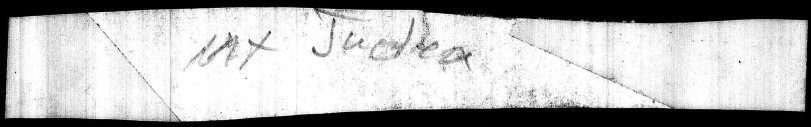

Int Judea

Measured section

Low Gap School

Z-section (Low Gap No 2)

Posterior bustin

(1.)

Low Gap School Section

SW NE Sec 33, T16N, R22W.
Measured by Glick, Haley, Dobkison.
Started 6-3-57, Completed 6-4-57
Section starts about 250 ft. NE of Low Gap school house and about 150 NE of John for same.
Samples LG1 through LG-36
"Unit as below" pertains to previously described unit.

Sample	Ft	In	description
LG1	4	2	6. Thick bd, ltgy, oolitic, upper 1/2 mgy fossil ls
	5	6	Covered int. contains Pit. C/h cont.
LG2	5	6	SS pl tom bd, v silty, vf gr, poorly exposed, most beds seem to be in place
LG3	5	3	SS bds to 4 in thick and int bd slts, unit poorly exposed, unit is similar to unit below with increas in amount of slts, and perhaps some shale. Some of the SS is limy upper SS is ripple marked

LG4 3' 0" approx 150 ft E of below unit, trace of top unit could not be followed with any degree of certainity
ss. thin to m-bd, vf, weathers into peculiar "rolls", uppe 2 beds (each 4 in. thick) fe stnd, top bed has abunt fe stone on top.

Descr - B.R. Haley 6-4-57
Notes - W.L. Adkison

LG5 5' 9" Sh., dk. gy., fiss. bd., thin beds of ironstone (up to ¼ thick), lower 2' poorly exposed
11' 6" Covered, prob. same as LG5

LG6 5' 9" Sh., dk. gy., & interbd. siltstone, slts wea. To yel.-br. & is VF mic. (up to ¼" thick), ironstone bands & stringers up to ¼" thick, slts. is dk. gy., worm? trail casts on base of slts.

LG7 6" Slts, dk. gy., VF mic., ripple-marked, in 2 beds 1" thick w/ dk. gy sh. in middle, sh. has ironstone nodules, nodules give brt. yel. stain when tested w/ acid amm. moly. sol.

Low Gap School cont.

LG8 5'9"	Sh., dk. gy., fiss. bd., ironstone bands (up to 1½" thick),
LG9 5'9"	Sh. as below
LG10 6'10"	Sh. as below
LG11 5'9"	DK. gy. sh. & interbd. med. to dk. gy. siltstone; slts. beds are up to 1" thick, VF mic., iron-stained, wea. yel.-br.; sh. is fiss bd.; some of slts. has rain-drop? impressions; ironstone concretions in sh. (¾" thick, 3" dia.)
LG12 5'9"	Sh. & slts. as below, 7" below top is a 1" ironstone band.
LG13 4'11"	Same as below, upper 15" is a silty med. to dk. gy. sh. & is fiss. to med. bd., uppermost part (½"-1½" is lt gy., sdy., wea. Top of Cane Hill, contact w/ overlying Prairie Grove is irreg. & undulating.

LG 14 2 0 SS f-m, mgy-Fe stnd, abund dkgy sh pbbls, scatt rd qtz pbbls (rd), unit pinchs down to 4 in within 20 ft qtz pbbls most abund in middle part of unit. 3 in broch in v lower part, qtz pbbls up to 1/2 in, sh pbbls up to 1 1/2 in.

LG 14a Collection of qtz pbbls for Bricks meta qtzite collection

LG 15 6 6 SS f-m, mgy, v. limy, mbdd where fresh, cross bd w badly weathered

LG 16 3 10 SS f-m, mgy, abund crin and other frag, scatter, qtz pbbls up to 1/4 in. in diam few dk gy sh pbbls 1/4 by 1 in.

LG 17 5 6 SS f, mgy, shore limy, scat calcite filled cavities up to 1 in. in diam. Mass bd weathers to cross bd

LG 18 5 6 SS as below except no calcite filled cavities.

