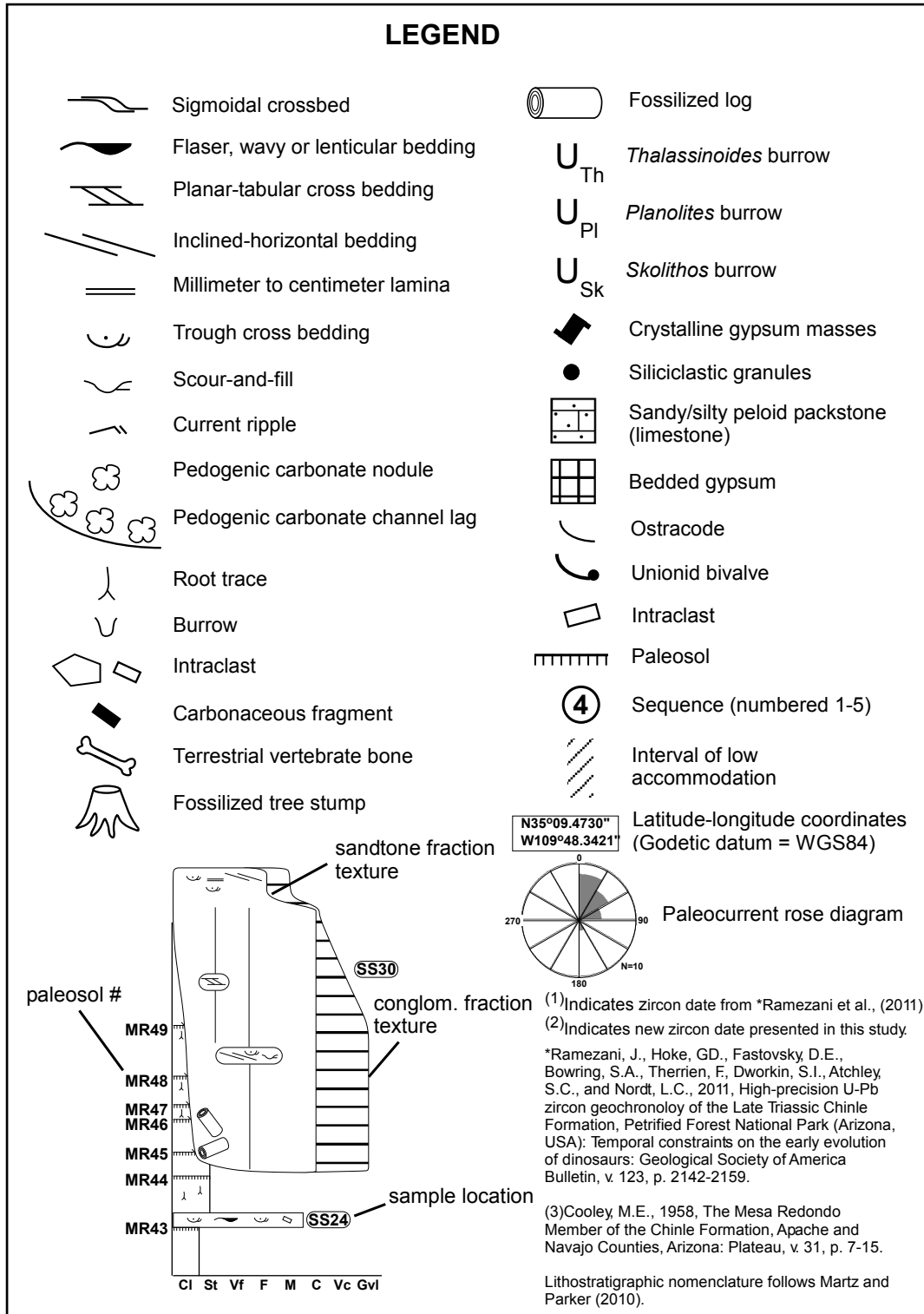


APPENDIX A: UPPER TRIASSIC CHINLE FORMATION COMPOSITE MEASURED SECTION, PETRIFIED FOREST NATIONAL PARK, SEPTEMBER 2013

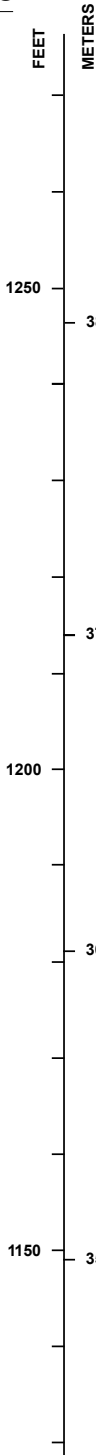


OWL ROCK MEMBER

LITHOSTRATIGRAPHY

CHINDE MESA

GEOGRAPHIC LOCATION



FACs

LOW ACCOMMODATION INTERVAL

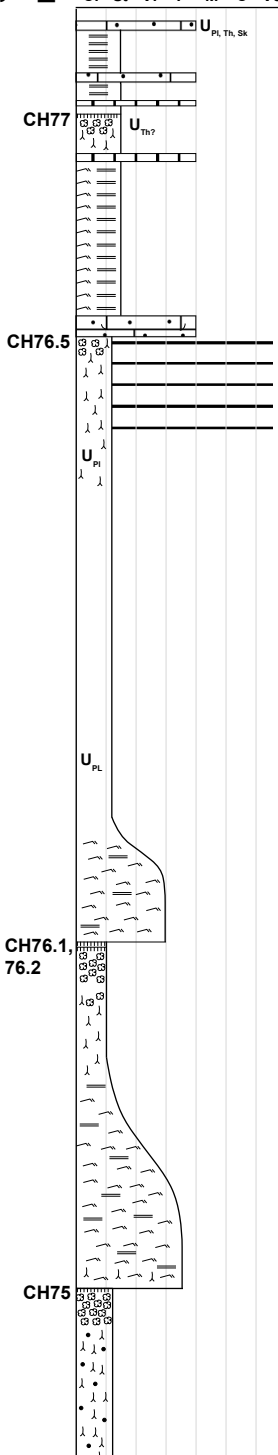
COMPOSITE SEQUENCES

UPPER COMPOSITE SEQUENCE

PALEOSOL NUMBERS

Grain Size

Cl St Vf F M C Vc Gvl



