

13

UNITED STATES
DEPARTMENT OF THE INTERIOR
DI-6

APPROVED DECEMBER 1941

Football Mt. Judson
Measured Sec 17-18-19

8' 10"
27'
30'

G-2 Snowball NW SE $\frac{1}{4}$ Sec 18

Section in slight valley on hillside

S ← ————— → N

Joachim?
or
Plattin??

oolitic ostracodal ls
20' ↑
hard dolic ss, dolomitic,
& ss beds

osp bluff
20' +

136°

760 →

765 →

775 →
(arch) ↘

790 →

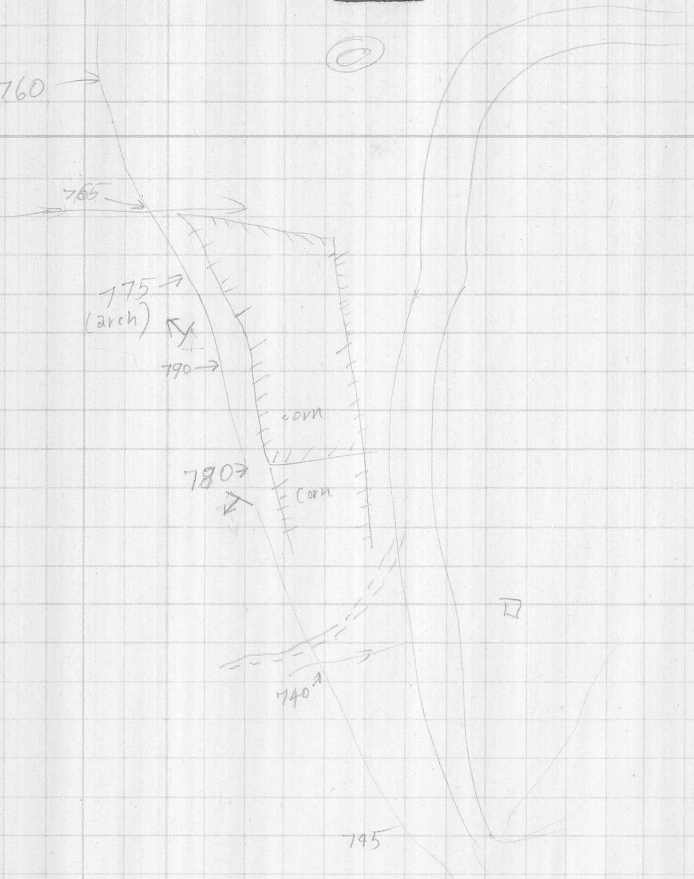
780 →

740 ↗

745

corn

corn



E.G. Glick

August 13 - 1953

Cliff SE $\frac{1}{4}$ sec 13 T18N, R29W Ark

Boone - Chattanooga contact
is 70' (H.L.) above top
of sand exposure -
Chattanooga - sand contact
is not exposed

Top of ss not exposed -
ss dips 8° (highest) to level.
dip is upstream on White River

Hand level of ss interval
80' (roughly) - dip taken into
account. Powell (?) or Cotter
dolomite exposed at river
level

In Hickory creek Cen W $\frac{1}{2}$ sec 13
T18N, R29W Ark.

Base of Chattanooga sh is
at creek level - stream runs
on top of ss. By digging
in bank, contact of ss &
sh was uncovered. Upper 2" ~~is~~
at least is dirty (BMSS) lower
80' ± ss is. Everton - St Peter

October 24, 1953

sec 18 N.W. of Grassay Gap School in
Snowball quadrangle - in stream
running from center of sec. towards NW

1340 - Top of bench - underlain by ss??
Probably near base of Bloyd

1320-1290 - Foss ool ls - Prairie grove?

1290-1265 - covered

(Loss 35')
1310-1260 Limestone - in cliff - Prairie Grove?

(Loss 35')
1260-1245 Covered

(Loss 35')
1245-1235 Shale - Cane Hill - dk gy - blk

(Loss 35')
1235-1120 Pitkin limestone

(Loss 35')
1120-965 Blk sh

(Loss 35')
965-930 Dark limestone (Batesville)

(Loss 35')
930 - ss & sh (Batesville)

Monday November 2, 1953

Sec 25, T N, R18W.

Section of Batesville in gully

Blk shale - Fayetteville sh.

3' Massive limy siltstone

2' Fossiliferous marlstone -

6' Green-yellow to khaki shale with
a thin bed of blk foss. limestone
4' from base

20' DK gy silty f. gran limestone

10' yellow-brown shale

Boone chert

Tuesday Nov. 24, 1953

G-10 - SW $\frac{1}{4}$ sec 20 - Snowball Quad

1730 }
 \downarrow } 50' Hale ss exposed in bluff
1680 } 5' dk gy sh beneath.

This ss is massive - forms a vertical cliff for $\frac{1}{4}$ mile along the hill. Sand is f-m but looks slightly leached.

Toward the point there is an exposure (10') of beds above the massive ss. These are thin to medium bedded ss w/ shale partings

On the point in the center of Sec 20, at least 100' of ss w/ shale partings overlies the massive ss. This sandstone is weathered -- beds 3"-6" thick crop out along the entire slope -- the point could be roughly sectioned in this zone

The next 60' is covered - sh?

This is overlain by 30-40' fine ss

This zone overlain by 40' covered slope which is capped by basal Atoka ss

G10 (cont) Sec 20

Snowball/quad

The Hale on the point is 253'
thick -- this is
cb1 1670 exaggerated by dip, but
CH1 1415 this is a thick section
CP of Hale. Sandstone
cliff at top is 50' thick.
Around 15'15" there is an
abundance of black shale
slump -- weathered, but seems
to be a shale slope. At
least 30' of shale and
much covered slope on each
side above and below that is
probably shale

Nov 25

G-11

Sec 36

Snowball quad

1740 - Top of 15' + badly leached
fine ss - Hale? (No -- above Hale Nov 27)

Many thin ss's above this

1885 Top thick bedded rf ss -
this unit 20' + thick - sand
grains much finer than below

1920 Top thin bedded but well
exposed magy siltstone 10' thick

1935 Atoka base - about 35' massive
cross-bedded Atoka ss

Nov 27

Farther south around the head of
Hurricane hollow, Hale outcrops are
poor, but lower Bloyd sandstone
stands up in a 50' cliff. This
sandstone is medium to thin
bedded and has a few shale
beds in it. It is not massive
as is the Hale ss.

