ROCKY MOUNTAIN ASSOCIATION OF GEOLOGISTS
COLORADO MEASURED SECTION

LOCATION AREA BOULDER COUNTY BOULDER

SEC 11 AND 1 6 / 5 21 TWP 1 N. 1 N. / 1 S. 1 S. RGE 71 W. 70 W. / 69 W. 70 W.

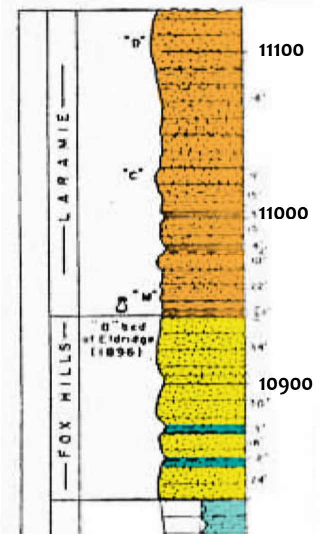
SPECIFIC LOCALITY FOURMILE CANYON; DODGE MESA; CONTINENTAL NO.1 BORRA; S OF MARSHALL.

SOURCE OF DATA Kansas G.S.G.BK, 12th ann field trip, 1938. Log of cont. No. 1 Borra in Univ of Colo. log coll, J.F. Johnson, Univ of Colo. MS thesis, 1935, James Parkinson, Univ. of Colo.MS thesis, 1956, C. Bates, Univ of Colo. MS thesis 1945

REMARKS W.P. Horner, Univ. of Colo. MS thesis, 1955 & W.O. Thompson

PREPARED BY JOHN CHRONIC FOR PUBLICATION, 1955

No. 2


LARAMIE
FOX HILLS
"D"
"C"
"M"
"O" bed of Eldridge (1896)
11100
11000
10900

Top of exposed sec.
(higher beds occur to S. & SE)

66.0' Ss, & sdy sh, ss lt tan to brn

9.0' Ss, wh, fe stn, ripple marked
15.0' Ss & sh, thn bdd
5.0' Coal
15.0' Ss & sh, sltd, thn bdd (Floral note 1)
4.0' Coal
2.0' Sh
10.0' Ss, wh, fn gr
22.0' Sh & ss, sltd, thn bdd, Ostrea glabre
2.0' Coal
1.0' Ss, w/lmy conc
2.0' Sh

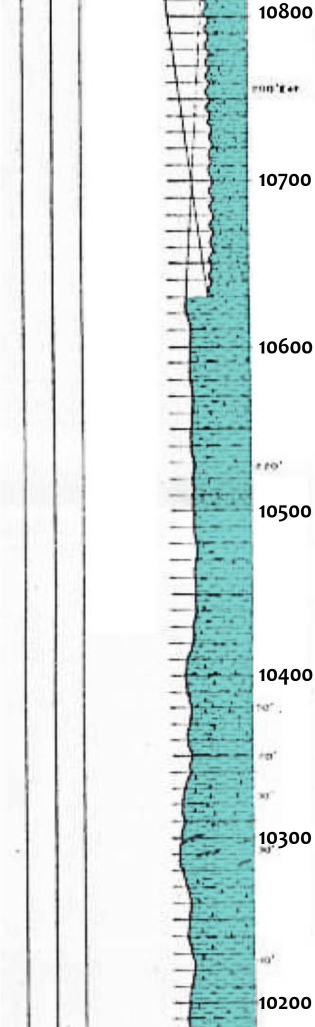
Laramie sec from J. Parkinson, Univ. of Colo. M.S. thesis, 1956

34.0' Ss

30.0' Ss
3.0' Sh, gry
18.0' Ss, lt gry
2.0' Sh, gry

24.0' Ss, lt gry

Fox Hills sec from W.P. Horner, Univ. of Colo. M.S. thesis, 1955


10800
10700
10600
10500
10400
10300
10200

Sec ab measured atBelmont bluff, S of Marshall, Colo.

200.0’ est Probably sdy gry sh

From here downward to top of Hygiene mbr, data from sample log of Continental Oil Co. #1 Borrs, SE NE SW sec 5, T 1S, R 69W, Boulder Co.

