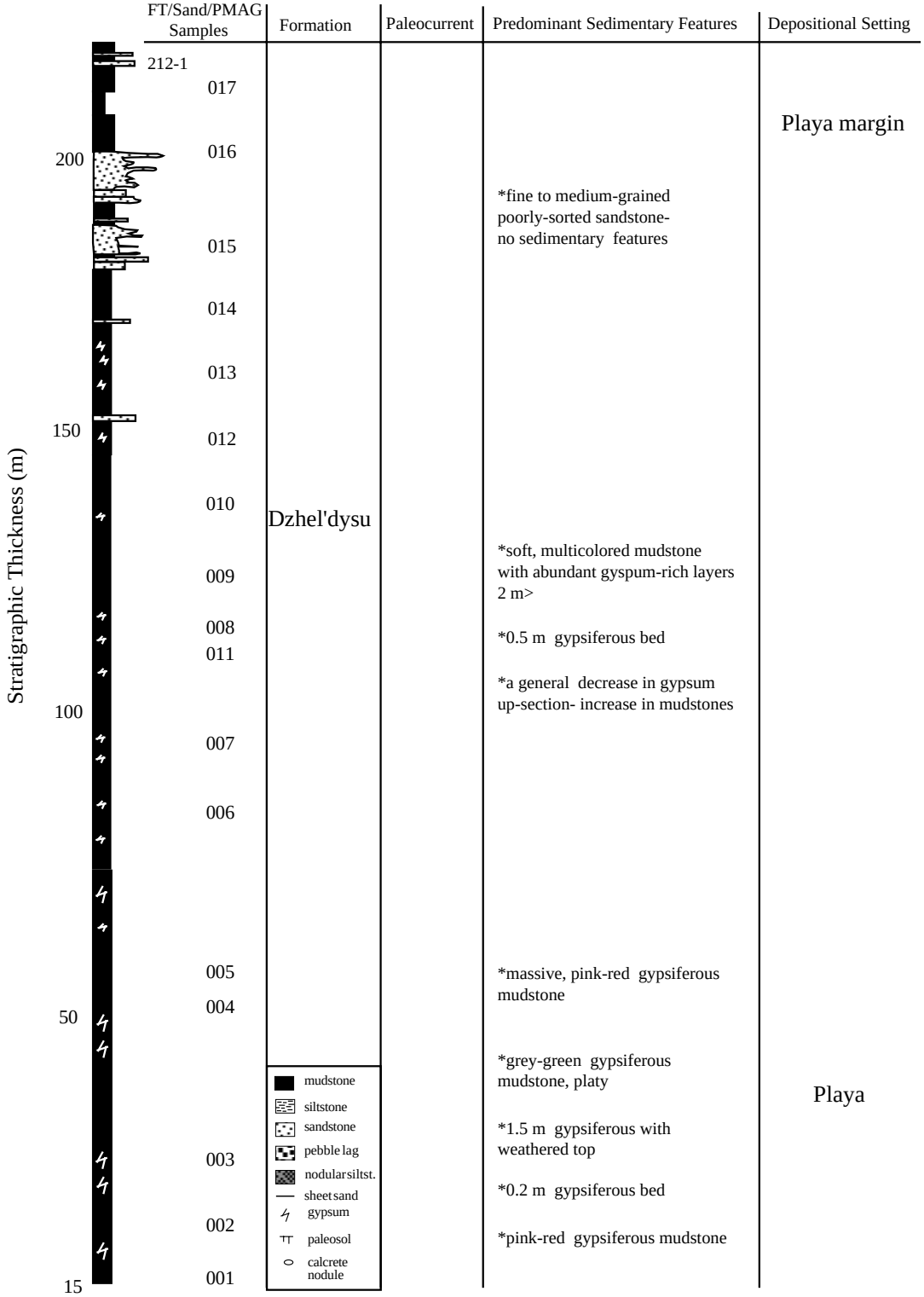
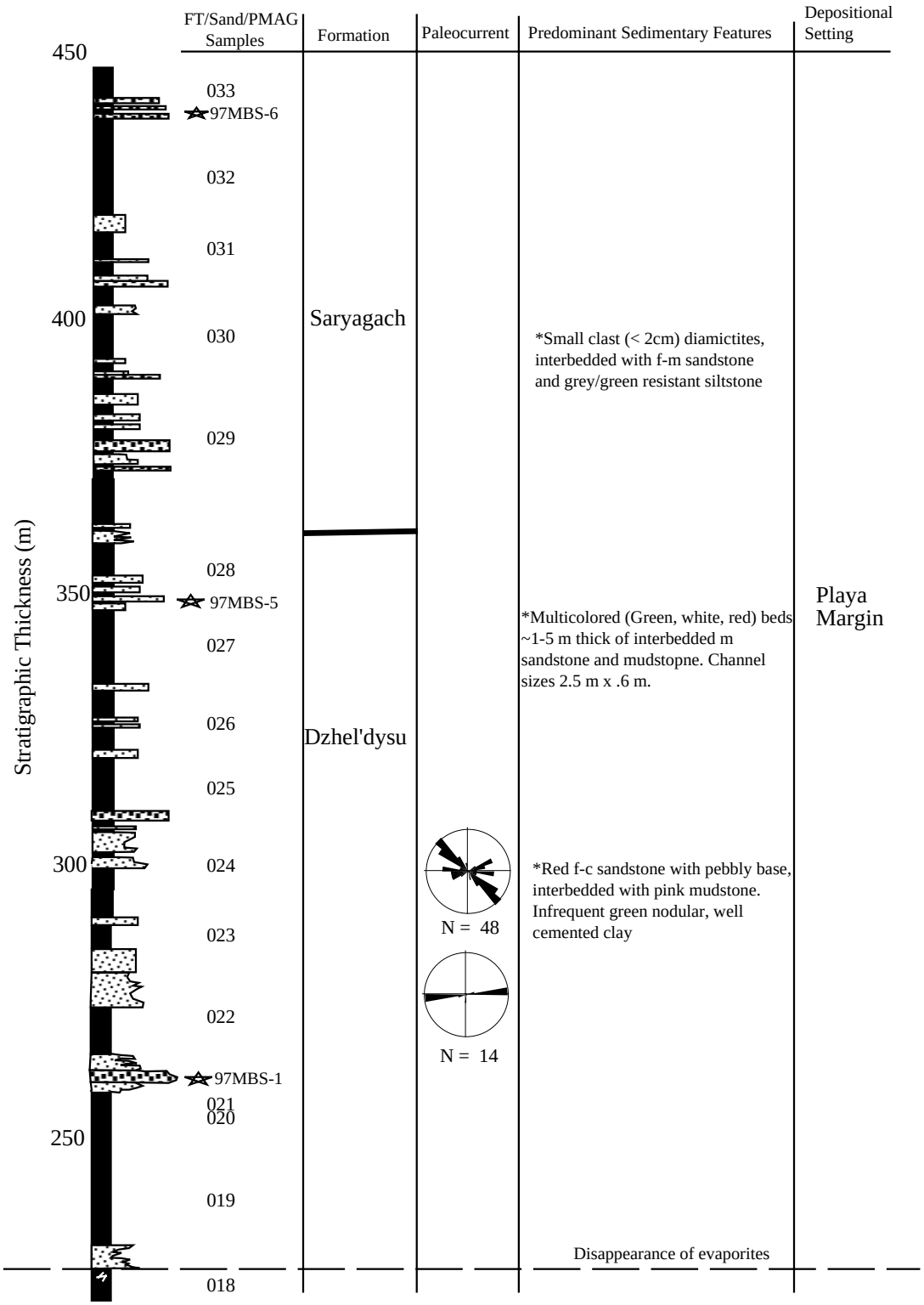