Mudstone to peloid packstone with admixed siliciclastic silt and very fine sand.

Burrows (?) look similar to *Thalassinoides* forms in the marine realm

Mudstone to peloid packstone with admixed siliciclastic siltstone and very fine sandstone

Poorly-sorted hematitic, clay-rich matrix.

SS38

Pronounced lateral accretion within channel scour.

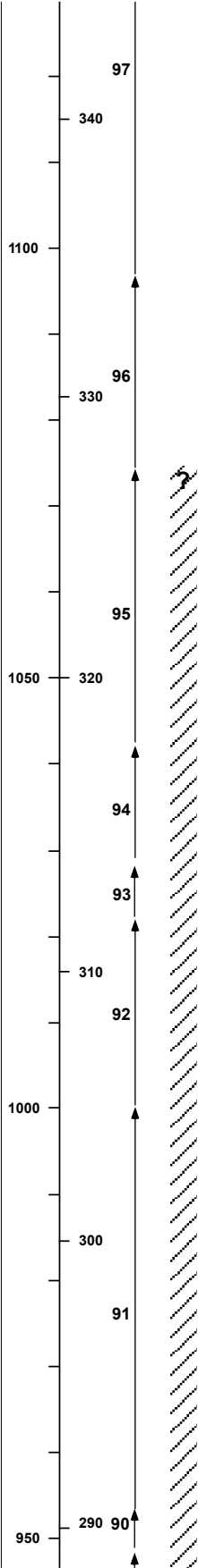
SS37 ← ⁽¹⁾ <207.8 Ma

Lateral accretion within channel scour.

