

1908 E. 1909



Monona co. - Whitney

Smithland

Harrison co. - Persimmon Valley

Delwien

Omaha (Gilder)

Monona co. - Whitney <sup>11/2/1908</sup>

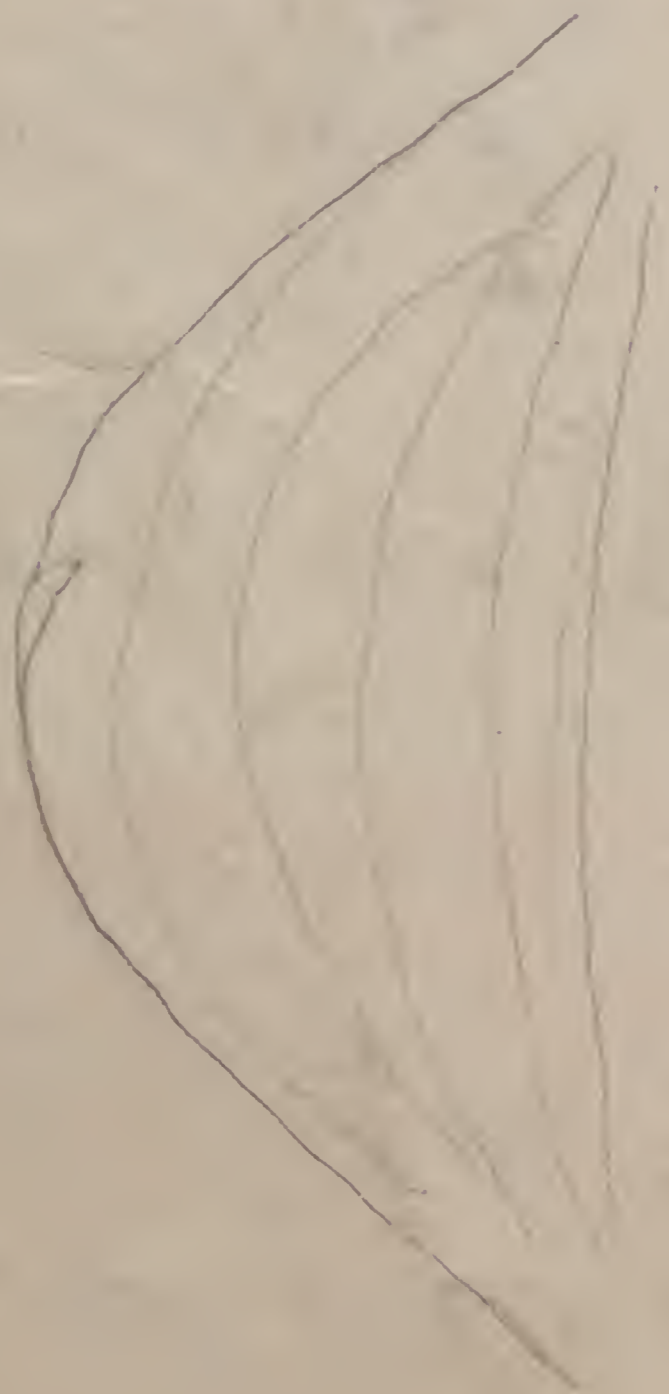
Smithland) <sup>sub. 30-1908</sup>

Harrison co. - Persimmon <sup>Jan. 4-1909</sup>

Omaha (Gilder) <sup>4/1909</sup>

Delwien 4/1909

811 Thin str.  
Dr. V. L. Fryer.



1  
Nov. 21, 1908

cut 7 is  $\frac{1}{2}$  way up to top of  
ridge & show red joint in  
loam

low joint in  
Kanan drift shown in some  
section of road.

Photos 9-10  
Looking E. down the  
Tom King hollow

cut 5 is deep without showing  
a compact layer.

Saw red joint layer in road  
just above (see) of the joint!

cut to show lower cut  
 150' of clay & 10-12 ft deep  
 showing loess. Right  
 in that way. Few fossils  
 of few round nodules.  
 See sample of loess  
 taken 7 ft from top