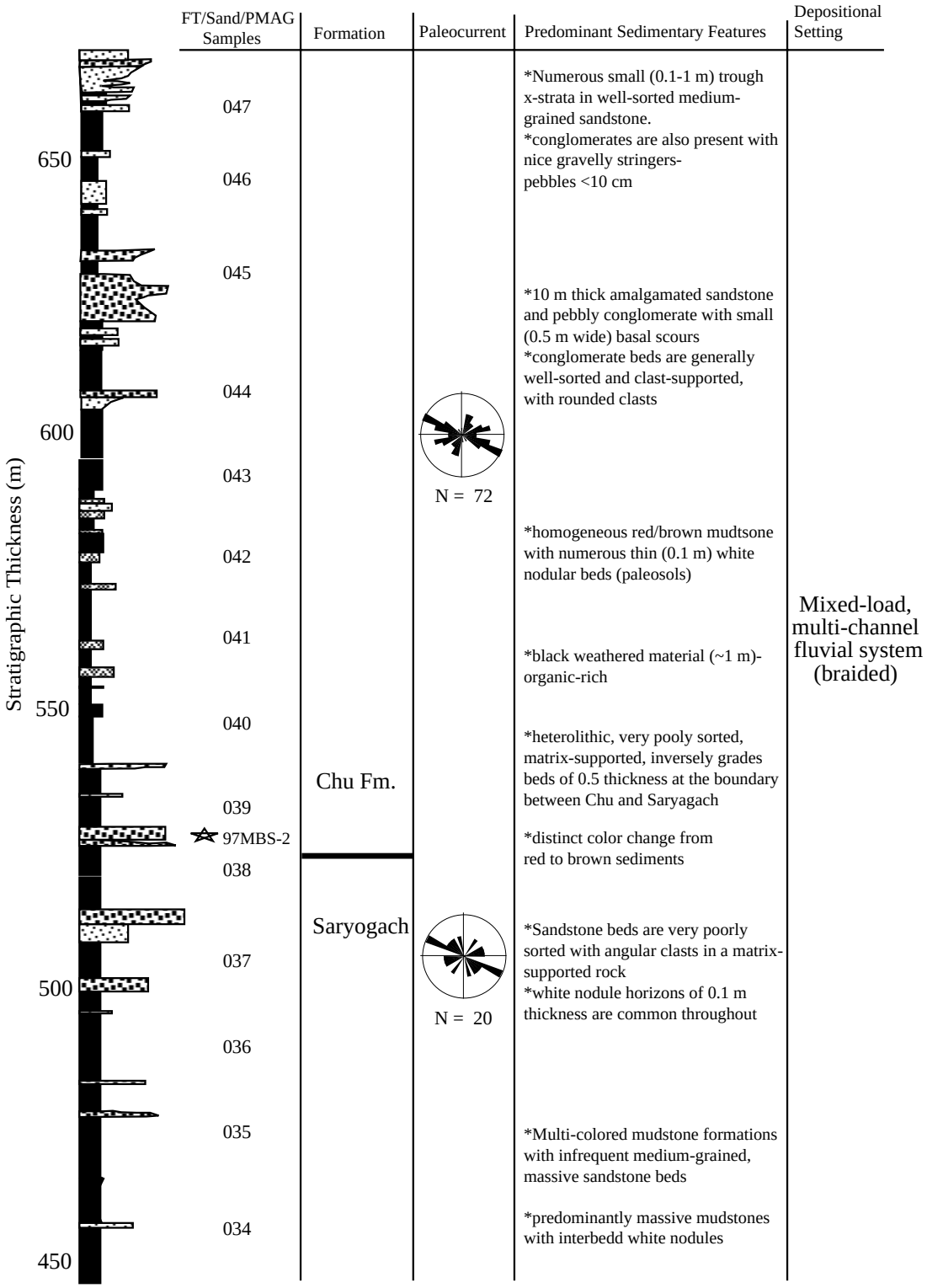
2001134