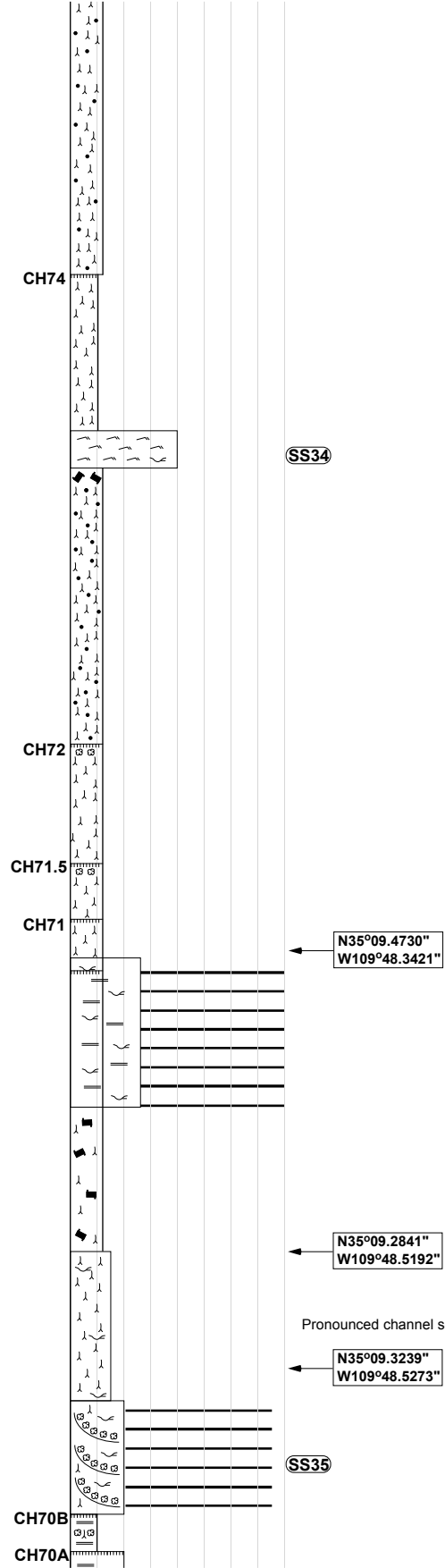
SS36

OWL ROCK MEMBER

CHINDE MESA



UPPER COMPOSITE SEQUENCE



SS34

N35°09.4730"
W109°48.3421"

N35°09.2841"
W109°48.5192"

Pronounced channel scour and lateral accretion fill.

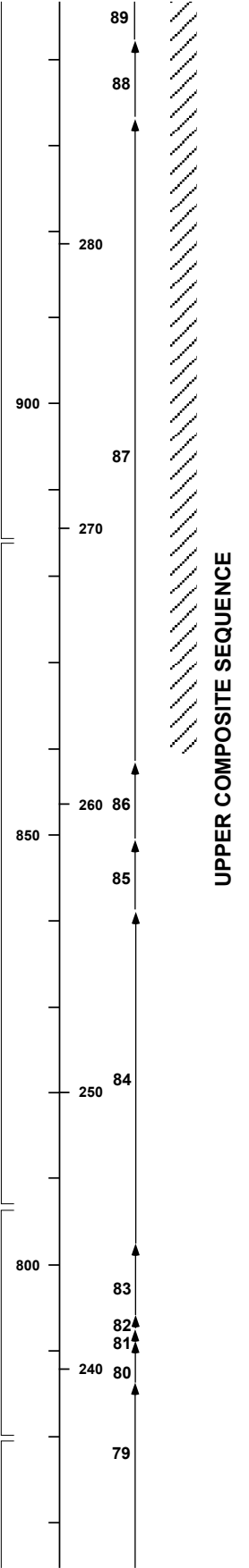
N35°09.3239"
W109°48.5273"

SS35

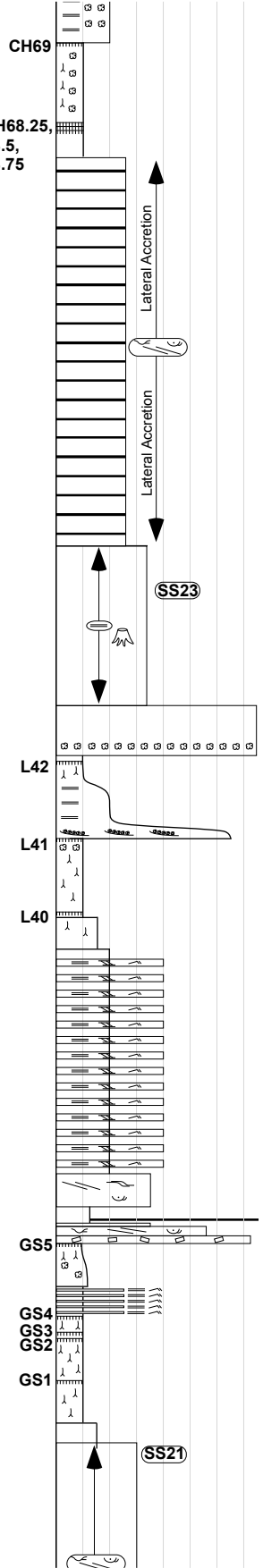
PETRIFIED FOREST MEMBER

LACEY POINT

THE GIVING SITE



UPPER COMPOSITE SEQUENCE



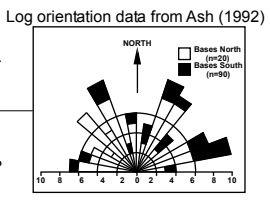
N35°03.0325"
W109°48.7243"

Micaceous white sandstone.

