate		2	
SP	Baculatisporites quintus		1	
SP	Betula >20 um		8	
SP	Deltoidospora sp.		3	
SP	Ericales undiff.		1	
SP	Gleicheniidites senonicus	Rw	1	eroded
SP	Laevigatosporites sp.		8	
SP	Lycopodium sp.		1	
SP	Lycopodium spike		350	
SP	Picea sp.		4	
SP	Pinaceae undiff.		10	
SP	Pinus sp.		12	
SP	Pterocarya sp.		1	c-20.0/10.0
SP	Sphagnum sp.		2	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		3	
SP	Tricolpites sp.		2	c-31.9/14.4
SP	Triporopollenites sp.		7	
SP	Undeterminable spp.		20	

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****904m CU**

Analysis suite: FRACT/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 13, Total count: 0

SP	Alnus 4-porate	R	
SP	Alnus 5-porate	P	
SP	Ericales undiff.	P	
SP	Gleicheniidites senonicus	P	
SP	Inaperturopollenites dubius	P	
SP	Laevigatosporites sp.	P	
SP	Retitricolpites sp.	P	b-9.9/11.6*
SP	Rousea sp.	R	b-9.8/12.3, 27/18 µm, 35.9/18.8, 30/20 µm, very angular reticulum, fining to colpus
SP	Sciadopitys sp.	P	
SP	Sphagnum sp.	P	
SP	Triatriopollenites pulcher	P	
SP	Tripoporollenites sp.	P	
SP	Unknown sp. A	P	b-33.8/15.5*, 32/~30 µm, broken, distinct colpus margo and round pore, exine similar to Fagus, pore does not exceed furrow.

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

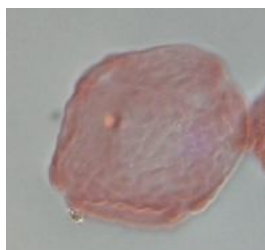
933.64 - 933.65m CO

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 15, Total count: 232

SP	Acer sp.		4	b-14.1/9.7, 13.7/13.3
SP	Alnus 4-porate		2	
SP	Deltoidospora sp.		2	
SP	Ericales undiff.		3	
SP	Laevigatosporites sp.		183	
SP	Liliaceae undiff.		1	
SP	Pinaceae undiff.		1	
SP	Pinus sp.		3	
SP	Quercus sp.		1	b-14.0/2.8
SP	Rosaceae undiff.	P		
SP	Sparganium sp.	P		b-22.0/15.8
SP	Tricolpites sp.		3	
SP	Tripoporollenites sp.		6	
SP	Ulmus -type		1	b-14.3/12.5



SP Undeterminable spp. 22

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****933.92 - 933.93m CO**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 23, Total count: 217

FU	Fungal hyphae			4	
FU	Fungal hyphae type D			3	b-17.9/18.3
FU	Inapertisporites sp.			1	
FU	Staphlosporites sp.			2	
SP	Alnus 4-porate			4	
SP	Alnus 5-porate			1	
SP	Betula >20 um			2	
SP	Deltoidospora sp.			4	
SP	Ericales undiff.			81	
SP	Fagus sp.	?	P		b-41.0/5.3
SP	Laevigatosporites sp.			21	
SP	Lycopodium sp.			3	b-17.9/18.3
SP	Osmunda sp.			2	b-17.9/21.1
SP	Picea sp.			2	
SP	Pinaceae undiff.			11	
SP	Pinus sp.			4	
SP	Quercus sp.	?		1	b-21.8/6.2, obscured
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			3	
SP	Tripoporites sp.			7	
SP	Tsuga canadensis-type			8	
SP	Tsuga heterophylla-type			1	b-13.7/16.0
SP	Ulmus -type			3	b-13.9/11.1
SP	Undeterminable spp.			49	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