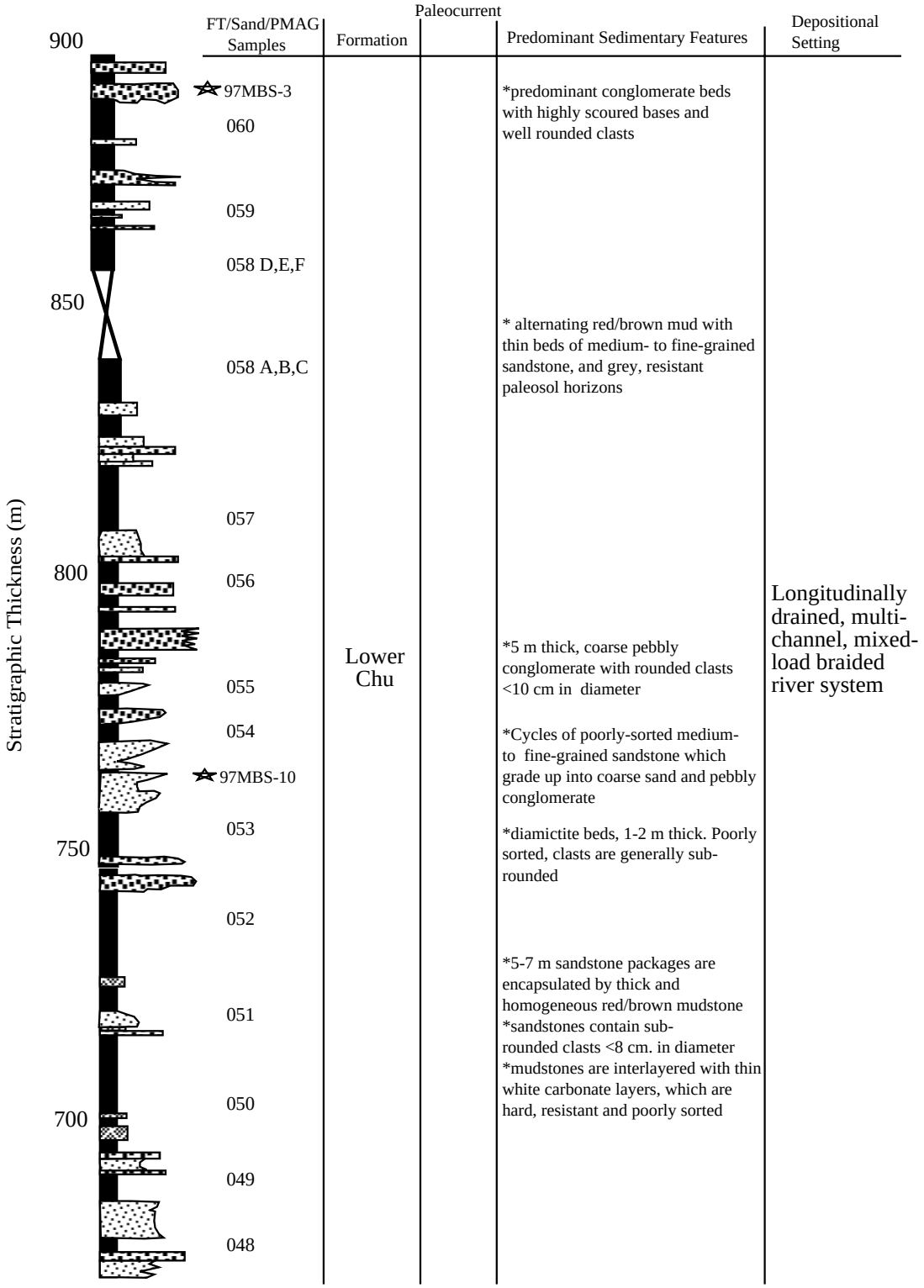
Data Repository

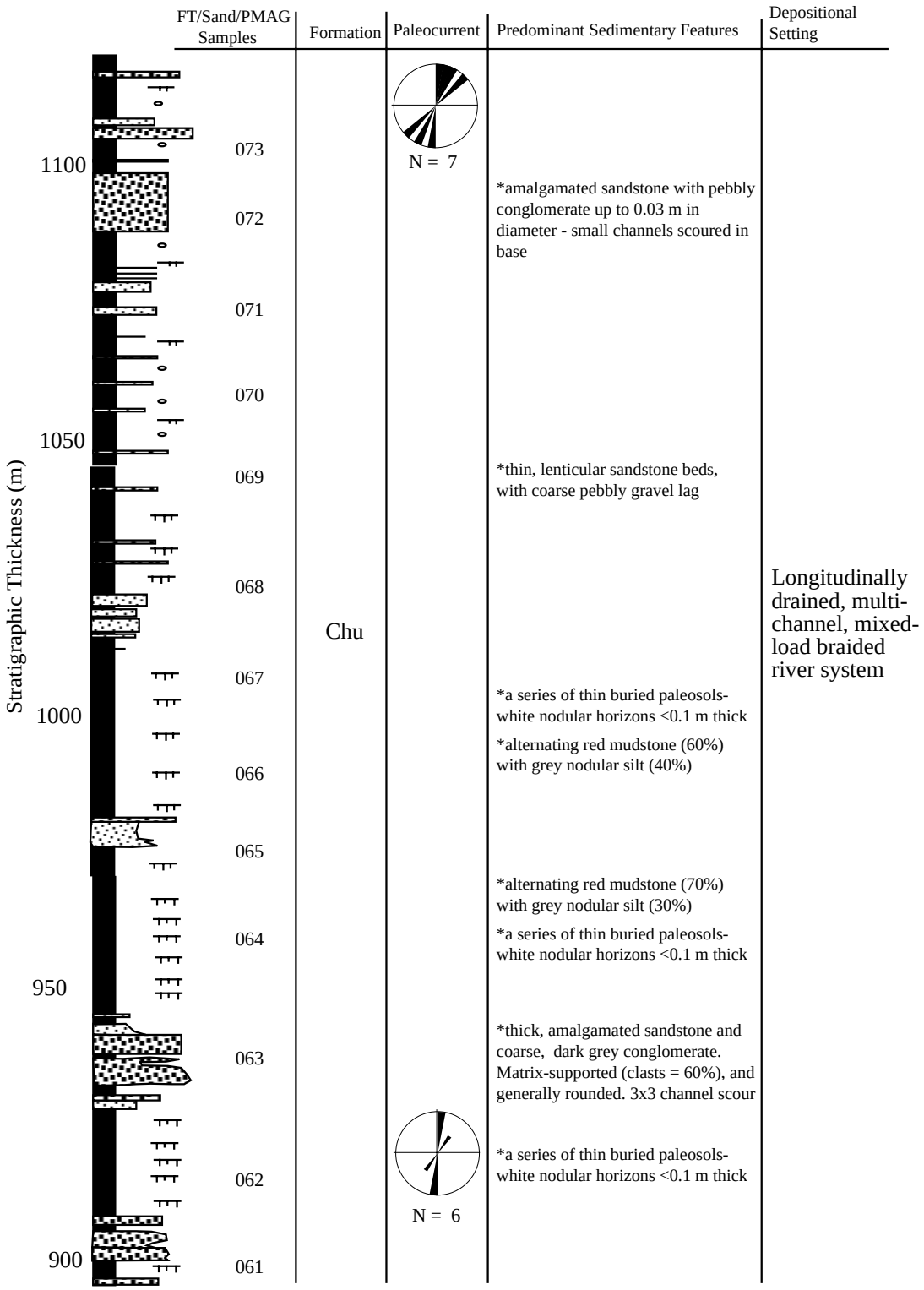
Bullen et al.