There is less than 30' and
perhaps no shale directly
over the Hale ss.

Nov 30, 1953

Sec 13

- Snowball Quad

G12

940 Batesville Top good

940-1085 Fayetteville shale - not well exposed
but probably no lime present

1085-1102 Limestone - Blk to dk gy dense
Beds even - 3" to 12" thick
very thin ($\frac{1}{2}$ " shale partings in
thinner beds

1102-1152 Shale - -
Lower 25' - shale - little or no lime
Upper 25' - interbedded lime
and shale, lime beds up
to 12" thick

1152-1235 Limestone - - no shale exposure excellent

Lower $\frac{1}{4}$ beds	3-4"	Both dense black
Next $\frac{1}{4}$	12-24"	and non dense
Next $\frac{1}{4}$	3-4"	dk gy (clastic?)
Top $\frac{1}{4}$	12-24"	& fossi) beds in these units

1235-1250 Poorly exposed silty lime & sh

1250-1260 Dense blk ls (1-3" beds) with
 $\frac{1}{2}$ to 1" shale partings

G-72 cont

1260-1335 Limestone - medium-bedded to massive - oolitic beds (massive) alternate with zones of other non-oolitic limestone (medium-bedded)

1335-70 Limestone - very thin to medium bedded - silty in part.
Fair outcrops. Oolitic in part.
Top bed has very large crinoid columnals.

1370-81 Covered - - probably Hale shale

1381-93 Hale ss -
Fine - r fine ss - silty
Beds $\frac{1}{4}$ " to 6"

Nov 30, 1953

Sec 1,
G 13

Snowbill/guid

Pitkin base well exposed at
foot of massive cliff.

Upper Fayetteville lime not
too well exposed. - One crop
shows 26' dense black lime
Beds 1" to 6" thick. Bedding
planes are a bit irregular,
"lumpy"

Overlying shale & lime poorly
exposed, but interval is
50' to good Pitkin base

Nov 30, 1953

Sec 3 -
Puss Hollow
G-14

Snowball Road

895 Batesville top

1090 Top of black shale
Lower 50' many concretions
Next 145' all shale as far as can
be seen from fair crops
1' ls & 1' ft sh at top
Dip may add 30-40' to this section

1090-1119 Limestone - upper Fayetteville lime

1119-1155 Lime? & mostly shale to Pitkin
base (which is well exposed)

A section 200' thick of
Pitkin limestone w/ very little
shale measured @ head of canyon

chl 1390

CP 1190

CFV

Taylor Cemetery

Nov 3, 1953

Center sec 11, T R Snowball Quad.

Section measured from top of Pitkin limestone bluff through beds exposed on side of gully

Covered - probably soft yellowish shale with limestone concretions
16'6"

Shale soft yellowish shale with limestone concretions. Some concretions 4-6" in diameter and flat. Upper 1' is block platy slightly limy shale
3'3"

TC-1 Limestone, brownish-gray, dense, oolitic (in part). Contains large crinoid columnals - 1 single bed
1'0"

TC-2 Limestone - very dark gray, finely granular. Brachiopods & tiny crinoid columnals - medium to thick bedded
4'8"

TC-3 Limestone, very dark gray - finely granular to dense, oolitic in part, - dense dark brownish gray streaks. Single bed
0'7"

Taylor Cemetery (cont)

Covered interval - probably shale 9' 0"

TC-4 Sandstone - medium to red-brown (iron stained) - very fine grained. slightly limy (originally very limy) - may have been silty limestone before weathering 1' 0"

TC-5 Limestone - light to medium gray sandy & silty. patches of oolitic limestone 2' 9"

TC-5 X Covered interval - Appears to be mostly shale. Limestone beds (12-14" thick) along slope but not quite in place - they definitely belong to this interval. Limestone is dark-gray very oolitic. contains some large crinoid columns and Archimedes 1' 6"

TC-6 Siltstone - medium to dark gray very thin bedded to platy. slightly limy. 6" sandstone - fine grained - at base 5' 0"

Taylor cemetery (cont)

Covered interval above this siltstone includes a bench about 5' above the outcrop. Apparently this overlying rock is mostly shale, with ~~a few~~ sandstone beds up to 2' thick. 15'

Hale sandstone?

Blocks of Hale type sandstone nearly covered by flat crop out on hill--with a base apparently about 15' above the last siltstone sampled.

Hill above this is slump

Nov 3, 1953

G-15

Sec 16

Limestone - 3'
60' } sandstone, thin-bedded - some
very thin bedded sandy limestone
and shale - makes steep slope
15' } Massive sandstone - no bench on top
medium to coarse grained. 2'±
basal conglomerate w/ quartzite
pebbles to $\frac{1}{4}$ " and shale
pebbles to 1"

180' } Low slope - probably mostly shale
with some sandstone

110' } Halv sand - limy, fossiliferous,
very fine grained - limestone
conglomerate 3'± at top

50' Covered - shale?

Pitkin limestone

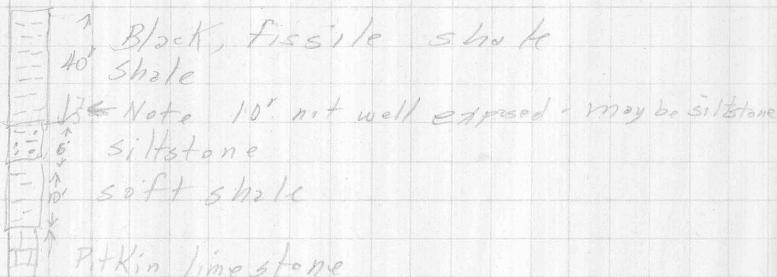
Nov 6, 1953

G-16 - East edge Sec 2 T4N, R-
Elevation 1385

Pitkin top not too well
exposed - appears to be overlain
by 10'± soft shale with
small limestone concretions
& many horn corals near top.

Over this is 6' limy siltstone
to very fine sandstone.