Black Forest Bed

CaCO3 nodule channel lag?
Decapitated Bk?

SS22 ← (1)209.926 Ma

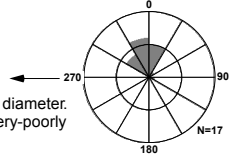


N35°03.2345"
W109°49.1478"

Lateral accretion/inclined heterolithic strata. Appears to be final channel fill succession of top Citadel sandstone.

Painted Desert Sandstone #4

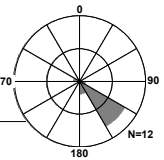
Conglom. clasts up to 1cm diameter. Matrix-supported gravel. Very-poorly sorted.



Paleocurrent direction derived from trough and inclined planar-horizontal crossbedding.

N35°03.5920"
W109°48.9770"

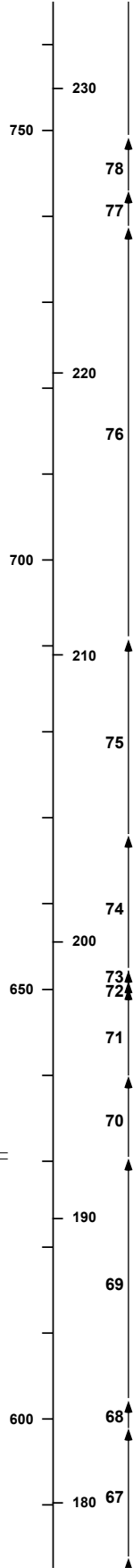
N35°03.8689"
W109°51.6770"



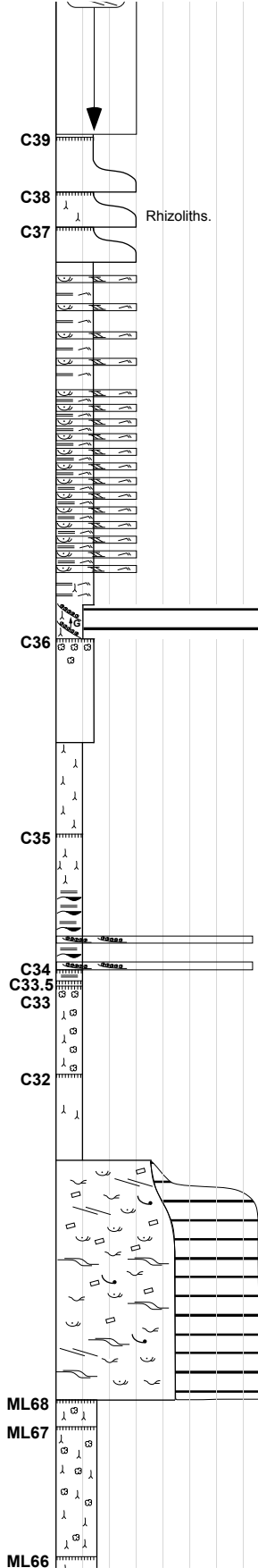
Paleocurrent direction derived from trough, planar-tabular and inclined planar-horizontal crossbedding.

PETRIFIED FOREST MEMBER

THE CITADEL



UPPER COMPOSITE SEQUENCE



Lithodendron Wash Bed

N35°02.778"
W109°50.775"

Suspension-load channel
scour-and-fill lateral accretion
complex

SS19

S. Dworkin sampled
reworked carbonate nodules

Rhizoliths.

N35°03.7218"
W109°51.6796"

Rhizoliths.

N35°03.8456"
W109°51.8645"

N34°51.9782"
W109°49.6413"

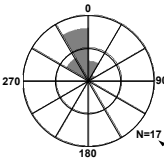
SS18

Conglom. clasts up to 3cm diameter.