LG 19 6 3 SS as below except lt med gy contact at top of unit is sharp

(5)

LG 19	5	0	ls	m ltgy, scatt f ss, mostly coquina of crin frag., contains bruchs, corals, mass bd when fresh, shows x bdd, when weathered, oolitic in upper one ft. upper contact is sharp and undulatory
LG 20	2	3	ls	sandy f, mgy, v limy, gtr pbbls (scat) coral, abund crin and other fossil frag much less sandy upward. Thickness varies from 3 ft 2 in to 2 ft in 3 ft horizontal, top contact is sharp and undulatory
LG 21	1	6	ls	mgy, f sandy, glauc, abund fossil frag, Larg coral(?)
LG 22	4	5	ls	mgy abund fossil frag, pentamites are pretty abundant, vf-m x lln. gast, brach, crin, horn coral
LG 23	6' 5"		ls	mgy, f sandy, glauc, brach, crinoid, large corals(?), top contact sharp.

Note: Section moves to small gully on other side of road from LG 23.

LG24 1'2" Ss, F gr, silty, clayey, lt. gy. to iron-stained, M-C glauc., frags. of crin. & brach., appears to have been limy, sh. & slts. pebbles ~~up to~~ 1/4" x 1/2",

LG25 1'5" Ls., dk. gy., VF sdy., many brachs.,

LG26 1'6" Ss, F gr, lt. gy. to ironstained, crin., brachs., once limy?, slts. & sh. pebbles up to 1/2" dia.

~~LG27~~ Top of Prairie Grove

LG27 7" Sh., blk., vy. carb., (Phantom Baldwin coal)

LG28 5'9" Sh., med. to dk. gy., fiss. to thin bd., ironstone layer 2" thick 1' below top.

LG29 5'9" Sh. as below, poorly exposed.

LG30 5'9" Sh. as below, has some ironstone layers (1/4" - 1/2" thick).

32
LG31 5'9" Sh. as below

33
LG32 5'9" Sh. as below

2'11" Covered, prob. sh. as below.

34 37
LG33 4'7" Siltstone, med-gy, VF mic., lower 26" is one bed, upper part is thin to thick bd.

35
LG34 1'6" Siltstone, med-gy, + interbd. dk-gy. sh., ~~one~~

36
LG35 ½" to 2" Ss., F-M gr., dk-gy. to ironstained, siltstone pebbles ½"×1", qtz. pebbles ¼" dia., ironstone streaks & concretions, crin. frag. impressions, may have been limy.

37
LG36 4'+ Sh., gyish-blk., fiss. bd., top concealed

End of section

(1)

Low Gap School section #2 6-4-57

Location: About ½ mi. West of Low Gap School. Near center sec 33 16N-22W. Sump LG$_2$-1 to LG$_2$-11

LG$_2$-1 2'3" Interbd. blk. sh. & dk. gy. sl. limy siltstone, sh. is fiss. & silts, is thin bd.

LG$_2$-2 2'6" Siltstone, med. gy., thin to med. bd., sl. limy in part,

~~LG$_2$-3~~ Top of Cane Hill

LG$_2$-3 4'8" Ss, F-M gr., lt. to med. gy., vy. limy, brach., crin.; qtz. pebbles up to ½" dia. & sh. pebbles up to 1" long in lower 6";

LG$_2$-4 5'9" Ss as below, calcite filled cavities up to ½" dia, no qtz. or sh. pebbles.

LG$_2$-5 7'9" Ss. as below; Ss. units below form a mass. cliff above road.

LG$_2$-6 4'7" Ls., VF-M sdy., c glauc., crin., brach., wea. X bd., med. gy., qtz. pebbles ¼" dia.

LG$_2$-7 5'9" Ls, med. gy., F sdy, scat. ¼" qtz. pebbles, wea. X bd., almost coquina of crin. frags.

Low Gap School section #2

LG$_2$-8	6'5"	Ls., lt. to med. gy., F-M sdy, M glauc, mass. bd, lower 18" covered, crin., brach.
LG$_2$-9	11'6"	Ls., lt. gy., F sdy, abnd t. crin. frags., brachs, mass. bd.
LG$_2$-10	5'6"	Ls., F sdy., lt. gy., abnd t. crin. frags., F-M glauc., wea, X bd.
LG$_2$-11	7'5"	Ss, F gr., iron-stained, limy, crin. frags., mass. bd., Top of ss. forms break in slope, then 20' covered interval to a big flat.
~~LG$_2$-12~~		Top of 20' covered interval is Top of Prairie Grove. There is prob. a 5' ss. in upper part of this interval.