934.20 - 934.21m CO

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 32, Total count: 251

ALIN	Algae spp.			2	
FU	Papulosporonites sp.			2	
FU	Staphlosporonites sp.			5	
SP	Acer sp.		P		b-26.0/20.5
SP	Alnus 4-porate			28	
SP	Alnus 5-porate			34	
SP	Betula >20 um			1	
SP	Carya sp.		P		b-26.0/12.0
SP	Deltoidospora sp.			1	
SP	Ericales undiff.			5	
SP	Inaperturopollenites dubius			7	
SP	Laevigatosporites sp.			67	
SP	Larix/Pseudotsuga -type			4	
SP	Liliaceae undiff.			2	
SP	Nymphaea sp.	?	P		b-22.0/15.9
SP	Osmunda sp.			3	
SP	Picea sp.		P		
SP	Pinaceae undiff.			10	
SP	Pinus sp.		P		
SP	Pterocarya sp.		P		b-26.0/18.2
SP	Retitricolpites sp.			4	b-14.0/6.5
SP	Retitricolporopollenites sp.			1	b-14.1/10.9
SP	Rhus -type	?		2	b-14.3/15.4, 14.4/16.0
SP	Striatocorpus sweetii			2	b-14.0/6.1, 18/28 µmImage 0266a,b.tif, cf. 13.9/13.1, crushed polar
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.			30	
SP	Tricolpites sp.			3	
SP	Tricolporopollenites sp.			1	
SP	Tripoporollenites sp.			10	
SP	Tsuga canadensis-type			1	
SP	Ulmus -type			1	b-13.8/12.5
SP	Undeterminable spp.			24	
SP	Unknown sp. A			1	b-14.0/8.6, stephanocolpate, 34/18 µm, 14.1/12.5, 26/16 µm



StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****940.52 - 940.53m CO**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 28, Total count: 216




FU	Fungal hyphae	6	
FU	Fungal hyphae type D	4	b-14.0/6.1
FU	Inapertisporites sp.	17	
FU	Papulosporonites sp.	13	
FU	Staphlosporonites sp.	13	
SP	Alnus 4-porate	12	
SP	Alnus 5-porate	15	
SP	Carya sp.	1	b-17.9/12.1
SP	Deltoidospora sp.	2	
SP	Ericales undiff.	48	
SP	Inaperturopollenites dubius	2	
SP	Laevigatosporites sp.	29	
SP	Liliaceae undiff.	1	
SP	Nyssa sp.	2	b-18.0/16.5
SP	Osmunda sp.	P	
SP	Picea sp.	2	
SP	Pinaceae undiff.	4	
SP	Pinus sp.	4	
SP	Psilastephanocolpites sp.	1	b-30.0/14.4
SP	Quercus sp.	1	b-25.9/21.3
SP	Retitricolpites sp.	1	b-25.7/13.9
SP	Retitricolporopollenites sp.	1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	7	
SP	Tricolpites sp.	1	
SP	Tripoporopollenites sp.	4	
SP	Tsuga canadensis-type	3	
SP	Ulmus -type	1	
SP	Undeterminable spp.	21	

Mallik 5L-38**940.94 - 940.95m CO**

Analysis suite: JMW/1

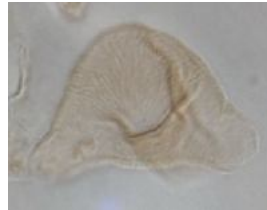
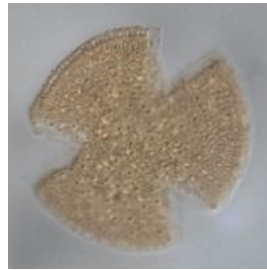
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Taxa: 35, Total count: 250

SP	Acer sp.		2	a-13.9/15.8, 18.1/5.5*
SP	Alnus 4-porate		35	
SP	Alnus 5-porate		17	
SP	Alnus 6-porate		4	
SP	Boisduvalia clavatites		1	a-41.2/14.0*, Image 0261, 14.0/3.5, fragment
				
SP	Caprifoliaceae undiff.		1	a-178.0/15.8, high spine, tetrad, 70/50 µm
SP	Carya sp.	?	3	a-14.1/4.7, Image 0255.tif
				