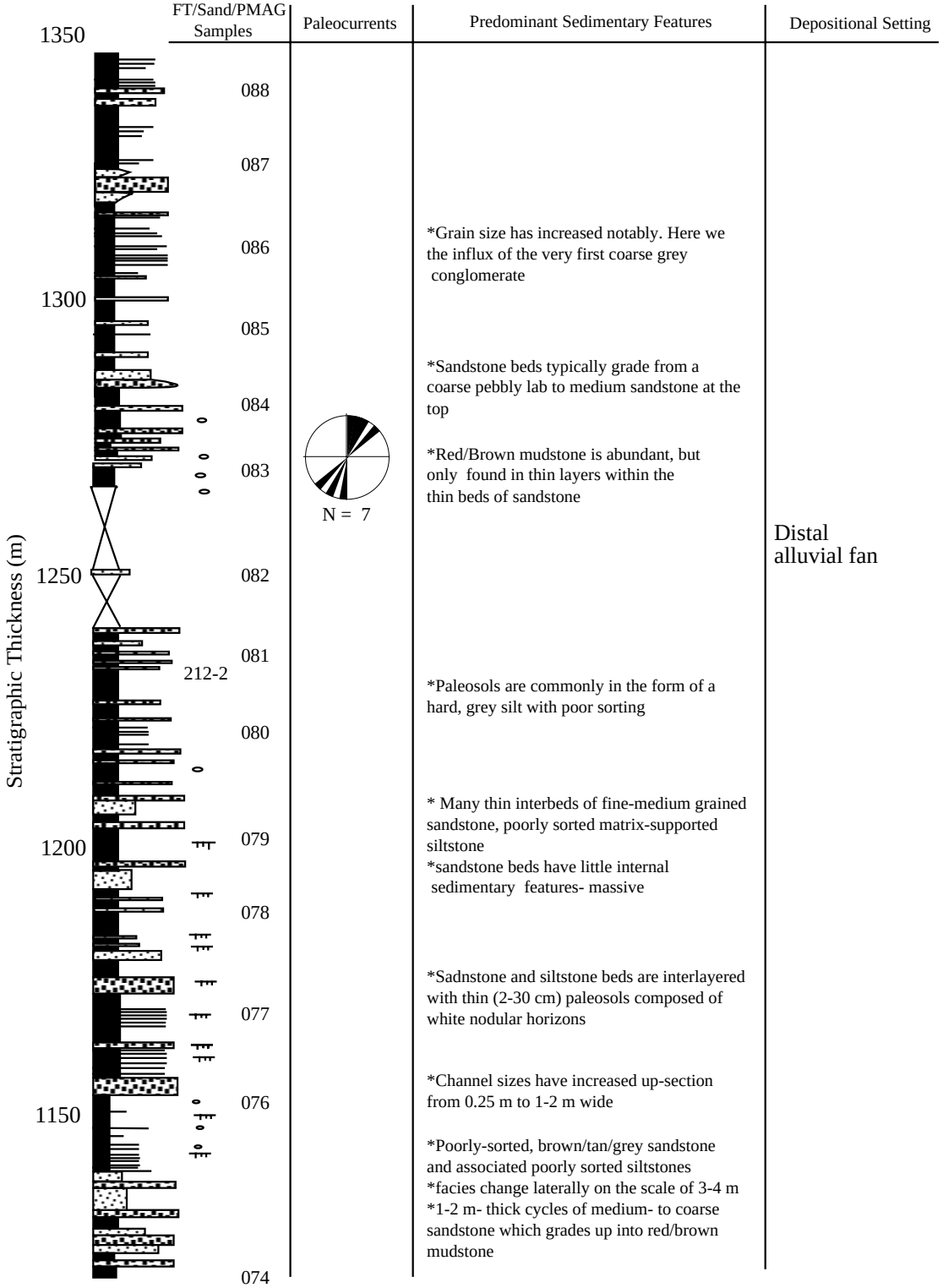

FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
Stratigraphic Thickness (m)
200
150
100
50
15
212-1
017
016
015
014
013
012
010
009
008
011
007
006
005
004
003
002
001
Dzhel'dysu
*fine to medium-grained poorly-sorted sandstone- no sedimentary features
*soft, multicolored mudstone with abundant gyspum-rich layers 2 m>
*0.5 m gypsiferous bed
*a general decrease in gypsum up-section- increase in mudstones
*massive, pink-red gypsiferous mudstone
*grey-green gypsiferous mudstone, platy
*1.5 m gypsiferous with weathered top
*0.2 m gypsiferous bed
*pink-red gypsiferous mudstone
Playa margin
Playa
mudstone
siltstone
sandstone
pebble lag
nodular siltst.
sheet sand
gypsum
paleosol
calcrete nodule