SS33 SS17a,b

from The Citadel

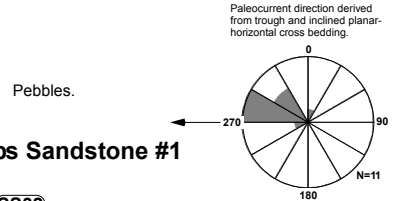
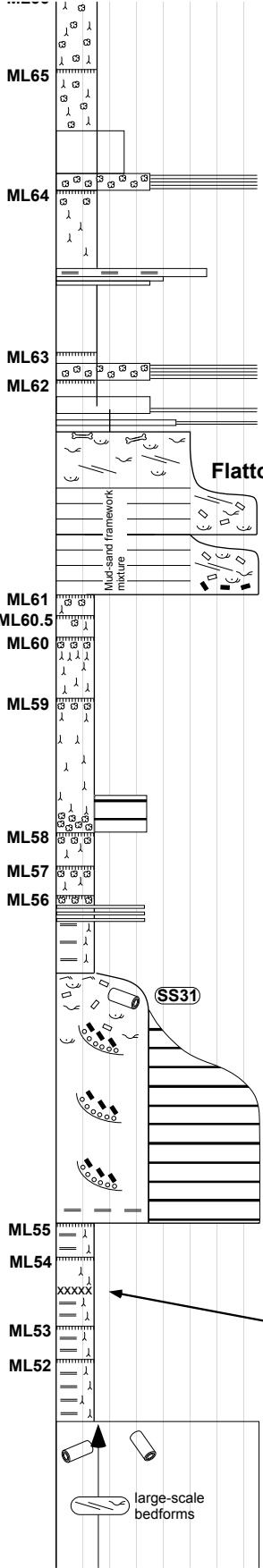
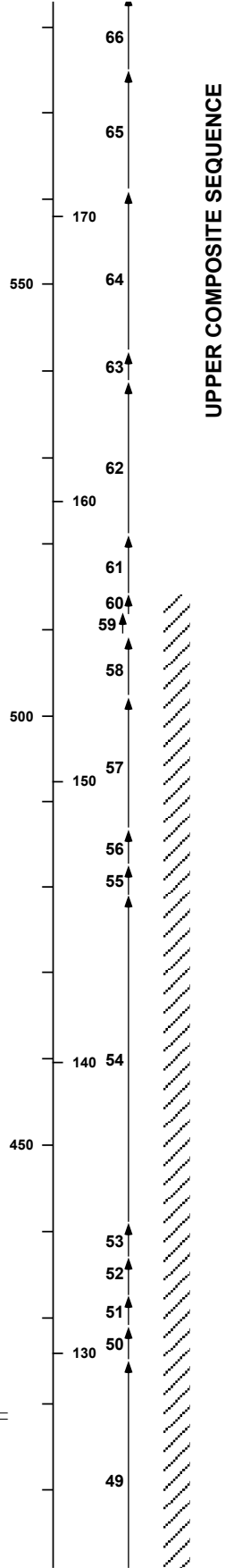
Flattops Sandstone #2



Paleocurrent direction derived
from trough and planar-tabular
cross bedding, and current rip-
ples.

SONSELA MEMBER

MOUNTAIN LION MESA



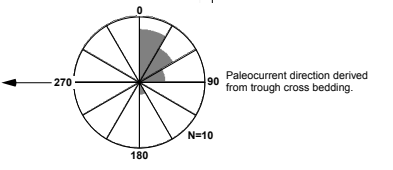
SS32 Alternating mud and grain-supported bedsets...Laterally-accreting bar forms that change facies laterally into overbank mud. Mud-rich conglomerates may be reworked debris flow deposits.

SS32A

← (1)213.124 Ma estimated stratigraphic position

Abundant coalesced CaCO₃ nodules.
Groundwater? Erosion to Bk horizon?

← **N34°52.1148" W109°49.5598"**



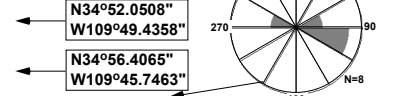
Long Logs Sandstone

Conglom. clasts up to 6cm diameter as lag along scour/reactivation surfaces. Downstream accretion.