SP	Corylus -type		2	
SP	Deltoidospora sp.		1	
SP	Ericales undiff.		76	
SP	Juglans sp.		P	a-41.3/6.4
SP	Jussiaea (Ludwigia) sp.		P	a-36.9/7.5*, Image 0260.tif, 13.0/14.9
				
SP	Laevigatosporites sp.		7	
SP	Liliaceae undiff.		P	

StrataBugs: Palynofloral Sample Logging Sheet

SP	Lonicerapollis gallwitzii		1	a-14.0/5.8* Image 0264.tif
SP	Mancicorpus sp.		3	c-13.9/11.0* 20/30 µm, ?14.0/7.2, 13.8/11.3*
SP	Picea sp.		P	a-20.0/6.3
SP	Pinaceae undiff.	?	1	
SP	Pinus sp.		P	a-37.0/7.4
SP	Poaceae undiff.	?	1	a-18.0/3.2
SP	Pterocarya sp.		6	a-13.8/13.1
SP	Quercus sp.		1	a-17.9/3.4
SP	Retitricolpites sp.		4	a-14.2/4.4, 13.8/11.4
SP	Sparganium sp.		P	a-26.1/4.1
SP	Tricolpites sp.		1	
SP	Tricolporopollenites sp.		2	
SP	Tripoporopollenites sp.		15	
SP	Tsuga canadensis-type		1	
SP	Tsuga heterophylla-type		P	a-30.1/7.3
SP	Tsuga sp.		1	a-19.9/10.0, 40 µm
SP	Ulmus -type		20	
SP	Undeterminable spp.		40	
SP	Unknown sp. A		1	a-14.0/6.8, tetrad, colpate on equator of tetrad, 22 µm
SP	Unknown spp.		3	
SP	Zelkova -type		P	a-19.9/9.7* Image 0267.tif

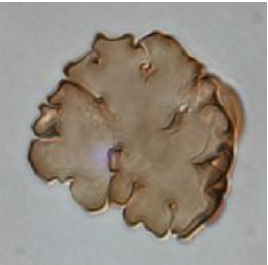




Mallik 5L-38**1005.17 - 1005.18m CO**

Analysis suite: JMW/1

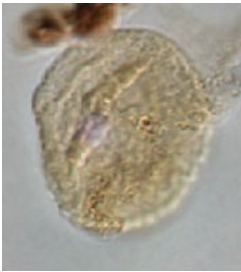
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Taxa: 32, Total count: 277

FU	Desmidiospora willoughbyi		4	a-11.9/14.6*Image 0278.tif, 22.0/8.3, 22.0/11.3*	
FU	Fractisporonites sp.		1		
FU	Fungal hyphae	P		a-31.9/14.2*, oblique striate ornament	
FU	Fungal hyphae type D		1	a-24.0/18.6*	
FU	Inapertisporites sp.		1		
FU	Papulosporonites sp.		1	a-14.0/14.6,22.0/10.5, cylindrical	
FU	Staphlosporonites sp.	P		a-34.2/21.9	
SP	Acer sp.		1		
SP	Alnus 4-porate		9		
SP	Alnus 5-porate		5		
SP	Alnus 6-porate		2		
SP	Betula >20 um		2		
SP	Carya sp.	?	2	a-12.0/11.7, 22.0/7.5	
SP	Equisetum sp.		2	a-16.17/16.8, 15.9/15.7, elaters	
SP	Ericales undiff.		142		
SP	Ilex -type		3	a-22.2/4.9, 21.9/16.9, 23.9/5.0*	
SP	Laevigatosporites sp.		4		
SP	Liquidambar sp.		1	a-16.0/12.9 Image 0274a,b.tif	
SP	Nyssa sp.	?	3	a-16.0/6.0, 16.1/10.1	
SP	Pinaceae undiff.		7		