270.0’ Sh, sdy

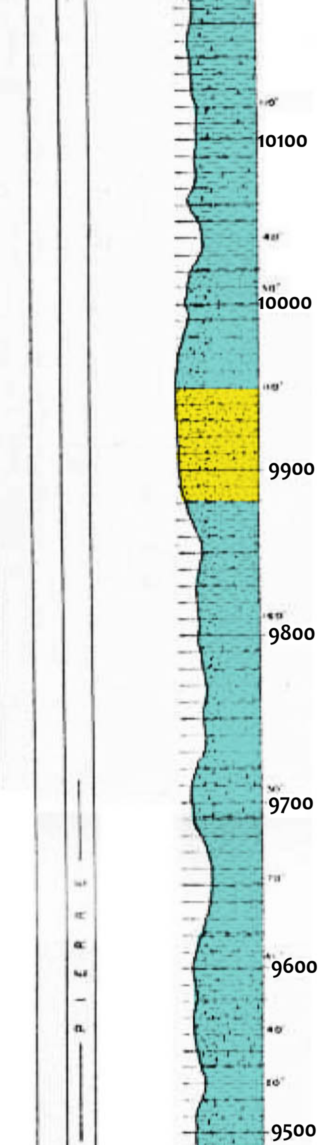
50.0’ Sh, sdy & lmy

20.0’ Sh, gry

30.0’ Sh, ly

30.0’ Sh, ls conc

110’ Sh, lmy



110’ Sh, lmy breaks

40.0’ Sh, gry

30.0’ Sh, sdy

110.0’ Ss, shy

160.0’ Sh, sdy

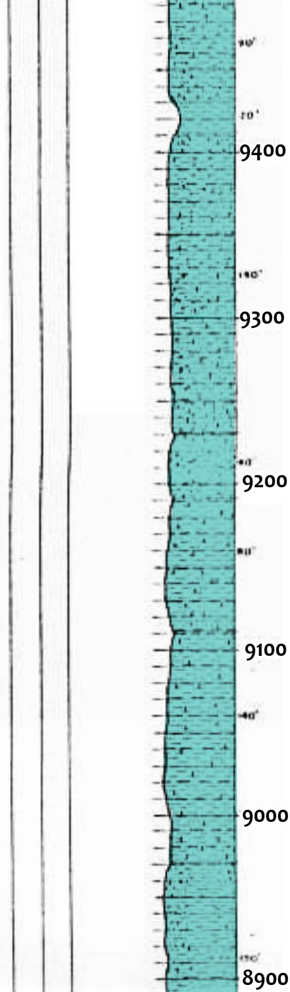
30.0’ Sh, sdy

70.0’ Sh, gry

40.0’ Sh, sdy

40.0’ Sh, sdy w/lmy breaks

20.0’ Sh, gry


9400
9300
9200
9100
9000
8900

90.0’ Sh, sdy lmy strks

20.0’ Sh, gry

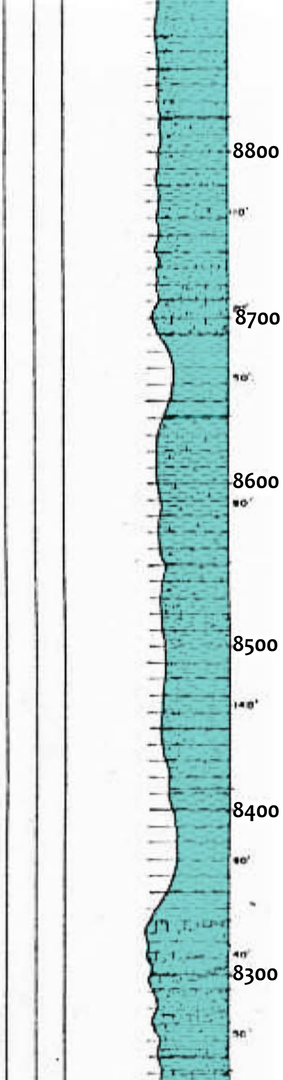
180.0’ Sh, sdy w/ broken lime

40.0’ Sh, sdy

80.0’ Sh, lmy

140.0’ Sh, w/lmy strks

150.0’ Sh, v sdy


8800
110'
8700
50'
8600
90'
8500
140'
8400
80'
40'
8300
50'