Z Section

Apparent dip 5°N NW 32, T16N, R21W

Samp 21-24 missing

measured on west side of hill on Sherman mtn. section starts in Pitkin about 200 yds N of small unnamed stream

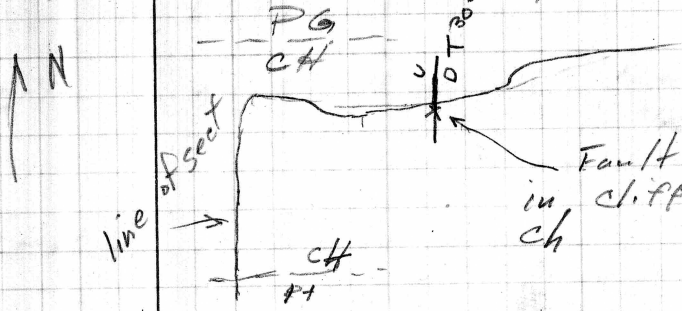
← Samples Z-1 through Z-33 Measured by Dickerson & Haley

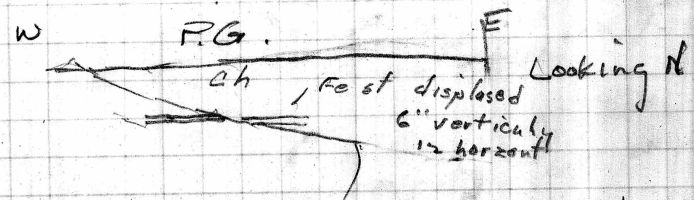
Unit as below, pertains to previous description

Samp	ft	in	description
Z-1	1+		ls mgy, oolitic?, abund crin, 15 ft of ls in cliff below sample. Top contact is sharp
~~Z-3~~ Z-2	4	0	ls br gy, vf x l l/n, nodular bd (weathered),
Z-3		4	slts mdk gy thin-m bd
Z-4	1	7	ss vf, silty heavily Fe stnd appears to have been limy weathers to one bed, unidentifiable fossil casts.
Z-5	2	10	ss vf, mgy, Fe stnd, Lower 1 ft 9 in weathers as one bed
Z-6	5	6	sh dk gy fissile-plate, Fe stone in courses (up to 2" thick) slumpy and badly weathered

	8	0	Covered contains 6 in? bed of silty vf ss about 2 ft above base of concealed zone, rest prob sh as below
Z-7	1	6	ss f-m, mgy-Fe stn, contains Fe stns. up to 2 in. 1 in dkgy sh 8 in above base, seems to be overlain by 4 in + of dkgy sh. containing Fe stn
	12	6	concealed prob contains dkgy sh mit Fe stns
Z-8	5	6	sh dkgy sh with abund Fe stn bands up to 1 in thick
Z-9	5	6	sh as below
Z-10	7	2	sh as below upper half very slumpy and no samples collected. appears to be silty.
Z-11	1	6	slts mgy, irreg sh laminae ray. abund worm? trails, rimy in part prelly slumpy but probably partly nearly in place more or less

11	6	concealed prob contains sh and slts as above
2-12	6	interbd dk gy sh and m-dk gy slts, few Fe stn beds up to 1 in. thick, sh is fissile, slts upto 1 in., some slts beds have contorted structure somewhat similar to flow structure. Unit is about 3/4 sh but slts becomes more frequent at top





Fault dies out at 2 ft below Fe st
upper limit of fault is obscure

Z-13	10	6	0 Interbd m-dkgy slts and dk gy sh Predominently slts lower 13 in nearly all slts. slts is platey to thin bd, sh is platey few Fe sth up to ½ in thick upper 3 ft 6 in is about 80% slts.
Z-14	5		0 slts m ltgy dk gy sh laminae thin irreg bd.
	11	6	Concealed
Z-15	3	4	sh dk gy few beds of m ltgy slts up to ½ in thick. Shale is fissile to platey
Z-16	2		0 interbd m gy slts and dk gy sh. slts is slightly limy and in beds up to 4 in and is lenticular. Top of unit is top of Cane Hill
Z17	3' 9"		sl. limy, Congl., lt. gy., many pebbles & cobbles (well rdd.) of ironstone, SS., & slts. up to 2" dia., abndt. qtz. pebbles - subrd. up to ½" dia., stringers up to 4" thick of lt. to med. gy. slts., sh., & VFSS., most of ironstone

cobbles are in lower 6" & upper 10", unit is x bd., unit thins to 14" within 100' to East, top contact reasonably sharp.