StrataBugs: Palynofloral Sample Logging Sheet

1005.17 - 1005.18m CO JMW/1 - Page 2 of 2

SP	Pinus sp.	7	
SP	Quercus sp.	1	a-22.2/19.8, 30.1/20.2* Image 0275a,b.tif
			
SP	Retitricolpites sp.	1	a-14.0/8.1, 16.1/15.6
SP	Tricolpites sp.	1	
SP	Tricolporopollenites sp.	4	
SP	Tripoporopollenites sp.	18	
SP	Ulmus -type	7	
SP	Undeterminable spp.	41	
SP	Unknown sp. A	P	a-34.0/6.5, 38/30 μm, coarse gemmate, structure uncertain
SP	Unknown spp.	2	
SP	Viburnum? sp. cf. V. cassinoides	3	a-26.1/8.3*
SP	Zelkova -type	1	

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

1005.30 - 1005.31m CO

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 27, Total count: 326

FU	Dicellaesporites sp.		P	
SP	Alnus 4-porate			11
SP	Alnus 5-porate			20
SP	Alnus 7-porate			1
SP	Betula <= 20 um			1
SP	Betula >20 um			2
SP	Ericales undiff.			196
				great diversity in size, shape, ornament, e.g. a- 15.9/19.1, 24.0/10.5
SP	Ilex -type			3
SP	Juglans sp.			1
				a-13.9/6.6
SP	Laevigatosporites sp.			1
SP	Lonicerapollis gallwitzii			1
				a-14.0/16.4*
SP	Nyssa sp.			12
				a-14.0/8.4, 14.0/6.8
SP	Picea sp.			3
SP	Pinaceae undiff.			1
SP	Pinus sp.			1
SP	Podocarpus sp.	?		1
				a14.0/8.2
SP	Quercus sp.		P	1
				a-15.9/9.7
SP	Retitricolporopollenites sp.			1
				a-14.0/9.1
SP	Sparganium sp.			1
SP	Tricolpites sp.			3
SP	Tripoporollenites sp.			15
SP	Tsuga canadensis-type			1
SP	Ulmus -type			8
SP	Undeterminable spp.			32
SP	Unknown sp. A			1
				a-14.2/17.0*, pentacolpate, psilate, ?/26 µm
SP	Unknown spp.			9
SP	Viburnum? sp. cf. V. cassinoides		P	1
				a-31.9/7.0*

StrataBugs: Palynofloral Sample Logging Sheet

Mallik 5L-38

1005.35 - 1005.38m CO

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 31, Total count: 261

ALIN	Algae spp.		1	a-13.9/20.2, transparent spheres, sometimes split
FU	Dicellaesporites sp.	P		
FU	Diporisorites sp.	P		
FU	Fungal hyphae		1	a-14.0/16.8
FU	Fungal hyphae type D	P		a-32.0/13.0
FU	Inapertisporites sp.		1	
FU	Monoporisorites sp.		4	
FU	Papulosporonites sp.	P		a-26.0/11.8
SP	Alnus 4-porate		1	
SP	Alnus 5-porate		7	
SP	Alnus 6-porate		1	
SP	Betula <= 20 um	P		a=22.0/12.7
SP	Betula >20 um		1	
SP	Carya sp.	P		a-34.0/16.6
SP	Celtispollenites tschudyi		1	a-13.9/15.8
SP	Ericales undiff.		131	
SP	Fagus sp.	? P		a-20.1/11.5
SP	Ilex -type		2	a-14.0/3.9, 20.1/10.2
SP	Laevigatosporites sp.		5	
SP	Liliaceae undiff.		1	
SP	Nyssa sp.		40	a-39.4/10.9, 28.5/11.2, 14.0/8.1* Image 0276.tif, 22.0/7.2*
SP	Pinaceae undiff.		3	
SP	Pinus sp.		4	
SP	Quercus sp.		1	a=13.9/18.2* Image 0277.tif



SP	Tricolporopollenites sp.		3	a-14.0/3.1, 13.8/15.9
SP	Tripoporipollenites sp.		4	
SP	Tsuga canadensis-type		3	
SP	Tsuga heterophylla-type	P		a-31.4/20.1*
SP	Ulmus -type		19	
SP	Undeterminable spp.		27	
SP	Unknown sp. A	P		a-23.9/11.4*, 21 µm, fine cauliflour-like exine