110.0’ Sh, sdy layers

20.0’ Ss, lmy

50.0’ Sh, gry

90.0’ Sh, lmy

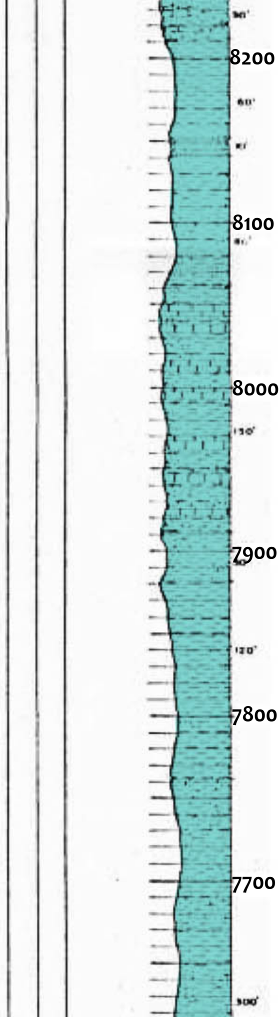
140.0’ Sh, sdy

See Faunal note 3 for generalised list of fauna found in Pierre fm. in Boulder area.

80.0’ Sh, gry

40.0’ Sh, gry

50.0’ Sh, sdy


30'
8200
60'
10'
8100
80'
8000
150'
7900
30'
120'
7800
7700
300'