Over this is 40'± black
shale exposed & along covered
interval.



December 7, 1953

G-17 Center sec 36, T 15 N, R

Pitkin top is about 1420 --
not well exposed.

Outcrop of thin bedded, dark gray
very finely sandy, non-tiny
siltstone 10' thick between
1495 and 1505.

The Hale sandstone is not
exposed in this gully, but
appears to have a top at
about 1685' ±

December 8, 1953

G-18

Sec 15 T14N R19W snowbill quad

- 1800 - } Not well exposed but steep
slope with some thin ss & sh bed
- 1735 - } Massive very soft decalcified ss
- - may be thin shale or lime bedstone
- 1700 - } covered - siltstone or shale - bench
- 1465 - } Massive Horn Mt. ss. - no pebbles seen
but sand is f-m & in massive bed
- 1635 - } Black shale - - one thin 2"
siltstone bed 10' above base -
otherwise shale?
- 1550 - } Hale ss 1550 is top of sand and
unit is about 75-80' thick lithology
of basal 30'± not known - upper 30'± ss
- 1470 - } Pitkin

December 9, 1953

Hurricane Hollow section

- Massive to thick bedded ls
Pitkin (?) 15'
- HH-1 Limestone, brownish gray, oolitic (?)
silty (?) finely granular to finely
crystalline single bed 2'0"
- HH-2 Covered interval; probably shale
with Horn corals in upper part. 9'10"
- HH-2 Limestone, brownish gray, finely granular
slightly oolitic, silty (?), fossiliferous. 1'0"
medium bedded
- HH-3 Siltstone, brownish gray, v. finely sandy
limy in part, thin to medium bedded. 3'4"
- HH-4 Siltstone as above; (more limy than above?)
possibly a silty limestone in zones 4'4"
forms step
- Covered interval 10'0"

HH-5 Siltstone, dark gray 3'0"

Covered interval 7'6"

HH-6 Sh, dark gray, fissile 5'3"

HH-7 Sh as above with hard siliceous
bands 8'0"

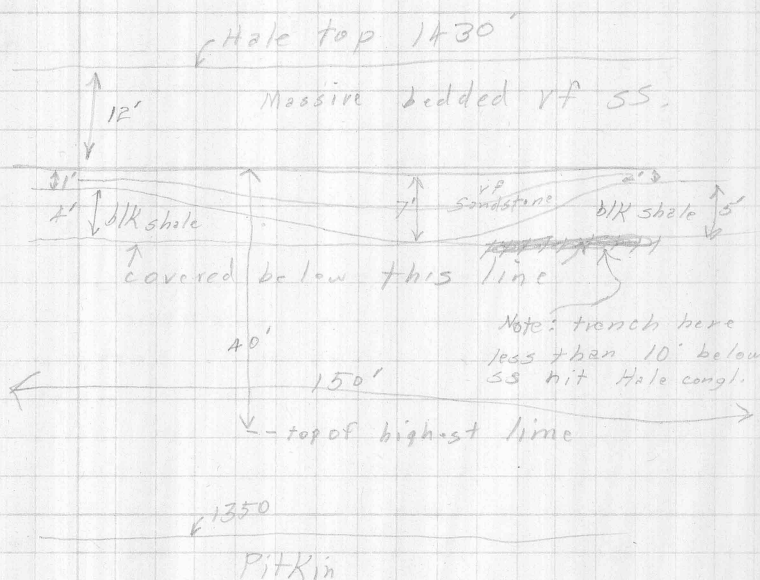
Shale appears to continue above
this exposure, no exposures
in place; shale talus in slope
material

December 16, 1953

G-19

North border sec R3, T

Hale sandstone top at 1430
underlain by black shale



Evidence of digging in this shale shows the Hale conglomerate to be less than 10' below the massive sand base. Conglomerate overlies oolitic Pitkin? limestone

Jan. 28, 1954

Samples examined by

W. A. Chisholm.

Samples taken by

E. Glick.

Location: SW $\frac{1}{4}$, Section 14, R18W, T15N.
ON THE NORTH EASTERN SIDE OF ROLLINS
MOUNTAIN.

HALE Conglomerate Lithologic Description.

Medium brownish gray, very limy, silty,
very sandy conglomerate. This
rock apparently grades from a
limy, sandy conglomerate to a
limy conglomeratic sandstone to a
sandy conglomeratic limestone.

The majority of the granule and pebble
size material is subrounded
limestone fragments - Lt gy to dk gy,
f. gran to ds w/ some very
oolitic material. a few pebbles
of dk gy ds. chert is present.
This zone also contains a number
of coarse sand size to pebble
size dk gy subrounded shale
fragments.

The Qtz grains are F to C grained
w/ the majority of the grains being
M-C grained. The Qtz grains are
subangular to subrounded.

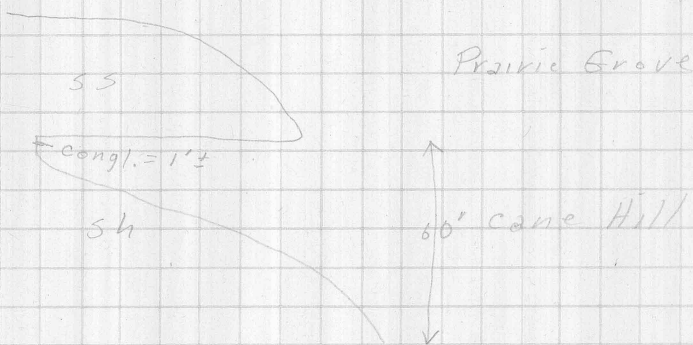
Fossils: Crinoid stem plate frags,
bryozoa & brach frags.

(cont)

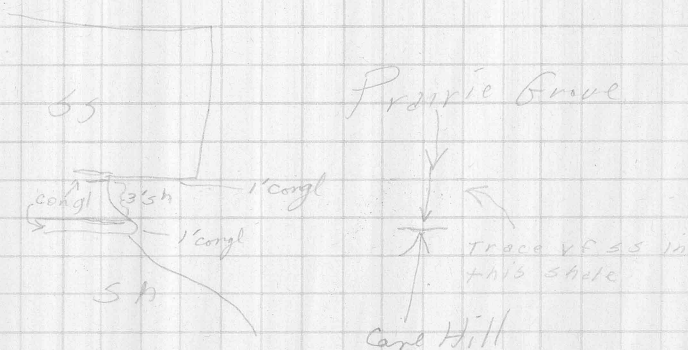
pyrite is present as rounded grains up to VC sand grain size. This pyrite is evidently material which replaced ~~material~~ other material.