Z17a Same as Z17 – top side marked w/ red crayon.

upper 12"

Z18 4'1" Ss, M gr., lt. gy. to ironstained, vy. limy, qtz. pebbles to 3/4", laminae of siltstone 1' above base & 3' above base, x bd.

Z19 6' Ss., med. gy., F-M gr., limy, M glauc., qtz. pebbles to 1/4" ~~thet~~ dia., mass. bd., wea. x bd.,

Z20 4'4" Ss. as below, upper 8" has abndt. pebbles of qtz., ironstone, ss., qtz. up to 1/4", west to 1/2", crin. frags., upper 8" pebble unit grades out in 12' hor.

Moved across ck.

Z21 1'6" Ls, med. lt. gy., abndt. foss. frags., crin., brach., ool.?, lower contact sharp & undulatory, gastpds.,

cobbles are in lower 6" & upper 10", unit is X bd., unit thins to 14" within 100' to East, top contact reasonably sharp.

Z17a Same as Z17 – top side marked w/ red crayon.

Z18 4'1" Ss, M gr., lt. gy. to ironstained, vy. limy, qtz. pebbles to 3/4", upper 12" laminae of siltstone 1' above base & 3' above base, X bd.

Z19 6' Ss., med. gy., F-M gr., limy, M glauc., qtz. pebbles to 1/4" ~~thick~~ dia., mass. bd., mea. X bd.,

Z20 4'4" Ss. as below, upper 8" has abndt. pebbles of qtz., ironstone, ss., qtz. up to 1/4", rest to 1/2", crin. frags., upper 8" pebble unit grades out in 12' hor.

Moved across ck.

Z21 1'6" Ls., med. lt. gy., abndt. foss. frags., crin., brachs., ool.?, lower contact sharp & undulatory, gastpds.,

Z22 1'10" Ss., Fgr., med. gy. to ironstained, vy. limy, C glauc., top contact sharp & undulatory.

Z23 3'6" Ls, med. gy, crin. frags- vy. abndt., indistinct bd., contains nodules (up to ½" x 1½") of VF x ln. to ds. ls.,

Z24 2'2" Interbd. lt. gy. Mgr. limy ss. & med. gy. F sdy. slts. & sh., ss. in beds to 6" thick & contains qtz. pebbles to ½" thick & abndt. crin. frags., sh. & slts. in laminae & beds to ¼" thick.

Z25 11" Ss., lt. gy., VF gr., vy. silty, well cem. (silica), bottom 2" has flow structure?.

Z26 1'10" Interbd. dk. gy. sh. & lt. gy. VF-M limy slts, ss., qtz. pebbles to ¼" thick, C glauc. in ss., ss. beds to 4" thick, sh. is fiss. to platy, top contact sharp.

* samples left on outcrop

(7)

Z section

*

Z27 5'5" Ss, F-M gr., lt-gy., limy, ironstone pebbles to ½", qtz. pebbles to ¼", lt. gnish-gy. slts. beds & lenses up to 3" thick.

*

Z28 2'10" LS, iron stained, M-C sdy, abndt. crin. frags., med. irreg. bd.

~~Z29 Interbd. Fgr. limy ironstained Ss. +~~

*

Z29 1'1" Slts., lt. gnish-gy., med. irreg. bd., thin dk. gy. sh. laminae

Z30 2'2" Ss, med. gy, M gr., vy. limy, abndt. crin. frags., ironstone concretions to 1" in dia., mass. b.d.,

Z31 5'9" Ss., F-M gr., med. gy, sl. limy, thin stringers of dk. gy. sh., thick bd.

Z32 4'9" Ss., M gr., heavily iron stained, once limy ?, has thin stringers of silty sh.

(8)

Z section

2' 1"	Covered
Z33 1'	Sh, dk. gy, may be slumped

Note: If 1' sh. is in place, the top of the Ss. (Z32) is within 1' of top of Prairie Grove.

(Faumer Cove section) J

Posterior Bustin' section measured in SE¼ Sec 10, 14N 21W in creek bed on east side of ridge downhill from McElroy gap. Samples PB-1 through PB-. Units as below pertains to previous description measured by Adkison + Haley 6-6-57

Samp	ft	in	description
PB 1	5	6	sh dk gy fissile to platey few festn beds up to 1in thick some s/ts laminae, few s/ limy ltgy s/ts, beds up to 1in thick
PB 2	5	0	interbdd dk gy sh and mgy s/limy s/ts, probably 75% s/ts, top contact is sharp
PB 3	3	0	s/ts and shale as below overlying Prairie Grove Cut out this within 50ft and rests on PB 2. the Priarie Grove cuts into PB 2 by at least 1ft in a distance of 50ft to the SE. Contact between CH & PG is obscure beyond this

PB 4 5 6 ss f-c, Fe stnd, qtz pebbs to 1/4 in, Fe stn pebbs 1/2 by 1 in irreg dk sh laminae in lower 1 in, mostly fgr except in lower 4 in.