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****1005.41m CO**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:02 MDT 2015

Taxa: 23, Total count: 258




ALIN	Algae spp.		13	
FU	Desmidiospora willoughbyi		1	a-13.9/13.7
FU	Diporisorites sp.		3	a-13.8/6.1, diporate, psilate, 28/24 µm
FU	Fractisporonites sp.	P		
FU	Fungal hyphae type D		1	a-14.1/17.5
FU	Monoporisorites sp.		2	
FU	Papulosporonites sp.		1	
FU	Reduviasporonites sp.		1	
SP	Alnus 5-porate		9	
SP	Arecipites sp.	P		a-28.0/12.2
SP	Ericales undiff.		193	
SP	Nyssa sp.		2	
SP	Pinaceae undiff.		2	
SP	Pinus sp.		4	
SP	Tricolpites sp.		2	
SP	Tricolporopollenites sp.		2	
SP	Tripoporopollenites sp.		2	
SP	Tsuga canadensis-type		1	
SP	Ulmus -type		3	
SP	Undeterminable spp.		15	
SP	Unknown sp. A	P		a-40.1/8.0, 22 µm, fine cauliflour-like exine, as in sample above
SP	Unknown sp. B	P		a-30.1/4.1, fungal fruiting body, no cells, regularly divided margin, 48/36 µm
SP	Unknown spp.		1	

Mallik 5L-38**1005.55 - 1005.56m CO**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:03 MDT 2015

Taxa: 30, Total count: 313

FU	Brefeldiellites sp.	?	P	a-24.0/8.2*		
FU	Didymoporisporonites sp.		1	a-13.9/7.4		
FU	Fractisporonites sp.		2			
FU	Fungal hyphae		10			
FU	Fungal hyphae type D		6	a-13.9/9.0		
FU	Inapertisporites sp.		7			
FU	Microsporonites sp.		3			
FU	Monoporisporites sp.		9			
FU	Multicellaesporites sp.		1	a-13.8/16.8		
FU	Papulosporonites sp.		2			
SP	Alnus 4-porate		4			
SP	Alnus 5-porate		6			
SP	Carya sp.		1	a-14.0/10.9		
SP	Deltoidospora sp.		1			
SP	Ericales undiff.		201			
SP	Lonicera pollis gallwitzii			P	a-20.2/16.1*, Image 0265.tif	
SP	Nyssa sp.		2	a-13.8/13.3		
SP	Picea sp.		2			
SP	Pinaceae undiff.		5			
SP	Quercus sp.		2	a-13.8/5.7		
SP	Sphagnum sp.		1			
SP	Tripoporollenites sp.		7			
SP	Tsuga canadensis-type		12			
SP	Tsuga heterophylla-type		3			
SP	Tsuga sp.		1	a-13.7/12.2, 36 µm		
SP	Ulmus -type		1			
SP	Undeterminable spp.		22			
SP	Unknown sp. A		1	a-13.7/15.5, 28/24 µm, monocolpate, striate		

StrataBugs: Palynofloral Sample Logging Sheet

1005.55 - 1005.56m CO JMW/1 - Page 2 of 2

SP	Unknown sp. B	P	a-20.2/12.1, 23 μ m, tricolporate, corase verrucate, subtriangular, 20.3/12.7
SP	Unknown spp.	P	a-20.1/9.1, 24 μ m, tetrad, colpate margin

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****1043.15 - 1043.16m CO**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:03 MDT 2015

Taxa: 24, Total count: 208

ALIN	Algae spp.		14	
SP	Alnus 4-porate		3	
SP	Alnus 5-porate		3	
SP	Betula <= 20 um	?	1	b-34.0/7.0
SP	Betula >20 um		1	
SP	Deltoidospora sp.		3	
SP	Fraxinus sp.		2	b-13.8/7.3*
SP	Ilex -type		1	b-22.0/8.1, crushed
SP	Inaperturopollenites dubius		78	
SP	Juglans sp.	?	1	b-18.0/13.6
SP	Laevigatosporites sp.		10	
SP	Liliaceae undiff.		1	
SP	Momipites wyomingensis	?	1	b-29.9/11.8
SP	Osmunda sp.		2	
SP	Picea sp.		8	
SP	Pinaceae undiff.		12	
SP	Pinus sp.		4	
SP	Retitricolpites sp.		1	
SP	Sphagnum sp.		1	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		29	b-22.2/8.4, 21.7/12.4, 25.9/20.1
SP	Tricolpites sp.		2	
SP	Tripoporollenites sp.		12	
SP	Ulmus -type		2	b-30.0/14.7
SP	Undeterminable spp.		16	