G-1-54 March 18, 1954

Stream in NE $\frac{1}{4}$ sec 34, T14N, R18W



At Head of stream

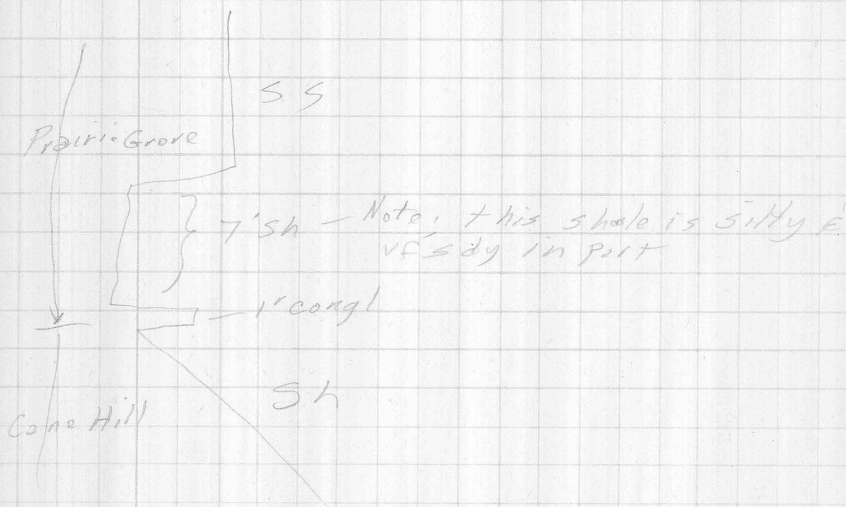


March 19, 1954

G-2-54

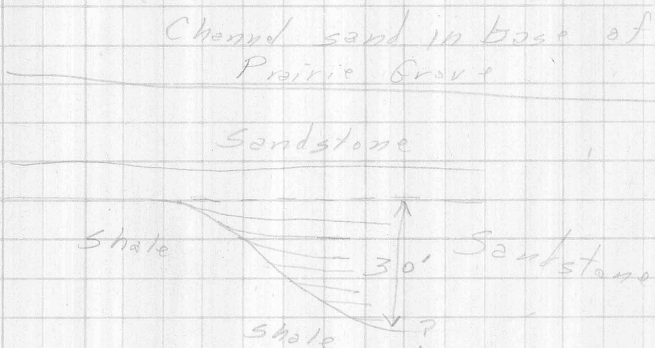
Center

W 1/2 Sec 27, T14N, R18W



March 19, 1954

G-3-54 West center Sec 33, T14N, R18W
where base of Prairie Grove crosses
road down mountain



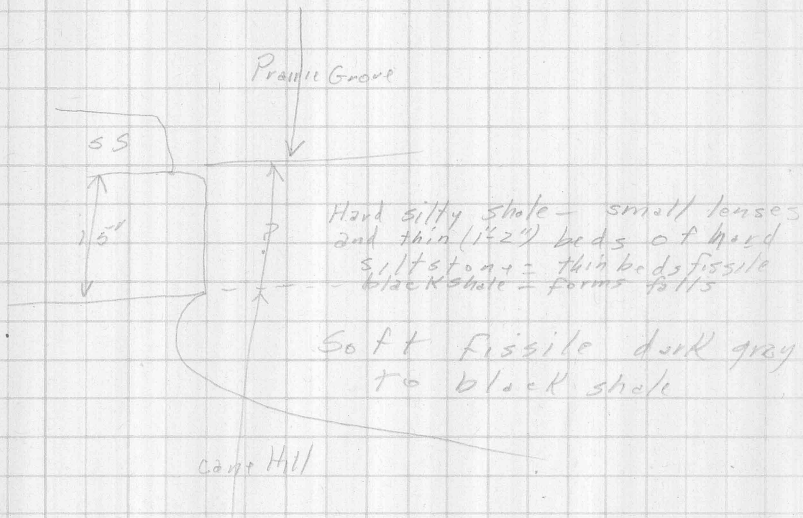
Another channel $\frac{1}{2}$ mile to SW in
Sec 5 -

Current ripple marks near here
are oriental E-W - source IV?
Ripple marks 7" across

March 20, 1954

T13N, R18W

Center NW $\frac{1}{4}$ sec 4 - in south
G-4-54 flowing tributary to Bobtail creek

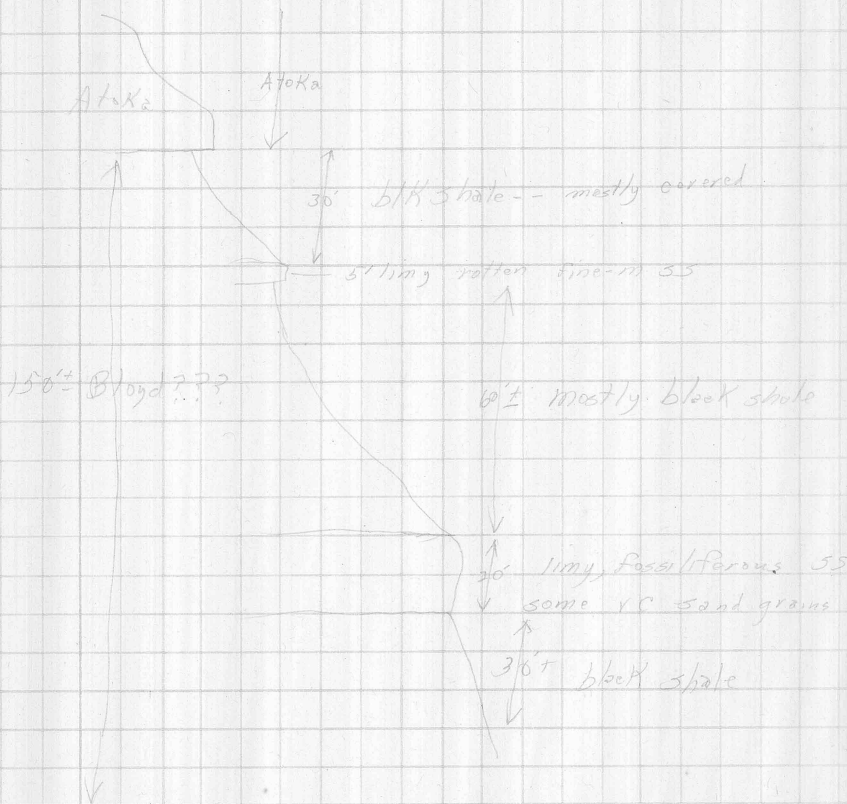


In sec 9 W. side Bobtail Creek
there is 4' hard siltstone above shale
no conglomerate below siltstone ???
but siltstone appears to truncate shale
below