PB 5 5 6 ss ltgy, f, moved 200 ft SE around corner to creek bed during collection of samples for PB 5 PB 4 appears to have thickened by about 6 ft in this distance bottom contact of PB 4 not exposed

PB 6 5 6 ss. f, Fe stnd, x bdd

PB 7 5 9 ss as below

PB 8 5' 9" Ss as below

PB 9 5' 9" Ss as below

PB 10 5' 9" Ss, Mar, lt to med gy, limy, qtz pebbles to 1/4", sh pebbles 1/8 x 1/2", ironstone pebbles 1/4 x 1", mass bd.

Note: PB 4 to 9 is one mass X bd unit, poorly observed in part.

~~PB 11~~

P.B. section

PB11 5'9" Ss., as below, more ironstained

PB12 4'7" Ss., as below.

Note: PB 10, 11, & 12 form one mass. unit.

10'2" Covered

PB13 9'4" Ss, Fgr, heavily ironstained, lt to med. gy., limy,

23' Covered

PB14 5'9" Ls., M sdy., vy. sdy., med. gy.,

PB15 5'5" Ls. as below, (may be a vy. limy Mgr. ss.)

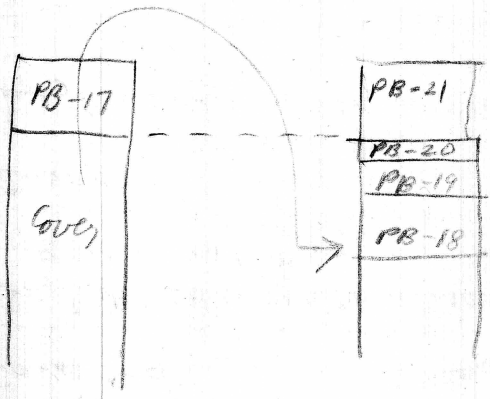
~~PB16~~

Note: PB14 & 15 mea. to high-angle x bd. (not too well exposed).

PB16 2'7" Interbd. med. gy. limy, foss. F-Mgr. ss. & dk. gy. fiss. bd. sh.; ss. beds up to 6"; sh. unit up to 3"; ss. has sh. pebbles to 1" & qtz. pebbles to ¼",

Note (from H.J.H after explanation from BRH)

1. subtract 7'7" from cover under PB-17, leaving 5'7"
2. Delete sample PB-17



(4)

13'2"		Covered
PB17	1'6"	Interbd. med.gy. limy Fss. & dk.gy. sh.; sh. has stringers of s/ts. to 1/4", sh. is platy; top of unit is sh. w/ sharp contact; ss. has crin. frags. & ironstained streaks & sh. pebbles (1/16" x 1/4"), ss. beds to 4" & sh. beds to 3"
PB18	4'9"	L.S., med.gy., F-M sdy., abndt. crin. frags, brachs., maiss. bd., has med.gy. VF ln. to ds. nodules to 1" x 2"., ~~unit thins ts~~
		Note: Moved up the ck. about 100 yd. to waterfall. PB 21 is same unit as PB 17 in previous section.
PB19	1'	Ss., dk.gy., VF gr., limy, ripple marked, few crin. frags., ironstained concretions to 4" dia., irreg. & lenticular bd.; dk.gy. platy sh. in beds to 2" thick,
PB20	1'10"	Interbd. dk.gy. sh. & dk.gy. shaly s/ts., platy to thin bd., lenses of limy, silty dk.gy. VF ss. up to 4" thick

PB21 1'2" Interbd. dk. gy. fiss. sh., dk. gy. limy silty VF ss., med. gy. VF sdy. ls., seems to be eroded away on both ends of exposure 25 away; ironstone concretions 1"x4" in ls; Ls. & ss. are irreg. & lenticular, top contact sharp.

PB22 1'6" Ls, dk. gy., VF sdy, abndt. brach., crin., ool.?, dk. gy. sh. pebbles to ½" dia, prob. same as PB 18

PB23 4'5" Ss., med. gy., Fgr., sl. limy, crin. frags.,

PB24 3'5" Ss., F-Mgr., limy, med gy. to ironstained, ironstone & sh. pebbles up to 1".