30.0’ Sh, sdy lmy zns

60.0’ Sh, gry

10.0’ Bent

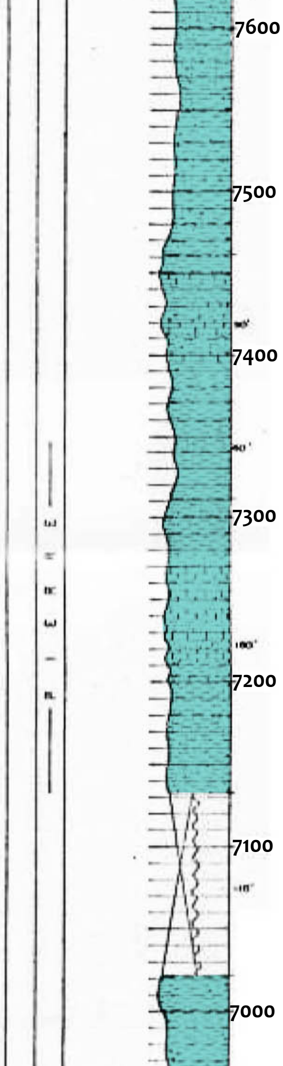
80.0’ Sh,sdy

150.0’ Sh, sdy wi ls zns

30.0’ Sh, sdy

120.0’ Sh, gry

300.0’ Sh, sdy

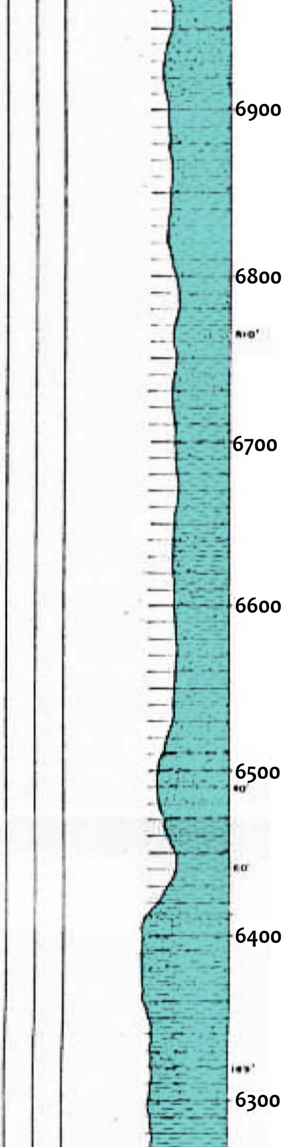

7600
7500
90'
7400
60'
7300
180'
7200
7100
7000

90.0′ Sh, sdy & ls lenses

60.0′ Sh, gry

180.0′ Sh, sdy, w/ls zns in mid part

100.0′ Missing


6900
6800
510'
6700
6600
6500
40'
60'
6400
189'
6300

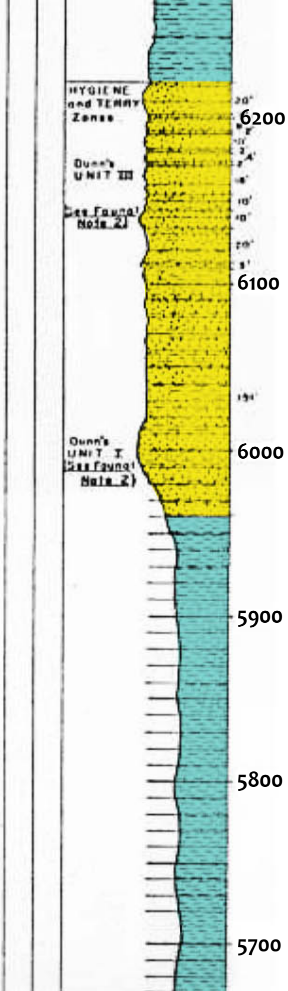
510.0' Sh, gry, sdy

40.0' Sh, sdy, w/few ss bds

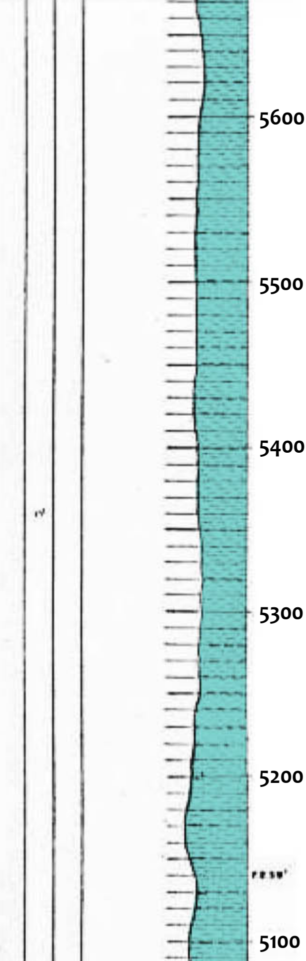
60.0' Sh, sdy

Sec to top of Pierre fm added from Continental Oil No. 1 Borra, Sec 5, T 1S, R. 7OW
Top of continuous exposed sec at Degge Mesa

189.0' Sh, gry, w/thn sdy bds especially near top

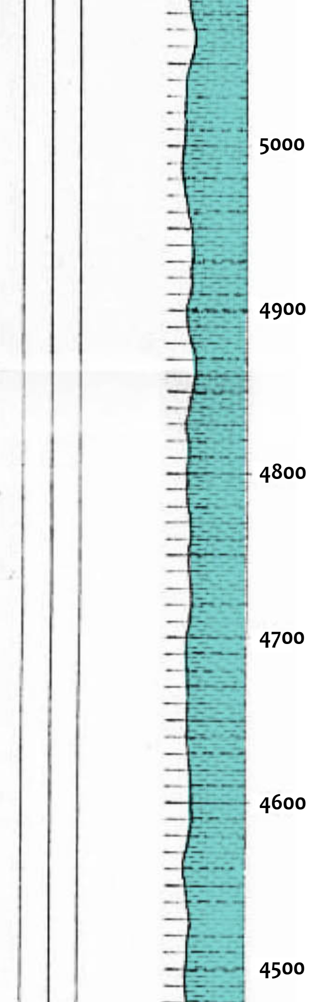

HYGIENE and TERRY Zones
Dunn's UNIT III
(See Faunal Note 2)
Dunn's UNIT I
(See Faunal Note 2)
20'
2'
8'
2'
10'
2'
4'
2'
18'
10'
10'
20'
3'
151'
6200
6100
6000
5900
5800
5700