100' around corner there is a 6" congl.
under siltstone - quartzite pebbles

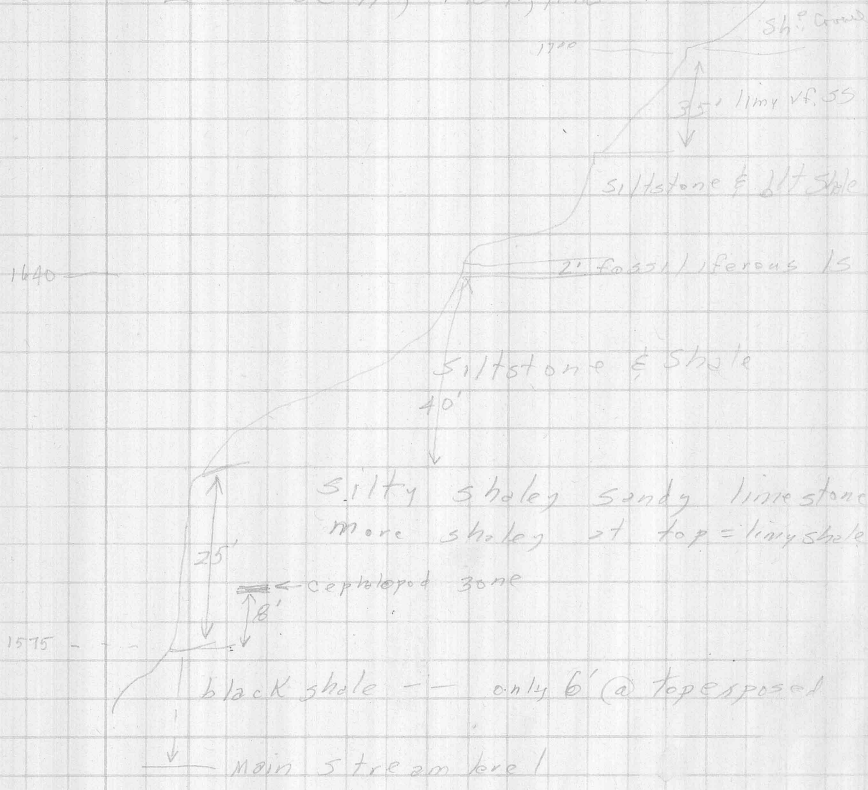
March 23, 1954

G-554 Sec 1 10N, 18W



G-6-54 E 1/2 Sec 11, T13N, R18W 1700

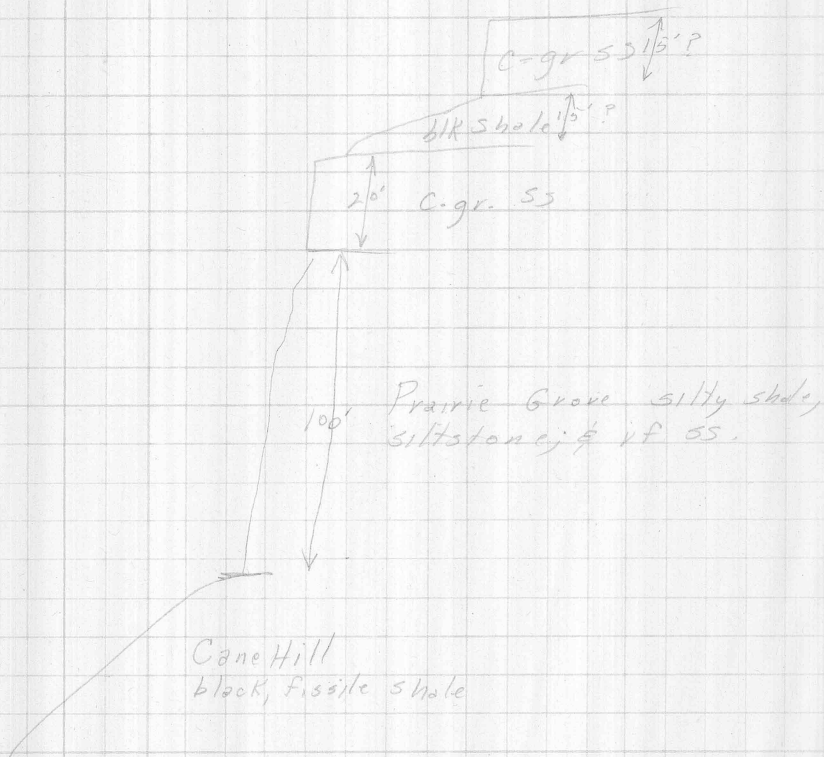
50' thick
Ajo
bed 25



March 28, 1954

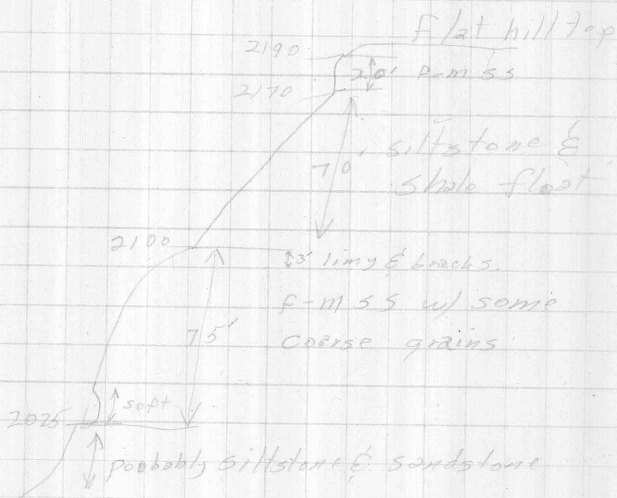
NW $\frac{1}{4}$, NW $\frac{1}{4}$ Sec 20 T13N, R18W