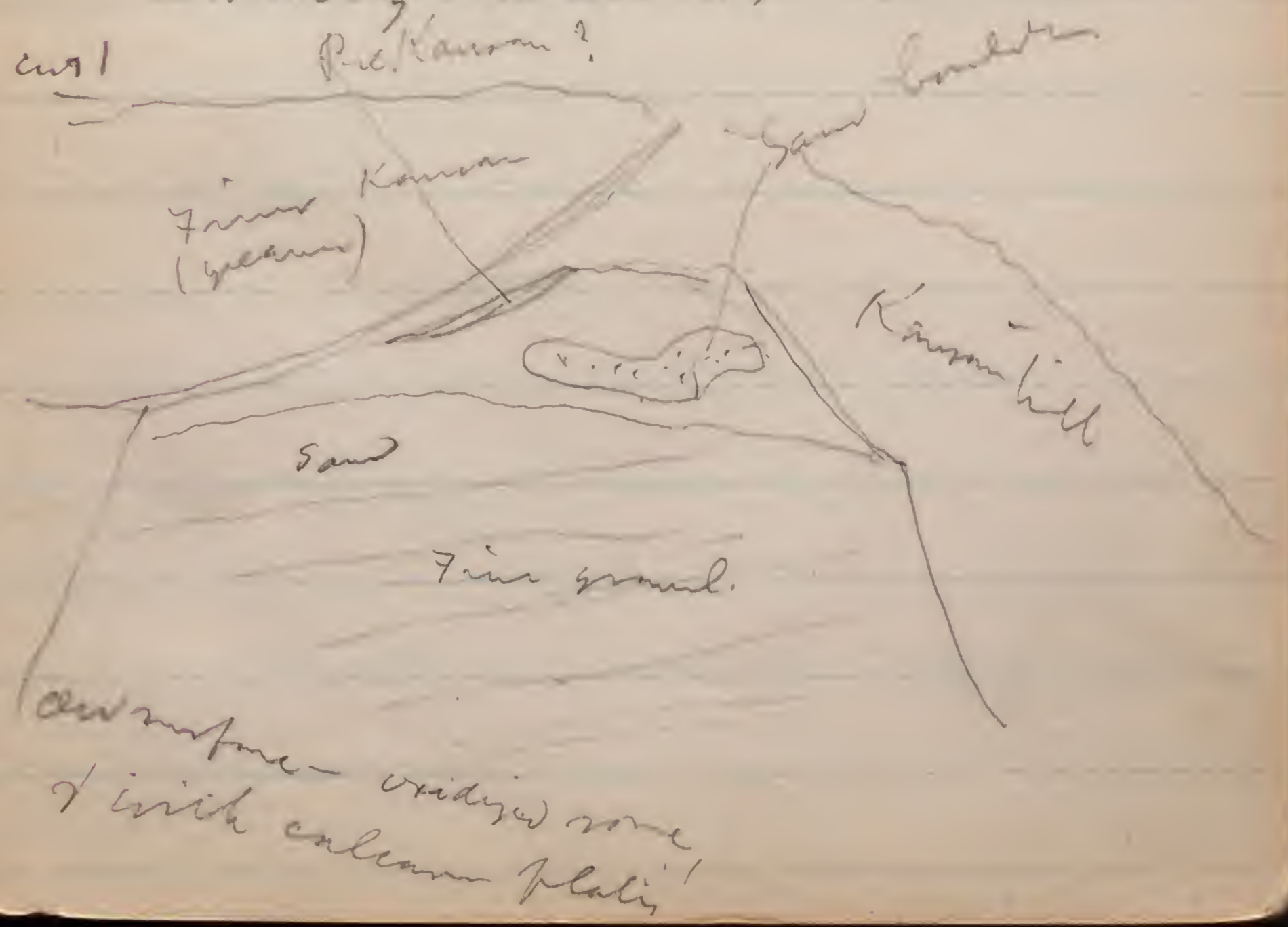
SW.

W.M. 90P

At N. just ~~SW~~ of Wilson was  
 (1/2 mi.) in a cut showing  
 about 18 ft. of red joint clay  
 (up the bank), only 6 ft. really  
 exposed. At foot of it was  
 saw stones

Nov 22, 1908

The <sup>(1)</sup> ~~shaly~~ pit at 35 ft. above  
 road here about = to (bottom) shows  
 about 2 ft. of cross-bedded sand  
 with Kansan above. Not much disturbed  
 at 45 ft. (up to 45 ft.) at a  
 point a little N.W. about 4 ft  
 of tilted ~~cross-bedded~~ fine sand  
 + sand appears, with Kansan  
 distinctly above it.