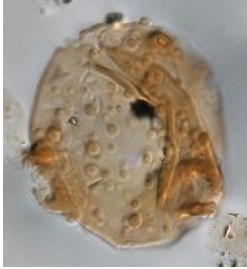

Mallik 5L-38

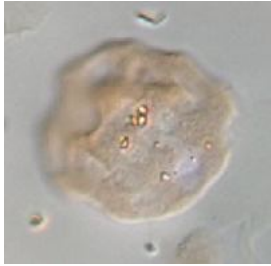

1043.31 - 1043.32m CO

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:03 MDT 2015

Taxa: 35, Total count: 231

ALIN	Algae spp.		3	
SP	Acer sp.		1	b-13.9/8.0, 30.2/18.9
SP	Alnus 4-porate		13	
SP	Alnus 5-porate		36	
SP	Alnus sieboldiana-type		1	b-14.0/4.9, Image 0288, faint polar annulus, see Simpson, 1960-61, p. 443,
				
SP	Baculatisporites crassiprimarius		1	
SP	Boisduvalia clavatites	P		25.0/8.1*; Image 0280
				
SP	Deltoidospora sp.		7	
SP	Ericales undiff.		3	
SP	cf. Fagus sp.	P		b-13.1/9.8 Image 0282a,b
				
SP	Fraxinus sp.		1	b-14.3/5.3
SP	Inaperturopollenites dubius		37	
SP	Juglans sp.	P		b-32.0/17.7, 32.0/18.2
SP	Jussiaea (Ludwigia) sp.	P		b-14.0/11.1*,
SP	Laevigatosporites sp.		27	
SP	Liliaceae undiff.		42	b-13.7/8.0

SP	Liquidambar sp.	P	b-39.0/10.0* Image 0286
			
SP	Lonicera pollis gallwitzii	P	b-15.2/10.9* Image 0281
			
SP	Mallik5L-38 unknown 06	P	a- 23.1/6.3* 36/28 μm Image 0284a,b ; 35.0/13.3* 38/28 μm, Image 0285a,b; 30.9/11.9; 23.2/12.4
			
SP	Osmunda sp.	P	
SP	Pachysandra-Sarcococca spp.	P	b-27.0/10.0* Image 0287
			
SP	Picea sp.	P	b-27.0/10.1
SP	Pistillipollenites macgregorii	P	b-30.2/12.4* Image 0279.tif, irregular pitted exine, and granulae/gemmae
			

StrataBugs: Palynofloral Sample Logging Sheet

1043.31 - 1043.32m CO JMW/1 - Page 3 of 3

SP	<i>Psilastephanocolpites</i> cf. <i>marginatus</i>	P	b-30.1/5.3*, Image 0259.tif
			
SP	<i>Pterocarya</i> sp.	3	
SP	<i>Quercus</i> sp.	1	b-27.0/14.2*
SP	<i>Retitricolpites</i> sp.	1	
SP	<i>Rhus</i> -type	P	b-39.9/12.2 Image 0283.tif
			
SP	<i>Sparganium</i> sp.	13	
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.	24	
SP	<i>Tricolpites</i> sp.	1	
SP	<i>Triporopollenites</i> sp.	3	
SP	<i>Ulmus</i> -type	1	
SP	Undeterminable spp.	12	
SP	Unknown sp. A	P	b-34.0/19.0*, 30/28 μm, ?tetrad, coarse verrucate

StrataBugs: Palynofloral Sample Logging Sheet**Mallik 5L-38****1053.48 - 1053.49m CO**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:03 MDT 2015