G-7-54

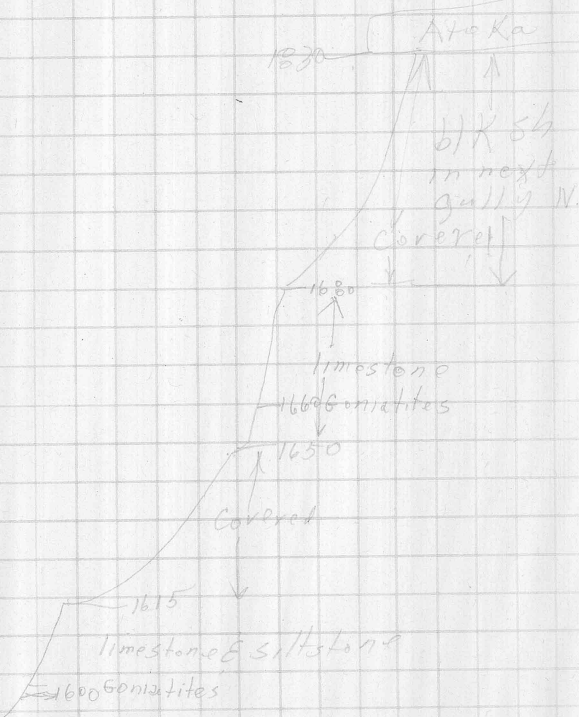


4-25-54

G-8-54 SW $\frac{1}{4}$ Sec 21 T14N, R19W
near border Mt Jude - Snowball



G-9-54 NW 1/4 NW 1/4 Sec 32 T 14N, R 17W

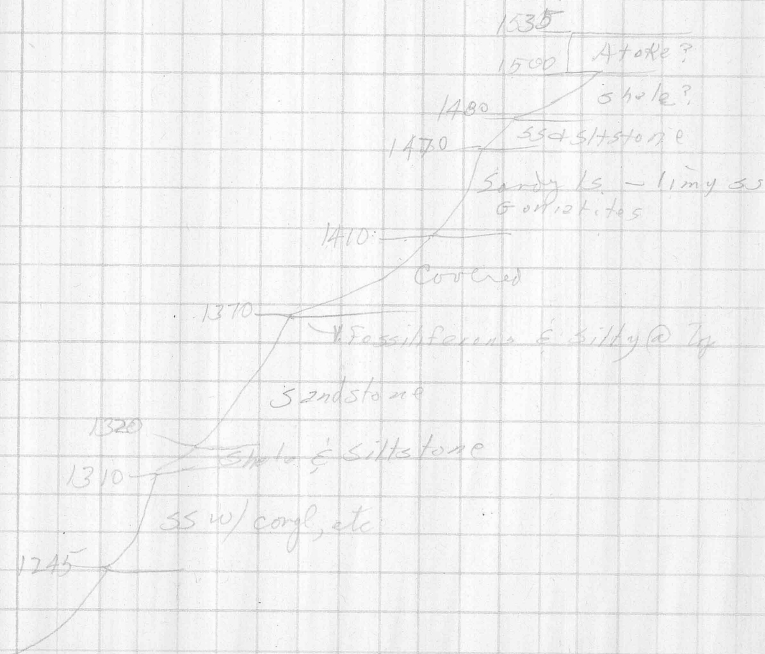


5-24-54

G-10

Sec 30 T13N R18W

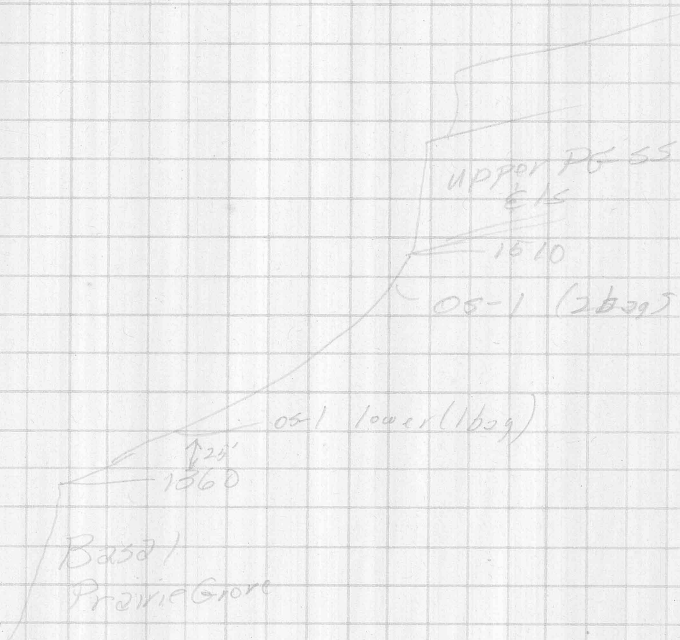
West Side Falling Water Creek



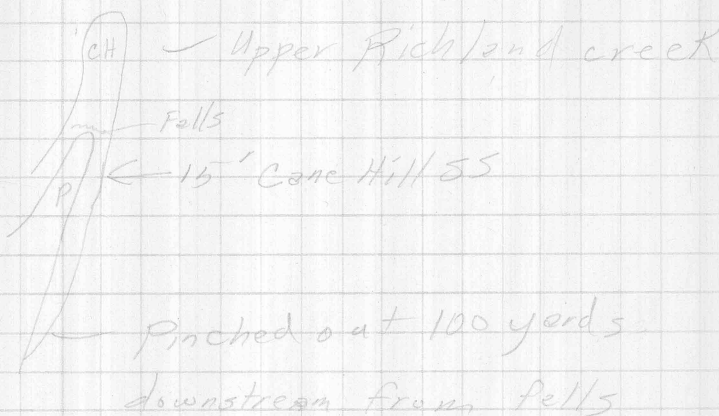
November 2, 1954

G-11-54

C W $\frac{1}{2}$ sec 12, T13N, R14W.