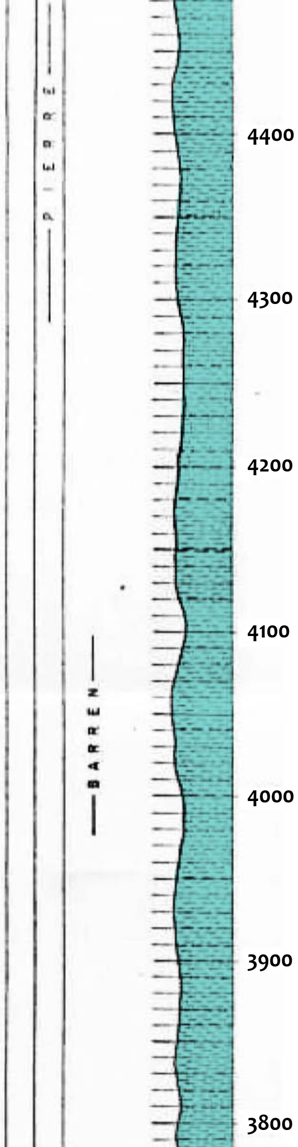
20.0'	Ss, mass, fn gr, even bdd
2.0'	Ss, brn, concry, conc lge, rnd
8.0'	Ss, mass, fn gr, even bdd
2.0'	Ss, brn, concry, lmy
10.0'	Ss, fn gr, even bdd, glau
2.0'	Ss, brn, lmy, concry
4.0'	Ss, gran, x-bdd
2.0'	Ss, concry, foss, lmy
18.0'	Ss, gryish grn, 1 to 4" bds, m gr, fr por
10.0'	Ss, carb, wths brn, w/much frag sh
10.0'	Ss, thn bdd, fms ldg
20.0'	Ss, brn, shy, ti, dns carb frg & sticks
3.0'	Ss, brn, concry, glau
151.0'	Ss & sh, sdy, thn bdd, gry, carb, x-bd, w/thn lentils & pockets

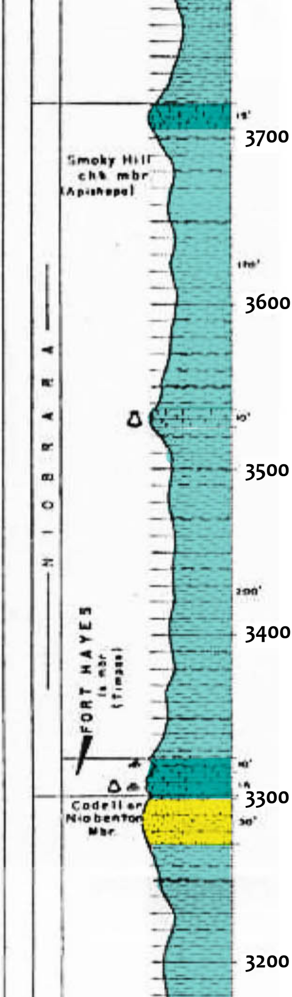

5600
5500
5400
5300
5200
5100

At about this level, specimens of Baculites
are common in lmy concr

2239.0’ Sh, gry & blk, sft, poorly exp




PIERRE
BARREN
4400
4300
4200
4100
4000
3900
3800


Smoky Hill
chk mbr
(Apishapa)
NIOBRARA
FORT HAYES
ls mbr
(Timpas)
Codell or
Niobenton
Mbr
15'
170'
10'
200'
10'
15'
30'
3700
3600
3500
3400
3300
3200

Sec ab mass by W.O. Thompson at Degge Mesa

15.0' Ls, yelish brn, sdy, resistant, rdg fmg

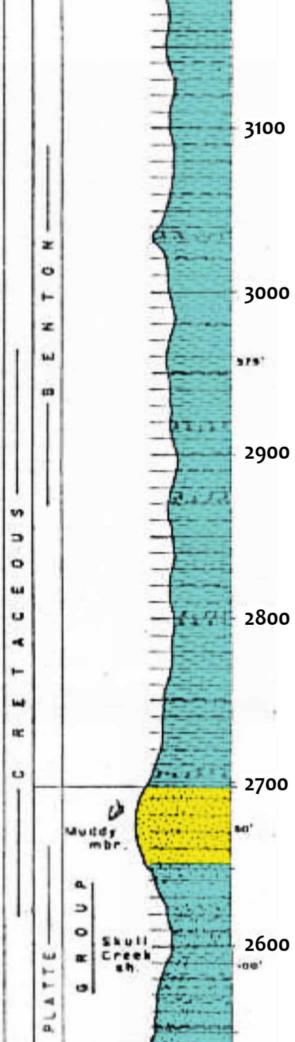
170.0' Sh, dk gry, wths bu, thnly lam, calc to area,
ptly cov

10.0' Ls, dk gry, wths bu, thnly lam, arg, fms sm ridge
Ostrea congests ab

200.0' Sh, dk gry, wths bu, mostly cov

10.0' Ls, lt gry, sft, wthd, shy
15.0' Ls, lt gry, wths bu, cpct
Sec ab measured by Bates C., University of Colo.
M.S. thesis, 1948 in SW ½ Sec 12, T 1N, R 71W

30.0' Ss, brn, shy


3100
3000
575'
2900
2800
2700
50'
2600
100'
CRETACEOUS
BENTON
PLATTE
GROUP
Muddy mbr.
Skull Creek sh.