"persistent red silcrete" ← **N34°52.1148" W109°49.5598"**

Adamanian-Revueltian faunal turnover

← **N34°52.0508" W109°49.4358"**

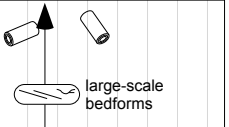


Jasper Forest Bed

Conglom. clasts up to 7cm diameter as lag along scour/reactivation surfaces

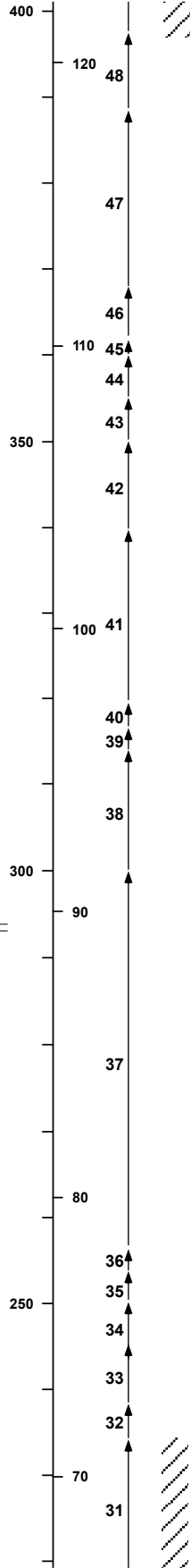
← **N34°56.4065" W109°45.7463"**

← (1)218.017 Ma

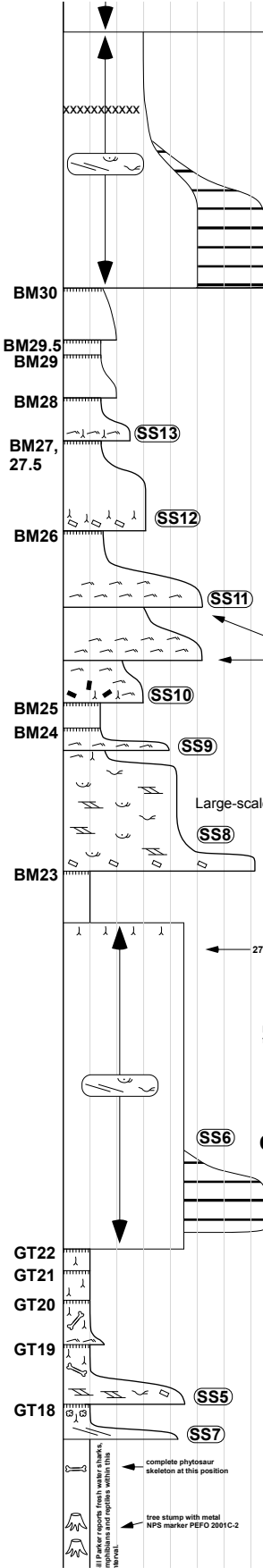


SONSELA MEMBER

BLUE MESA



LOWER COMPOSITE SEQUENCE



SS15 estimated stratigraphic position

Orange "silcrete" observed at
N34°55.5031, W109°45.6708

unnamed sandstone

Conglom. clasts up to 5cm diameter
as lag along scour/reactivation
surfaces. Downstream accretion.

SS14

BM30

BM29.5
BM29

BM28

BM27,
27.5

SS13

SS12

BM26

SS11

← (1) ca 219.317 Ma estimated
stratigraphic location

Lateral-accretion
reactivation surfaces

N34°56.4148"
W109°45.8335"

BM25

BM24

SS9

Large-scale dune forms

SS8

Granule-size

BM23

SS6

Camp Butte Bed

Conglom. clasts range from 1-3 cm
in diameter.

N34°56.4539"
W109°45.8644"

GT22

GT21

GT20

GT19

GT18

SS5

SS7

N34°56.5479"
W109°46.0078"

N34°56.5479"
W109°46.0078"

N34°56.4426"
W109°46.1524"

N34°56.5994"
W109°46.0806"

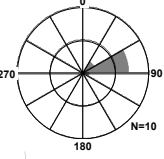
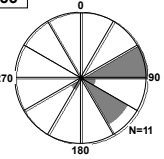
← (2) ca 220.123 Ma

**Green "lacustrine"
mudrock**

complete phytosaur
skeleton at this position

tree stump with metal
NPS marker #EFO 2001C-2

if Parker reports fresh water shales,
mudstones and lignites within this
unit.