PB25 3' Ss., Fgr., sl. limy, dk. gy., laminae of silt & sh.,

PB26 4'7" Ss., dk. gy., F-Mgr, vy. limy, abndt. crin. frags., qtz pebbles to ¼",

PB27 2'1" Ss, med. gy. to ironstained, Mgr., qtz. pebbles to ¼", abndt. crin. frags,

PB28 2'4" Ss. Fgr., limy, med gy., crin. frags., shale & silts. laminae, Top of waterfall

38' 4" Covered

PB29 5'9" Sh., dk gy., fis. bd.

PB30 5'9" Sh., as below, w/ few med gy silts lenses up to ½" thick

PB31 4'3" Sh., dk. gy., fis., upper 6" has med. gy. silty nodules & lenses to ¼" thick, Top contact sharp.

Top of Bloyd

PB32 6'+ Ss., lt. gy., VF-Fgr., silty, limy, bottom 2" has ss. pebbles to ½" x 3", 8" above base is foss. zone (crin. gastpds., well-rdd. ss. pebbles to ½" dia.) at least 30' of ss. above PB32 & overlying ss. forms cliff.

Notes taken during search for sections on ridge NE of Norton Gap. 6-7-57 (Haley)

Bracket one

Basal Atoka 1880

Upper most PG 1770

Basal PG 1580

upper Pitkin 1490

none exposed all guess

No 2 1340 excellent exposure of about 80' of Pitkin in cliff. may be unmeasurable.

No 3 1585 base PG exposed

No 4 1595 base PG exposed 20ft CH PG is approx 90ft thick. Top indef

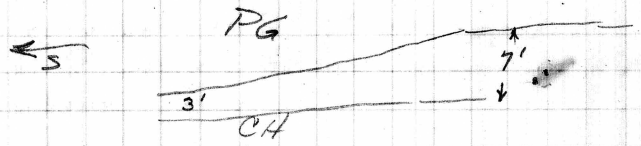
No 5 1710 est top PG

No 6 1620 est bottom PG
1695 est Top PG
no exposures in creek

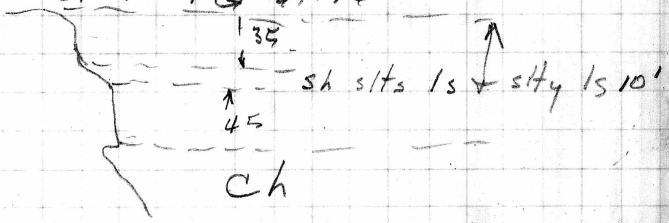
No 7 CH-PG cont exposed 1620

No 8 1695 est top PG if basal Atoka block in place 60' of Lloyd.

No 9 CH-PG contact 20' Basal PG 7' of CH 1640



No 10 CH-PG contact 1670 est to PG 4 1760



No 11 CH Ditkin with Phosphoria to and basal Cg 1540

12 1670 base PG
13 1450 Top PG

10 through 11 are probable 30+ too high

8 is about +

20 ft

7 is about +5

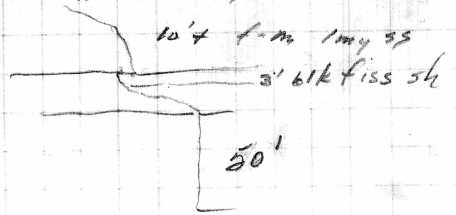
6 is about +10

Notes taken on S side of ridge NE of Nortons Gap and south of Wolf Creek 6-7-56

No 1 Base Atoka 1900
Base PG 1710

No 2 Est base PG 1700 probably 10 ft. shale break about 20 ft above base

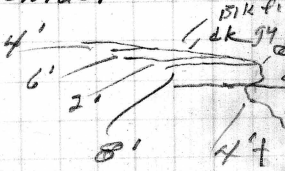
No 3 on Bench in PG 1675



No 4 near base of P.G. 1620

No 5 near base of PG 1630

No 6 Good exposure of Pitkin-CH Contact



No 7 See

No 7 1535 Conc Hill type basal Cg
in place overlain by about
4 ft of vf limy massive ss

No 8 near base of PG 1580

No 9 1670 Top of first bench

No 10 1730 approx top of PG

No 11 1840 Base of Atoka
1970 Top of Base of Atoka