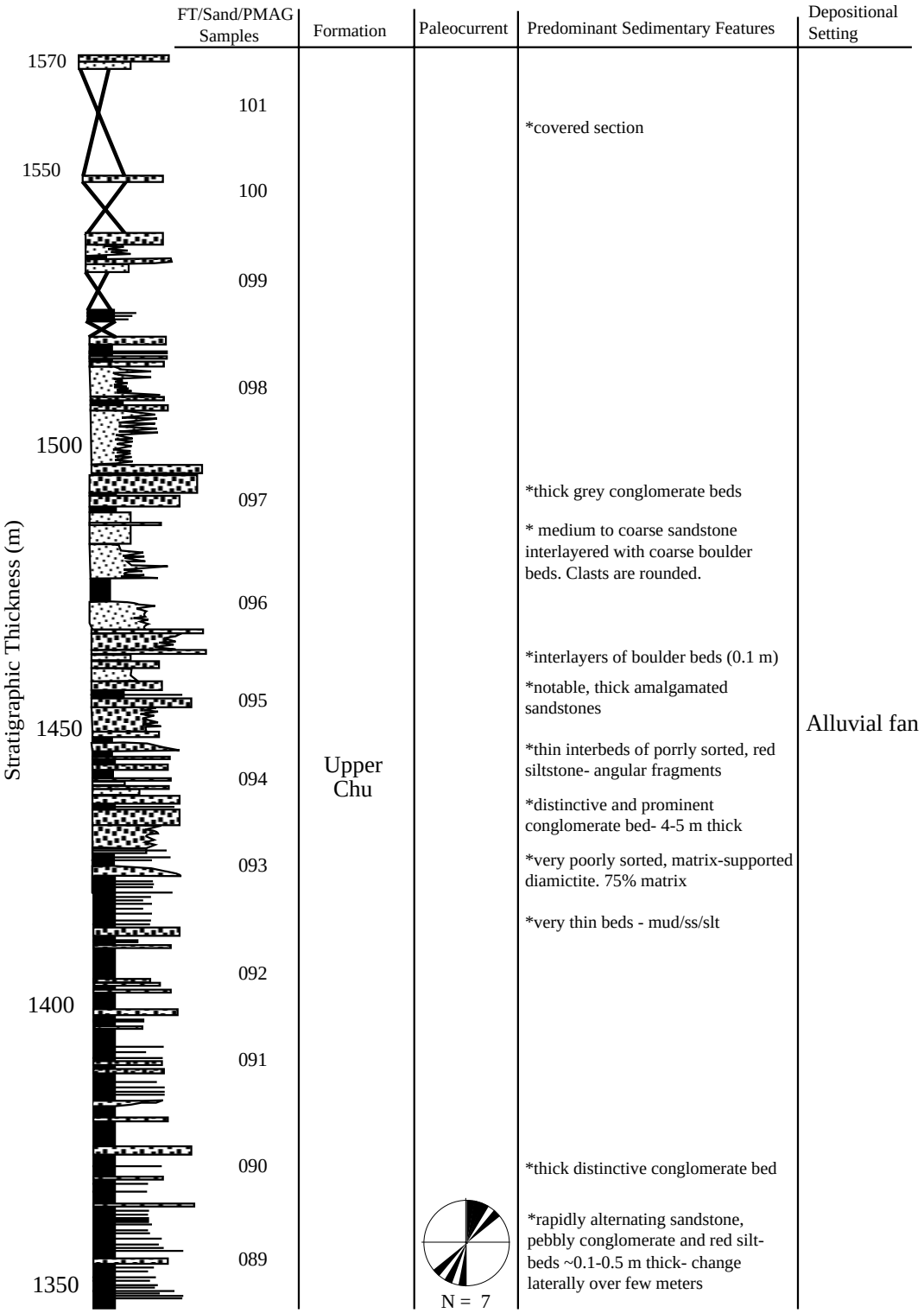

FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
Stratigraphic Thickness (m)
450
400
350
300
250
033
97MBS-6
032
031
030
029
028
97MBS-5
027
026
025
024
023
022
97MBS-1
021
020
019
018
Saryagach
Dzhel'dysu
*Small clast (< 2cm) diamictites, interbedded with f-m sandstone and grey/green resistant siltstone
*Multicolored (Green, white, red) beds ~1-5 m thick of interbedded m sandstone and mudstopne. Channel sizes 2.5 m x .6 m.
*Red f-c sandstone with pebbly base, interbedded with pink mudstone. Infrequent green nodular, well cemented clay
N = 48
N = 14
Disappearance of evaporites
Playa Margin