Top Greenhorn ls in Rhinehart #1 not recognizable at surface
(160' ab bent marker)

Ostrea congesta Conrad and Inoceramus labiatus Schothelm common in good exposures to N.

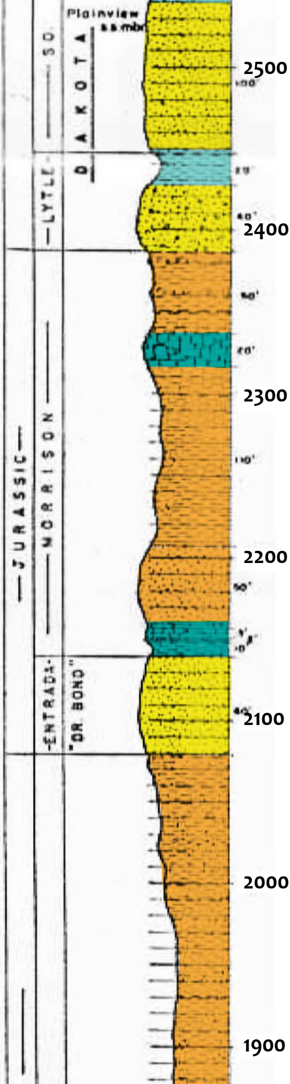
575.0' Sh & ls, blk, carb, intrbd w/many thn bent bds

50.0' Ss, gry, qtzic, x-bd w/many frags of carb
(65' in Rhinehart #1)
(First ss of Waage 1955)

Probably up pt Skull Creek sh mbr is equivalent to Van Bibber sh mbr

100.0' Sh, blk, s/thn bdd ss
(113' in Rhinehart #1)

Kessler ss mbr missing here



100.0’ Ss, gry, evenly grd, many lim spots
(57’ in Rhinehart #1)

20.0’ Sh, blk

40.0’ Ss, cgl, gry, ab pebs of qtz and cht, s/w/
Paleozoic foss

50.0’ Sh, olive grn, jointed wi intrbd ls

20.0’ Ls, gry, dns, in len

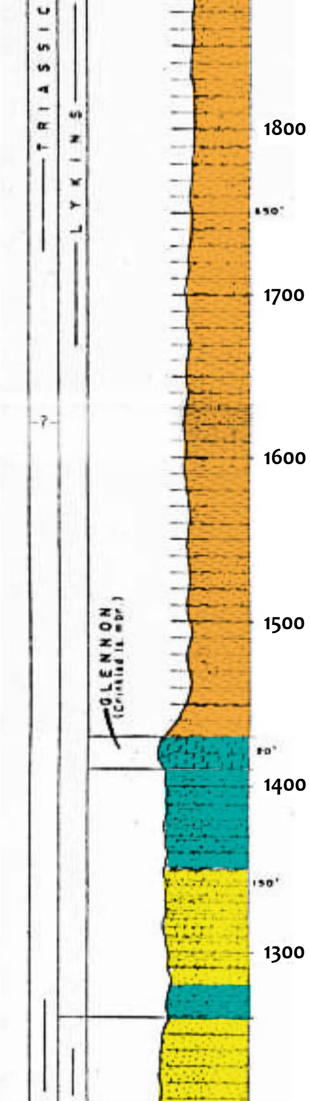
110.0’ Sh, olive grn, lens vgt sh & wh or choc ss

50.0’ Ss, gry, qtzic, braided, fmg prom ridge

5.0’ Ls, gry, lith
2.0’ Ls, conc
10.0’ Sh, vgt, olive grn, mar, gry, charophytes,
probably including Aclistochare latitruncate Peck

60.0’ Ss, wh, x-bd, fri
(34’ in Rhinehart #1)

Jelm? Ss, lt sal, generally present but not evident
st 4-mile canyon


TRIASSIC
LYKINS
?
GLENNON
(Crinkled ls mbr)
1800
650'
1700
1600
1500
20'
1400
150'
1300