G-12-54



Pinchout is abrupt etend

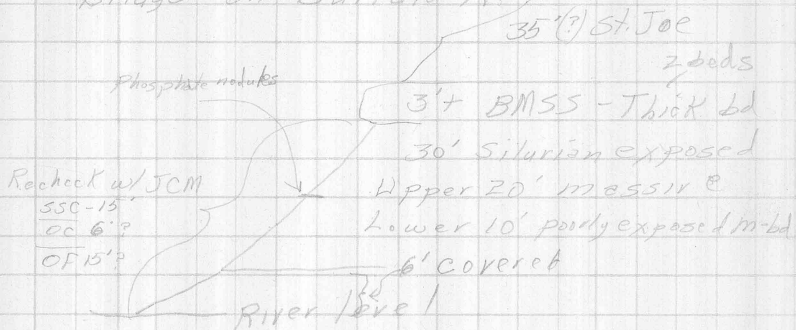


Nov. 5, 1954

G-13-54

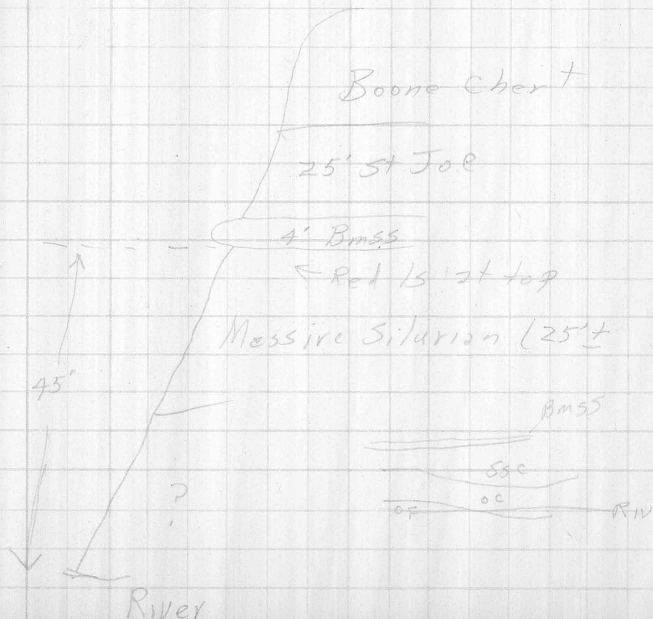
C-sec 35, T16N, R17W

Silurian outcrops above Highway
Bridge on Buffalo R.



G-14-54

SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec 35

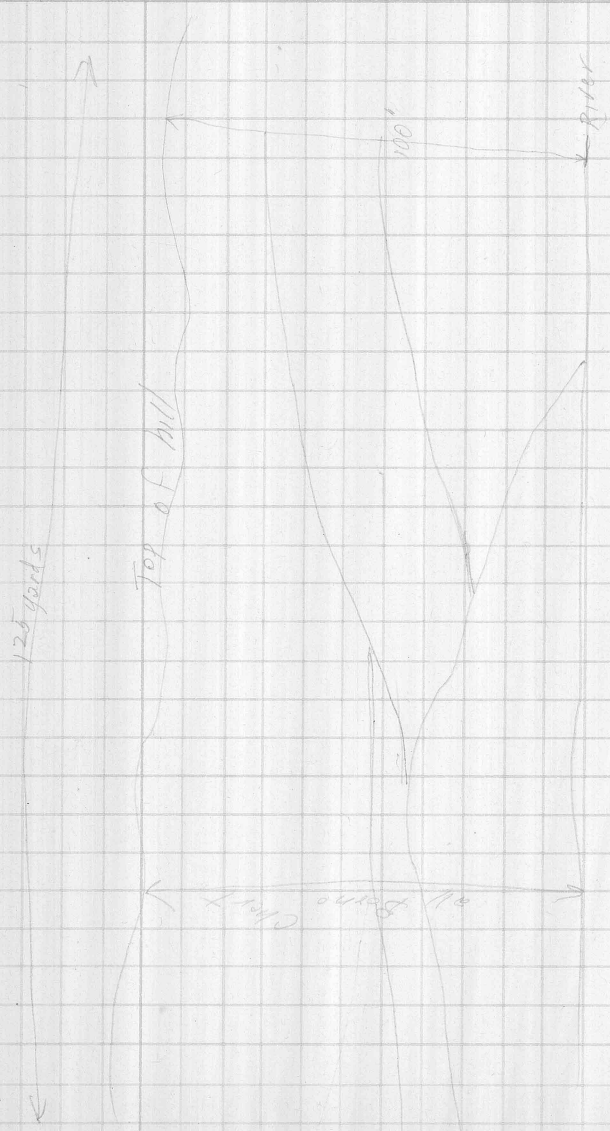


G-15-34 - @ 1070 in C sec 3 - Sulphur Springs Ho

20' f. grained ss forming cliff
@ base of Cone Hill: Medium to
thick-bedded.

along Buffalo River
C N $\frac{1}{2}$ sec 4, T15N, R17W 1-15-54

G-17



Solution (fractures?)
or low angle faults
give appearance of unconformities

Film pack #3

2-11-53

- ① F-16 - $\frac{1}{25}$ - ∞ Yellow filter
11:00 AM - Clear - very cold
North end of Rawlins Mt.
From top of Boone
Fayetteville meadow - slight
Pitkin cliff, Conc Hill slope, } Plate
Basal Atoka @ top. } not
pulled
- ② F-22 - $\frac{1}{25}$ - ∞ no filter
Same
- ③ F-22 - $\frac{1}{25}$ - ∞ no filter
Basal PG to Atoka on
Rawlins Mt. 12:30 pm.
bright sun
- ④ F-22 $\frac{1}{25}$ - ∞ no filter 2:15 pm
Boone: Boone cliff - SE $\frac{1}{4}$ sec 1, 13N18W
"White cliff"
- ⑤ F-16 - $\frac{1}{25}$ - ∞ filter
Same as #3 - downstream $\frac{1}{2}$ mi
- ⑥ F-22 - $\frac{1}{25}$ - ∞ no filter
Same W $\frac{1}{2}$ sec 7, T 15N, R 17W
- ⑥+7 Boone slope on Calf creek