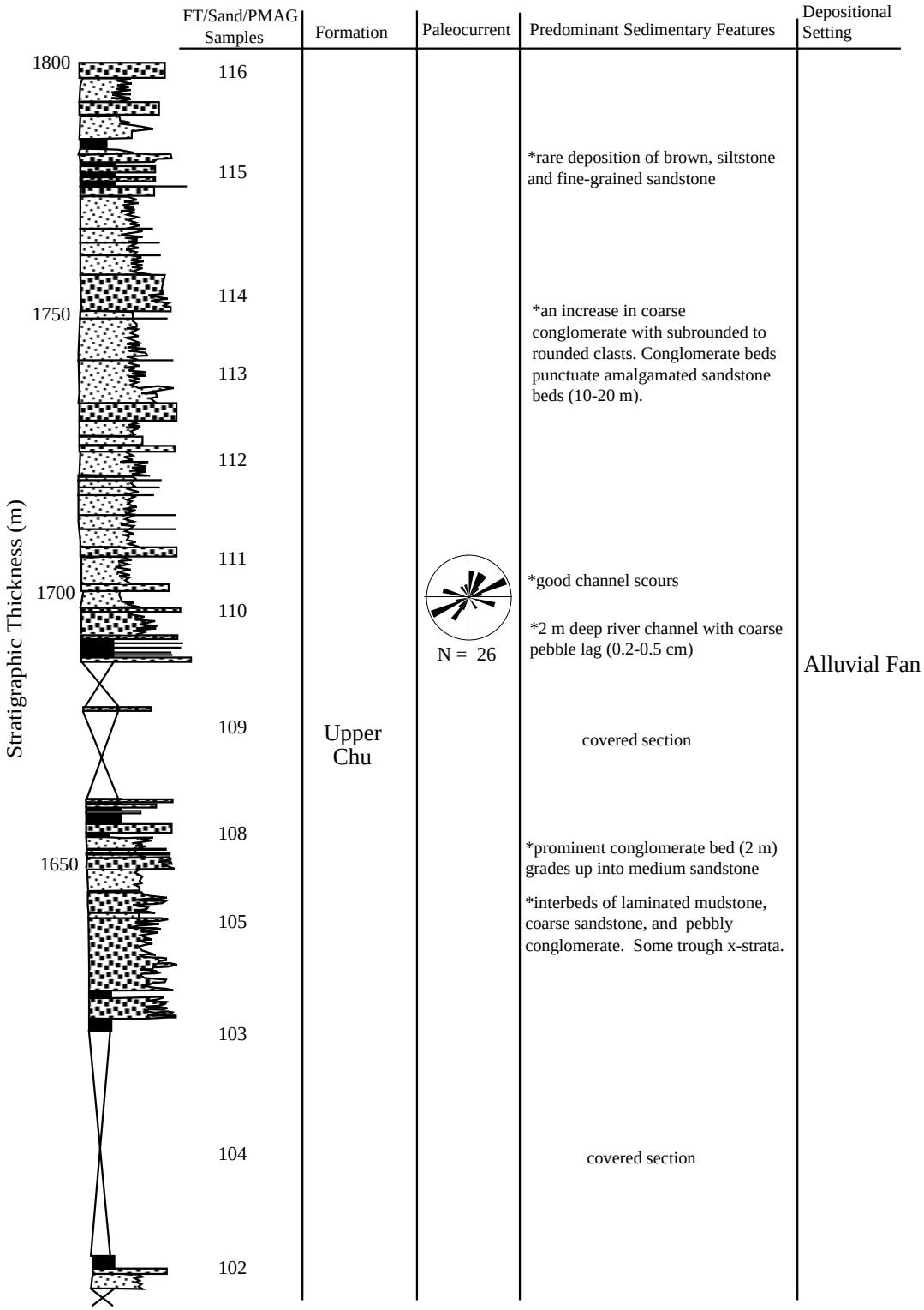

FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
Stratigraphic Thickness (m)
650
600
550
500
450
047
046
045
044
043
042
041
040
039
97MBS-2
038
037
036
035
034
Chu Fm.
Saryogach
N = 72
N = 20
*Numerous small (0.1-1 m) trough x-strata in well-sorted medium-grained sandstone.
*conglomerates are also present with nice gravelly stringers-pebbles <10 cm
*10 m thick amalgamated sandstone and pebbly conglomerate with small (0.5 m wide) basal scours
*conglomerate beds are generally well-sorted and clast-supported, with rounded clasts
*homogeneous red/brown mudtsone with numerous thin (0.1 m) white nodular beds (paleosols)
*black weathered material (~1 m)-organic-rich
*heterolithic, very pooly sorted, matrix-supported, inversely grades beds of 0.5 thickness at the boundary between Chu and Saryagach
*distinct color change from red to brown sediments
*Sandstone beds are very poorly sorted with angular clasts in a matrix-supported rock
*white nodule horizons of 0.1 m thickness are common throughout
*Multi-colored mudstone formations with infrequent medium-grained, massive sandstone beds
*predominantly massive mudstones with interbedd white nodules
Mixed-load, multi-channel fluvial system (braided)