650.0' Sh & ss, mar rd, evenly lam, w/mud chips
rpl marks com
Col: pale rd (5R 5/2)
Fine to m gr, even bdd

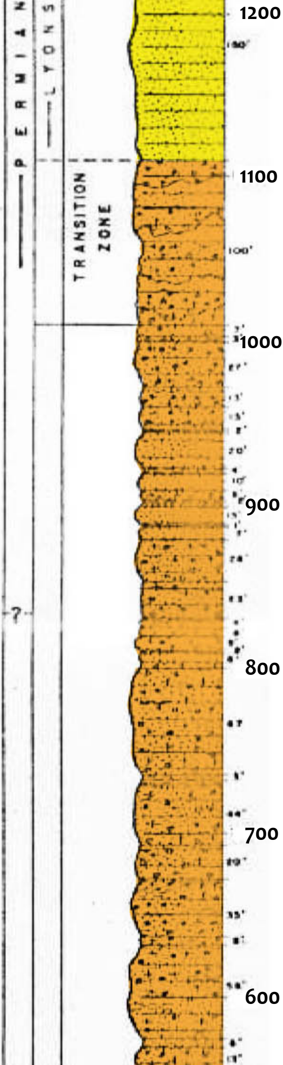
Sur col change between 225'-290' ab Glennon top

(Col change at 130' ab Glennon in B.A. Rhinehart #1, C SE NW 28, T 2N, R 70W., Boulder Co.)

Col: pale reddish brn (10R 5/4)
Fn fr, wxy bdd

20.0' Ls, sdy, pnk to wh, cont, brecd, lam contains, and in place ls made of, thn lam carbonates resembling modern algal crusts made by blu-grn alg

150.0' Ss, shy, brk rd, mass, bds 1-4' thk
(202' from top Glennon to top Lyons in Rhinehart #1)

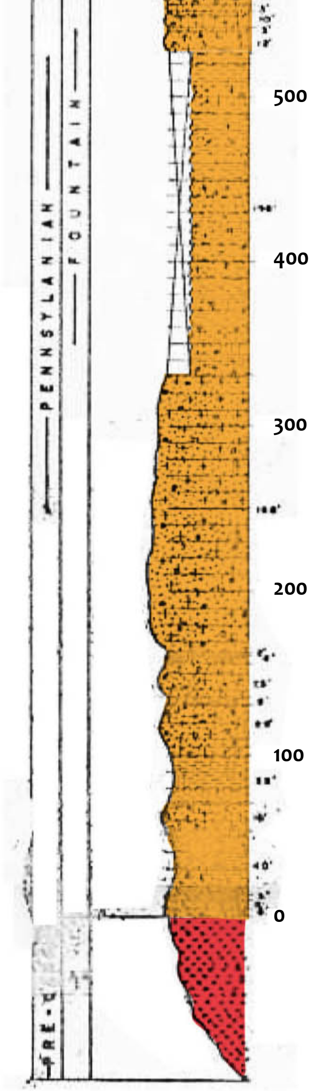

PERMIAN
LYONS
TRANSITION ZONE
?
1200
150'
1100
100'
1000
900
800
700
600

150.0′ Ss, pnk to crm, evenly lam, ext x-bd, qtzic, grs uniform site
Laoporus coloradoensis (Henderson), tracks of a labrynthodont amphibian, are present on bding planes at Lyons, about 10 miles to the N

100.0′ Ss & ark, pale pnk to crm col, w/layers of ss like those ab, w/layers of ark like those below