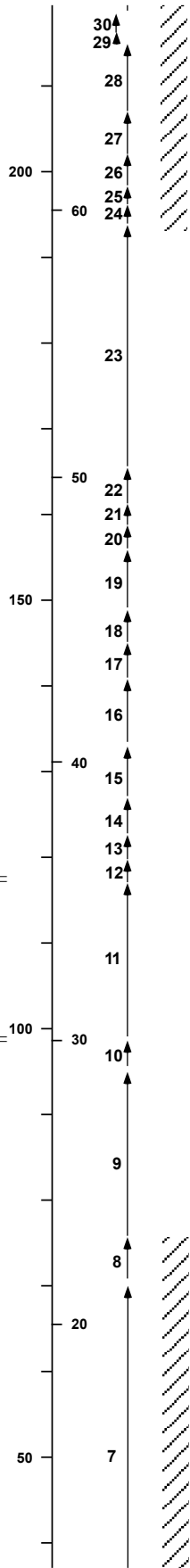
BLUE MESA MEMBER

THE TEPEES

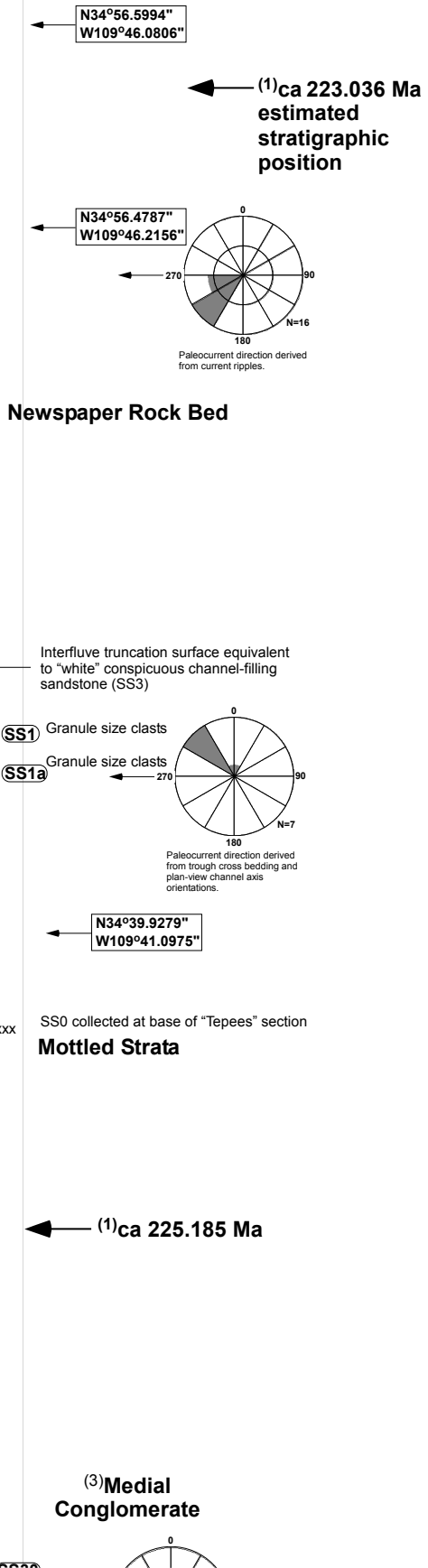
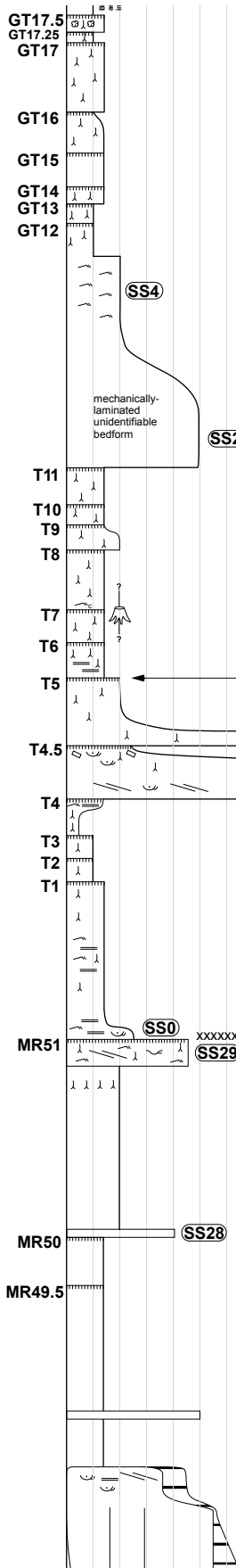
THE HAYSTACKS

REDONDO MEMBER

HUNT VALLEY



LOWER COMPOSITE SEQUENCE



Newspaper Rock Bed

Interfluvial truncation surface equivalent to "white" conspicuous channel-filling sandstone (SS3)

SS0 collected at base of "Tepees" section
Mottled Strata

MESA