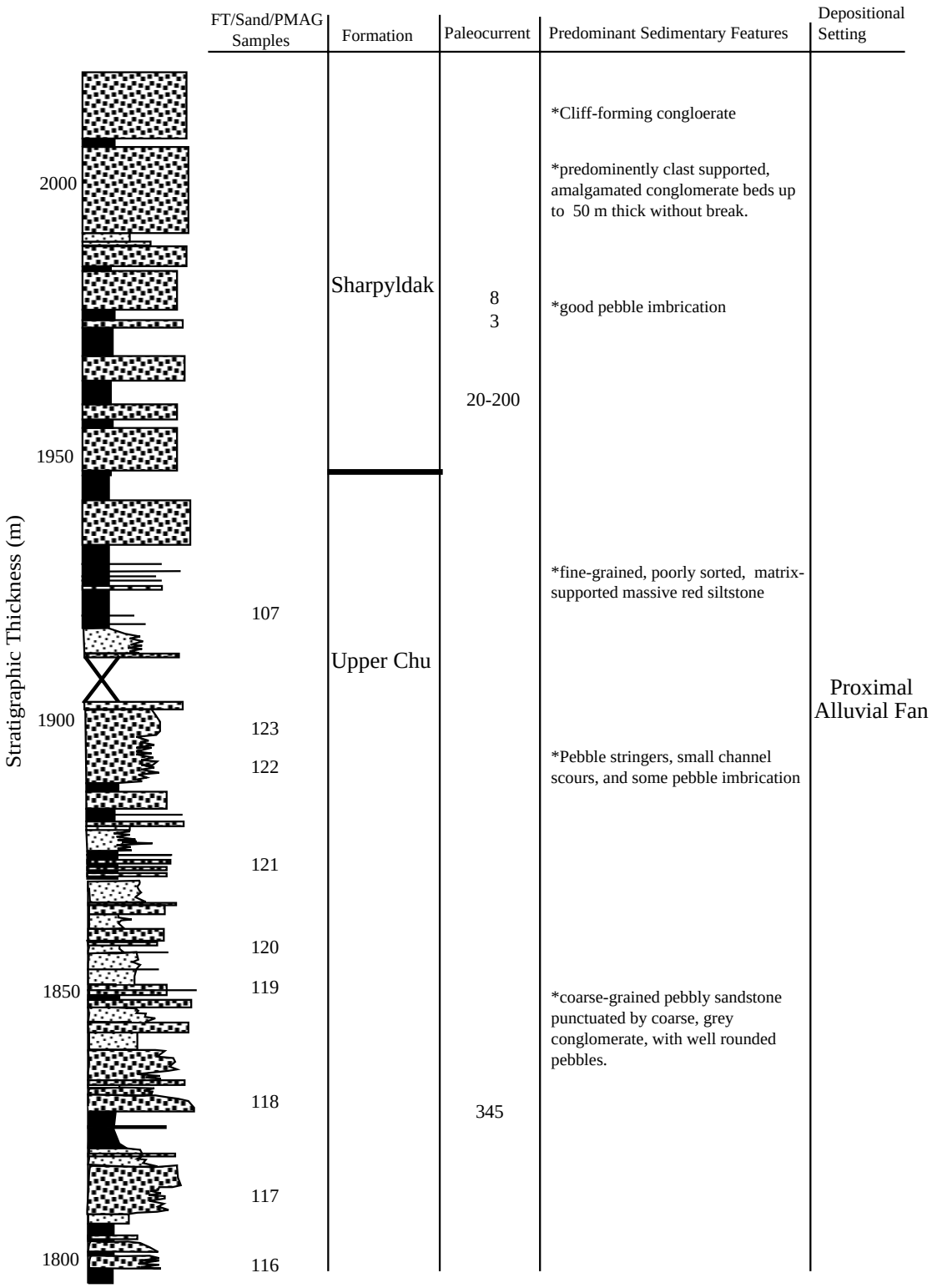

Stratigraphic Thickness (m)
900
850
800
750
700
FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
97MBS-3
060
059
058 D,E,F
058 A,B,C
057
056
055
054
97MBS-10
053
052
051
050
049
048
Lower Chu
*predominant conglomerate beds with highly scoured bases and well rounded clasts
* alternating red/brown mud with thin beds of medium- to fine-grained sandstone, and grey, resistant paleosol horizons
*5 m thick, coarse pebbly conglomerate with rounded clasts <10 cm in diameter
*Cycles of poorly-sorted medium- to fine-grained sandstone which grade up into coarse sand and pebbly conglomerate
*diamictite beds, 1-2 m thick. Poorly sorted, clasts are generally sub-rounded
*5-7 m sandstone packages are encapsulated by thick and homogeneous red/brown mudstone
*sandstones contain sub-rounded clasts <8 cm. in diameter
*mudstones are interlayered with thin white carbonate layers, which are hard, resistant and poorly sorted
Longitudinally drained, multi-channel, mixed-load braided river system