Clear & Cold

2-12-53

8 F-16 - $\frac{1}{25}$ @ 23° no filter held in hand
upper BRM under Fayetteville
Cen sec 13, T14N, R18W.

9 4/10 - R. take of 1+2 -- 9 w/ filter

11 - NE Horn Mt. Boone - Atoka --
shows pitkin & Horn Mt 53
F-16 - $\frac{1}{25}$ - ∞ - Filter used

12 Basal PG -- opened camera
may be no good

Red # 4

1. $\frac{1}{25}$, F-16 - 100'

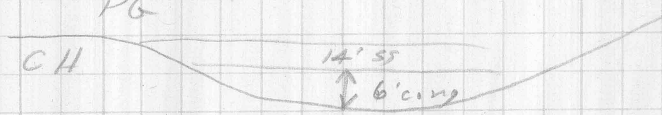
2. $\frac{1}{25}$ F-16 - 12' - Conglomerate
at base of pg in 20'± channel

PG

CH

14' 55"

6' cong



4 B. F-11-1/25 - ∞ cloudy
Boone, st. Joe, OF, OP on river

5 A F-11 - $\frac{1}{25}$ - 10' - Boone ls & ch.

6 B Same
2-14-54

7 B F-11 - $\frac{1}{25}$ - ∞ Bright, 9 am
Filter used - Boone to Atoka
on Horn Mt.

8-- Exerton to Boone
on Care Creek

9. F 5.6 - $\frac{1}{2}$ - 100' shade
soft middle OSP

April 30, 1956

2. Base Everton, top of Powell
Basal Everton Conglomerate 6" thick

F-8 - $\frac{1}{10}$ - 9'

3. Same

F-11 - $\frac{1}{10}$ - 9'

4. Everton - Powell contact along
Buffalo River 20' above water
level. That top is just
below 4" conglomerate

F-11 - $\frac{1}{25}$ - 15'

5. Same - F-16 - $\frac{1}{10}$ - 15'

6. Everton cliff on N side Buffalo

F-16 - $\frac{1}{25}$ - ∞

7. Same

F-11 - $\frac{1}{25}$ - ∞

#1

1/50 F-16 - ∞ Rollins mountain -
Standing on Boona west of Snowbell
looking W. first meadow is
Fayetteville. Time 9:30 am

#2

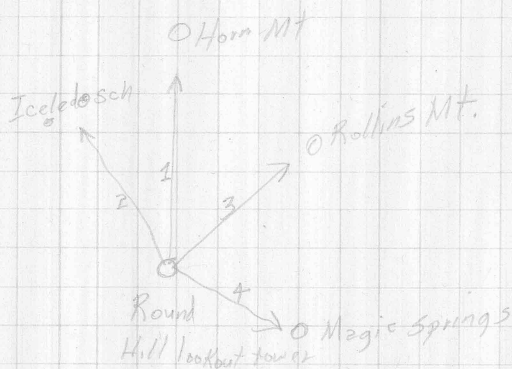
1/50 F-22 - ∞ same

#3,4,5,6

1/50 - ∞

(3A) F-22

(5,6) F-16



Roll 2,

1. F-16-100

2,3,4 F-11-∞

All. in G. S. border Sec 33, T16N, R17W
Terrace 31 feet above river
level. Boone chert in river

3, 6 F-11 ∞

Boone - chert

W¹/₂ sec 33, T16N, R17W

St Joe 10'

CHSS 4'

SSC 30' to river

7. Upper Richland creek
Prairie Grove basal conglomerate
from top of bluff

8 Basal prairie Grove and CHSS
in Upper Richland Creek

9. Prairie Grove conglomerate
in Upper Richland Creek (close up)

10 EM McElroy Sr & dogs

11 - Cane Hill - Pitkin contact in
Sulphur Springs Hollow
F-11 - 1/25 (in shade)

Roll # 1-54

- (1) $\frac{1}{50}$ 4 ∞ } Horn Mountain SS - in Turnpike Hollow
(2) $\frac{1}{50}$ 5.6 ∞ } Shoff from across Richland creek
(3) $\frac{1}{50}$ 5.6 ∞ Horn Mountain SS & Pitkin across
Richland Creek in sec 29
- (4) $\frac{1}{50}$ 3.5 ∞ } Contact at CH & PG
(5) $\frac{1}{50}$ 3.5 50' } SW $\frac{1}{4}$ sec 10 - Bobtail Creek Trib
- (6) $\frac{1}{50}$ 3.5 ∞ Stack Rock -- looking SW

(7-12) Woody in trouble

- (13) $\frac{1}{50}$ 3.5 ∞ PG/CH contact - in shade
(14) $\frac{1}{50}$ 3.5 15' same
- (15) $\frac{1}{50}$ 3.5 75 Same in sec 8, T13N, R18W
(16) $\frac{1}{50}$ 5.6 75
- (17) $\frac{1}{50}$ 5.6 ∞ Silty lower PG & CH at base
sec 17, T13N, R18W
- (18) $\frac{1}{50}$ 5.6 ∞ NW $\frac{1}{4}$ sec 20 T13N, R18W - 100' PG
(19) $\frac{1}{50}$ 6.3 ∞ below HM SS. CH at base
- (20) $\frac{1}{50}$ 6.3 ∞ Falls over basal PG - Pine Hollow sect
T13N, R18W
- (21 & 22) $\frac{1}{50}$ 6.3 ∞ Junction of shales sec 1, T13N, R18W
Pitkin below & PG above

March 17

- @ 11:00 Set back 15' for rise 10:30-11:00
- @ 12:15 50' High
- @ 1:00 40' High

March 18

8:00-8:40 45' High

9:30-11:00 15' High

11:00-11:30 25' High

12:00 10' High

1:00 30' High

+

11:30-1:15 30' High

1:15-2:00 25' High

March 19

@ 10:00 30' low

@ 10:45 10' low

11:15 10' low

} 30' High @ return to cor 11:15

3:00-5:00 50' low

March 20

86' low @ creek 9:45