Taxa: 13, Total count: 65

FU	Fungal hyphae type D	1	
SP	Alnus 4-porate	1	
SP	Ericales undiff.	12	
SP	Inaperturopollenites dubius	13	a-10.1/12.7
SP	Laevigatosporites sp.	3	
SP	Picea sp.	2	
SP	Pinaceae undiff.	12	
SP	Pinus sp.	6	
SP	Tricolpites sp.	1	
SP	Triporepollenites sp.	4	
SP	Tsuga canadensis-type	1	
SP	Ulmus -type	1	
SP	Undeterminable spp.	8	



Mallik 5L-38

1053.67 - 1053.68m CO

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:03 MDT 2015

Taxa: 26, Total count: 228

AC	Michystridium sp.		1	
SP	Acer sp.	P		b-28.0/18.1
SP	Alnus 4-porate		3	
SP	Alnus 5-porate		7	
SP	Deltoidospora sp.		4	
SP	Ericales undiff.		3	
SP	Inaperturopollenites dubius		9	
SP	Laevigatosporites sp.		64	
SP	Larix/Pseudotsuga -type		4	
SP	Lycopodium sp.		1	
SP	Momipites wyomingensis	? P		b-24.0/15.0
SP	Pachysandra-Sarcococca spp.	P		b-34.1/5.5
SP	Picea sp.		27	
SP	Pinaceae undiff.		37	
SP	Pinus sp.		11	b-19.2/4.3, Image 0257 
SP	Psilastephanocolpites cf. marginatus		1	b-17.9/15.1
SP	Pterocarya sp.		1	
SP	Retitricolpites sp.		1	b-18.0/14.6
SP	Rosaceae undiff.	?	3	b-14.0/9.3, 14.1/13.6, 14.0/16.4*, striate, tricolpate, 18.0/12.4*, 30.0/18.1*
SP	Taxodiaceae-Cupressaceae-Taxa. undiff.		11	
SP	Triporopollenites sp.		9	
SP	Tsuga canadensis-type		1	
SP	Ulmus -type		10	
SP	Undeterminable spp.		18	
SP	Unknown sp. A		1	b-18.0/10.9, periporate, protruding pores
SP	Unknown sp. B		1	b-28.0/15.7, ?syncolpate, verrucate, 34/28 µm



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Mallik 5L-38**1081.87 - 1081.90m CO**

Analysis suite: JMW/1

Printed by: jmw on: Tue Mar 31 14:20:03 MDT 2015

Taxa: 26, Total count: 283

FU	Dicellaesporites sp.		1	
FU	Fungal hyphae		3	
FU	Inapertisporites sp.		1	
FU	Microsporonites sp.	P		
FU	Multicellites sp.		1	
FU	Papulosporonites sp.		1	
SP	Alnus 4-porate		3	
SP	Alnus 5-porate		4	
SP	Aquilapollenites sp.		1	a-14.0/18.4*, cf. quadrilobus (A.R. Sweet, pers. comm., 23Mar2010)
				
SP	Deltoidospora sp.		8	
SP	Ericales undiff.		21	
SP	Laevigatosporites sp.		181	
SP	Larix/Pseudotsuga -type		1	a-12.1/19.4
SP	Liliaceae undiff.		21	a-16.1/4.8*
SP	Magnolia sp.		1	a-11.9/5.5*, 27.9/7.7*, Image 0256.tif
				
SP	Momipites wyomingensis	?	2	a-18.0/6.8
SP	Pinaceae undiff.		5	
SP	Pinus sp.		2	
SP	Pterocarya sp.		2	
SP	Quercus sp.		1	a-15.9/9.1
SP	Retitricolpites sp.		1	
SP	Sparganium sp.		3	
SP	Triporopollenites sp.		5	
SP	Ulmus -type		2	
SP	Undeterminable spp.		10	

SP	Viburnum? sp. cf. <i>V. cassinoides</i>	2	a-11.9/14.1, 15.9/10.3*, colps showing 20.1/13.5* Image 0272,15.0/11.6
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