7.0′ Ss, pale pnk, w/s/rd sh pebs decr upward
3.0′ Cgl, pale pnk, ark, hd, m cse
27.0′ Cgl, gryish rd, cse, ptly consolidated, sh dk rd sh pebs
13.0′ Cgl, gryish rd, ark, m to cse, ab rd sh pebs, pit sur, ss in up 4′
13.0′ Cgl, gryish rd, ark, fn, compact, s/sh pebs
2.0′ Cgl, gryish rd, ark, m fn, ab sh pebs wth to pit sur
20.0′ Ss, pale pnk, dns, evenly bdd in low 13′, then x-bd
4.0′ Sh, m rdish brn, thn bdd, w/len of pnk cgl intrbd
10.0′ Ss, pale pnk, evenly bdd, compact
6.0′ Cgl, pale rd, ark, fn gr, evenly bdd
2.0′ Sh, m rdish brn, thn bdd, mic
13.0′ Ss, pale rd & gryish rd, evenly bdd, s/rd sh len,mic
1.0′ Sh, m rdish brn, thn bdd, mic
7.0′ Ss, pale rd, hd, evenly bdd, s/rd sh pebs in top 3′
26.0′ Cgl, pale rd, ark fn to m cse, well bdd, sdy
23.0′ Cgl, pale rd, fn to sdy, ark, w/sh pebs, low bds even, up ones hily x-bd
6.0′ Cgl, pale rd, cse, slty, ptly bdd, compact, ark
6.0′ Cgl, pale rd, cse, ptly consolidated & bdd
9.0′ Cgl, gryish rd & pale rd, ark, well consolidated few soft len
2.0′ Cgl, pale rd, m cse, soft, s/sh len, ark
6.0′ Ss, pale rd, hd, evenly bdd, cse & somewhat ark
67.0′ Cgl, gryish rd & m pnk, m cse to cse, ptly consolidated, sft, w/s/soft dk rd sh len, pebs to 3″ diam, mostly qtz (69%)

3.0′ Sh, dk rdish brn, sdy, thn bdd, mic
44.0′ Cgl, gryish rd & mod pnk, ark, hily x-bd, several lens rd mic sh intrc, more sh toward top
Units ab were moss along road cut on N wall of 4-mile Canyon
20.0′ Cgl, gryish rd, ark, fn t m cse, s/len of cse cgl w/rd sh pebs com
35.0′ Cgl, gryish rd, ark, fn to m cse, mostly fn w/s/sh len and lam bding conspicuous
6.0′ Cgl, gryish rd, ark, v mic, fn, shy, thn bdd
56.0′ Cgl, gryish rd, fn to m cse, peb content: 57% qtz 41% feld, 2% sh, s/lam bding, compact, well bdd, several lenses of sh intrc


PENNSYLVANIAN
FOUNTAIN
PRE-C
500
400
300
200
100
0

6.0′ Sh, dk rdish brn, v mic, sft, thnly bdd
13.0′ Cgl, gryish rd, ark, evenly bdd
3.0′ Ss, mod rdish brn, evenly bdd, v mic, no ark apper
10.0′ Cgl, gryish rd, ark, fn to m cse, evenly bdd, fn at top
3.0′ Ss, dk rdish brn, slty, compact, evenly bdd
12.0′ Cgl, gryish rd, ark, m cse to cse, pebs to 2″ diam, peb content: 72% qtz, 28% feld, no dk mins

196.0′ Mostly cov, rd soil float, prob gryish rd sh, ss & fn cgl

168.0′ Cgl, gryish rd, ark, m cse to cse (pebs to 3″ diam) evenly bdd, grds from fn to cse several times, peb content: qtz 63%, feld 26%, sht 12½%, rd sh 9%

2.0′ Sh, dk rdish brn, thn bdd, hily mic
4.0′ Cgl, gryish rd, ark, sft, ptly exp, thn bdd, hily mic, especially bio
23.0′ Cgl, gryish rd, m cse, ark,grds from fn to cse several times
5.0′ Sh, dk rdish brn, cglitic, thn bdd, mic, ark
25.0′ Cgl, gryish rd, m cse to cse, ark, evenly bdd, distinctly jted makes prom ldg, grds fn to cse several times
33.0′ Sh, mod rdish brn, ptly exp, soft, mic, bcms fn cgl at top
16.0′ Cgl, gryish rd, m to cse, ark, 10-15% mix, lg qtz pebs (to 2″ diam), rnd, sm ones ang, cht peb wi Ca CO_3 in cracks, grds several times fr cse to fn and back
40.0′ Sh, gryish rd, ptly exp, some cgl deb, sft, hly mic
3.0′ Cgl, gryish rd, v cse 15-20% qtz pebs to rnd
6.0′ Cgl, gryish rd, ark, fn, lmy ??
6.0′ Cgl, gryish rd, cse, ark, qtz & feld pebs to ½″

Sec begins approx ½ mi S. of 4-mile canyon, Boulder, Colorado