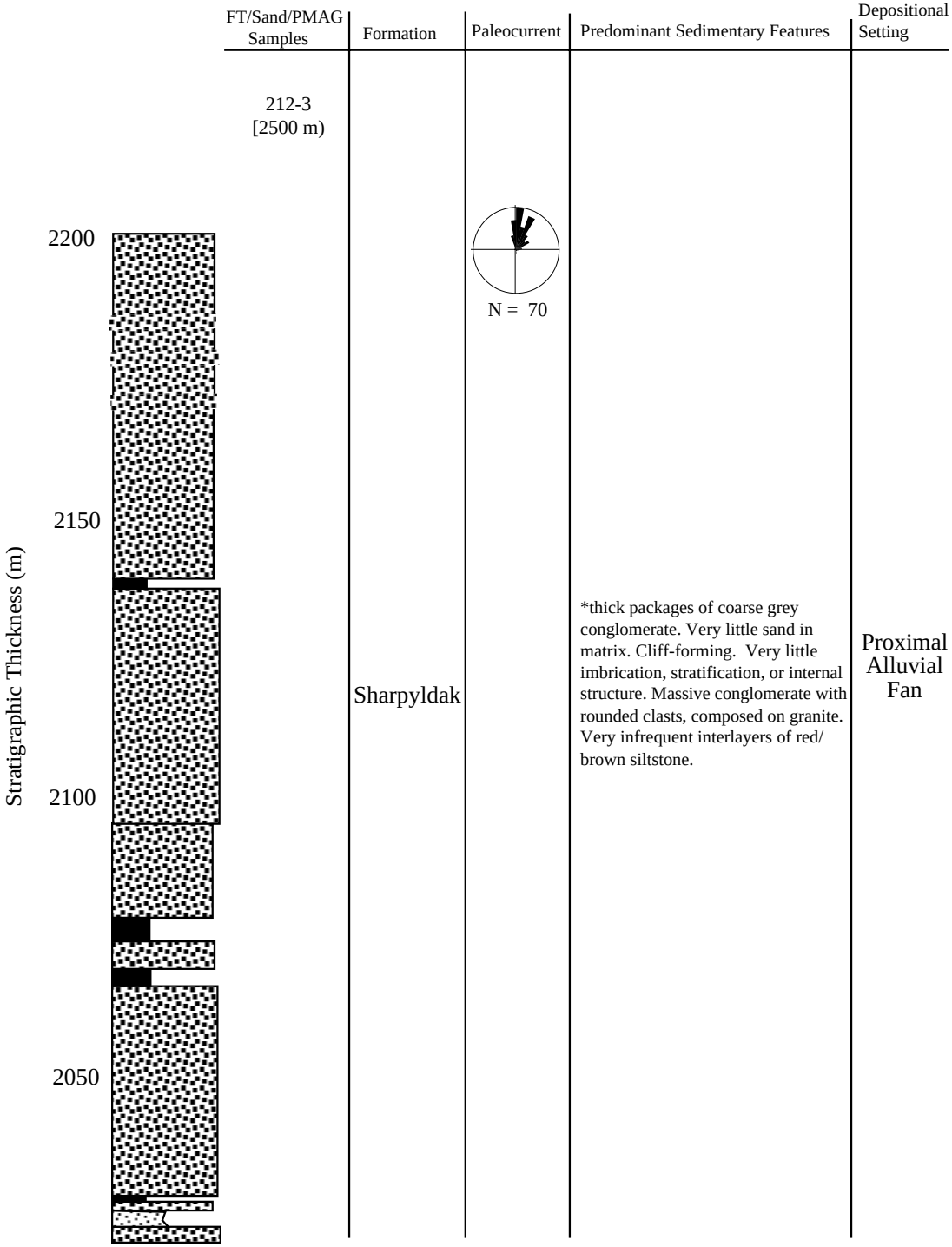

FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
Stratigraphic Thickness (m)
1100
1050
1000
950
900
073
072
071
070
069
068
067
066
065
064
063
062
061
N = 7
N = 6
Chu
*amalgamated sandstone with pebbly conglomerate up to 0.03 m in diameter - small channels scoured in base
*thin, lenticular sandstone beds, with coarse pebbly gravel lag
*a series of thin buried paleosols-white nodular horizons <0.1 m thick
*alternating red mudstone (60%) with grey nodular silt (40%)
*alternating red mudstone (70%) with grey nodular silt (30%)
*a series of thin buried paleosols-white nodular horizons <0.1 m thick
*thick, amalgamated sandstone and coarse, dark grey conglomerate. Matrix-supported (clasts = 60%), and generally rounded. 3x3 channel scour
*a series of thin buried paleosols-white nodular horizons <0.1 m thick
Longitudinally drained, multi-channel, mixed-load braided river system


FT/Sand/PMAG Samples
Paleocurrents
Predominant Sedimentary Features
Depositional Setting
Stratigraphic Thickness (m)
1350
1300
1250
1200
1150
088
087
086
085
084
083
082
081
212-2
080
079
078
077
076
074
N = 7
*Grain size has increased notably. Here we the influx of the very first coarse grey conglomerate
*Sandstone beds typically grade from a coarse pebbly lab to medium sandstone at the top
*Red/Brown mudstone is abundant, but only found in thin layers within the thin beds of sandstone
*Paleosols are commonly in the form of a hard, grey silt with poor sorting
* Many thin interbeds of fine-medium grained sandstone, poorly sorted matrix-supported siltstone
*sandstone beds have little internal sedimentary features- massive
*Sadnstone and siltstone beds are interlayered with thin (2-30 cm) paleosols composed of white nodular horizons
*Channel sizes have increased up-section from 0.25 m to 1-2 m wide
*Poorly-sorted, brown/tan/grey sandstone and associated poorly sorted siltstones
*facies change laterally on the scale of 3-4 m
*1-2 m- thick cycles of medium- to coarse sandstone which grades up into red/brown mudstone
Distal alluvial fan


FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
Stratigraphic Thickness (m)
1570
1550
1500
1450
1400
1350
101
100
099
098
097
096
095
094
093
092
091
090
089
*covered section
*thick grey conglomerate beds
* medium to coarse sandstone interlayered with coarse boulder beds. Clasts are rounded.
*interlayers of boulder beds (0.1 m)
*notable, thick amalgamated sandstones
*thin interbeds of porrly sorted, red siltstone- angular fragments
*distinctive and prominent conglomerate bed- 4-5 m thick
*very poorly sorted, matrix-supported diamictite. 75% matrix
*very thin beds - mud/ss/slt
*thick distinctive conglomerate bed
*rapidly alternating sandstone, pebbly conglomerate and red silt- beds ~0.1-0.5 m thick- change laterally over few meters
Upper Chu
N = 7
Alluvial fan


FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
Stratigraphic Thickness (m)
1800
1750
1700
1650
116
115
114
113
112
111
110
109
108
105
103
104
102
*rare deposition of brown, siltstone and fine-grained sandstone
*an increase in coarse conglomerate with subrounded to rounded clasts. Conglomerate beds punctuate amalgamated sandstone beds (10-20 m).
*good channel scours
*2 m deep river channel with coarse pebble lag (0.2-0.5 cm)
N = 26
covered section
*prominent conglomerate bed (2 m) grades up into medium sandstone
*interbeds of laminated mudstone, coarse sandstone, and pebbly conglomerate. Some trough x-strata.
covered section
Upper Chu
Alluvial Fan


Stratigraphic Thickness (m)
2000
1950
1900
1850
1800
FT/Sand/PMAG Samples
107
123
122
121
120
119
118
117
116
Formation
Sharpyldak
Upper Chu
Paleocurrent
8
3
20-200
345
Predominant Sedimentary Features
*Cliff-forming congloerate
*predominently clast supported, amalgamated conglomerate beds up to 50 m thick without break.
*good pebble imbrication
*fine-grained, poorly sorted, matrix-supported massive red siltstone
*Pebble stringers, small channel scours, and some pebble imbrication
*coarse-grained pebbly sandstone punctuated by coarse, grey conglomerate, with well rounded pebbles.
Depositional Setting
Proximal Alluvial Fan


FT/Sand/PMAG Samples
Formation
Paleocurrent
Predominant Sedimentary Features
Depositional Setting
212-3
[2500 m)
N = 70
2200
2150
2100
2050
Stratigraphic Thickness (m)
Sharpyldak
*thick packages of coarse grey conglomerate. Very little sand in matrix. Cliff-forming. Very little imbrication, stratification, or internal structure. Massive conglomerate with rounded clasts, composed on granite. Very infrequent interlayers of red/ brown siltstone.
Proximal Alluvial Fan