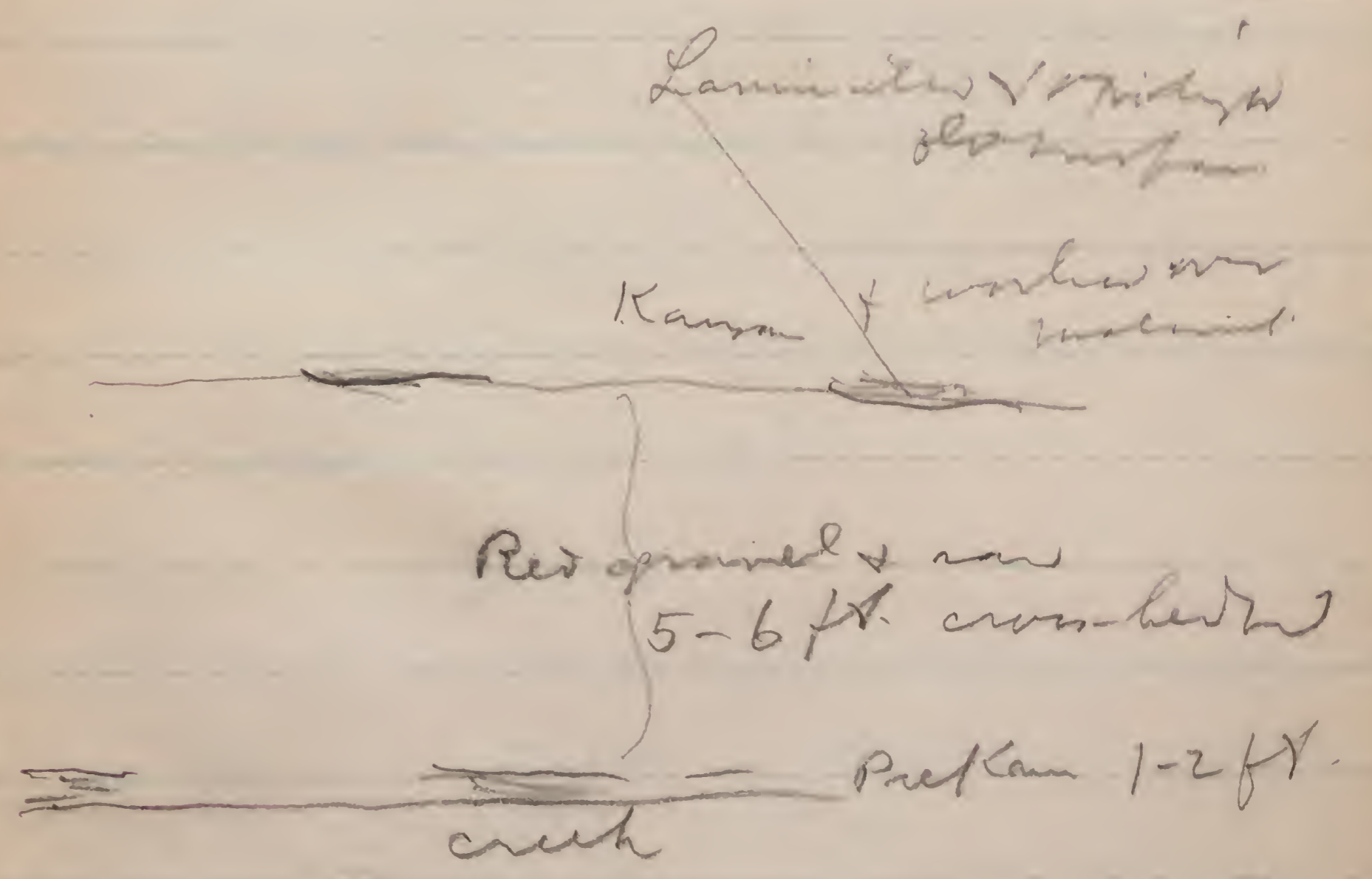
This is evidently Tuller's &  
 flower.  
 a ~~small pocket~~ <sup>large</sup> pocket of sand above  
 a few ft. above this up the  
 gully - probably 5 ft above top  
 of the main exp. It is cross bedded,  
 fine sand & fine gravel interbed,  
 & shows old surface above, with  
 Kansan over it.

Woodward Glen trees:

- |                       |                               |
|-----------------------|-------------------------------|
| Mammaw                | <i>cornus paniculata</i>      |
| Celtis                | <i>Symphoricarpos</i> (white) |
| elm                   | <i>fulva</i>                  |
| Walnut                | <i>Rubus occidentalis</i>     |
| Pitch pine            | <i>Vitis</i> sp.              |
| Birch                 | <i>Salix</i>                  |
| Aspen                 | <i>S. sp. Maple</i>           |
| Juniper               | <i>Celastrus</i>              |
| <i>Sambucus nigra</i> | <i>Erigeron</i>               |
| <i>Ribes</i> sp.      | <i>Crataegus</i> sp.          |

Photos 31 & 32 looking up  
 Woodward Glen

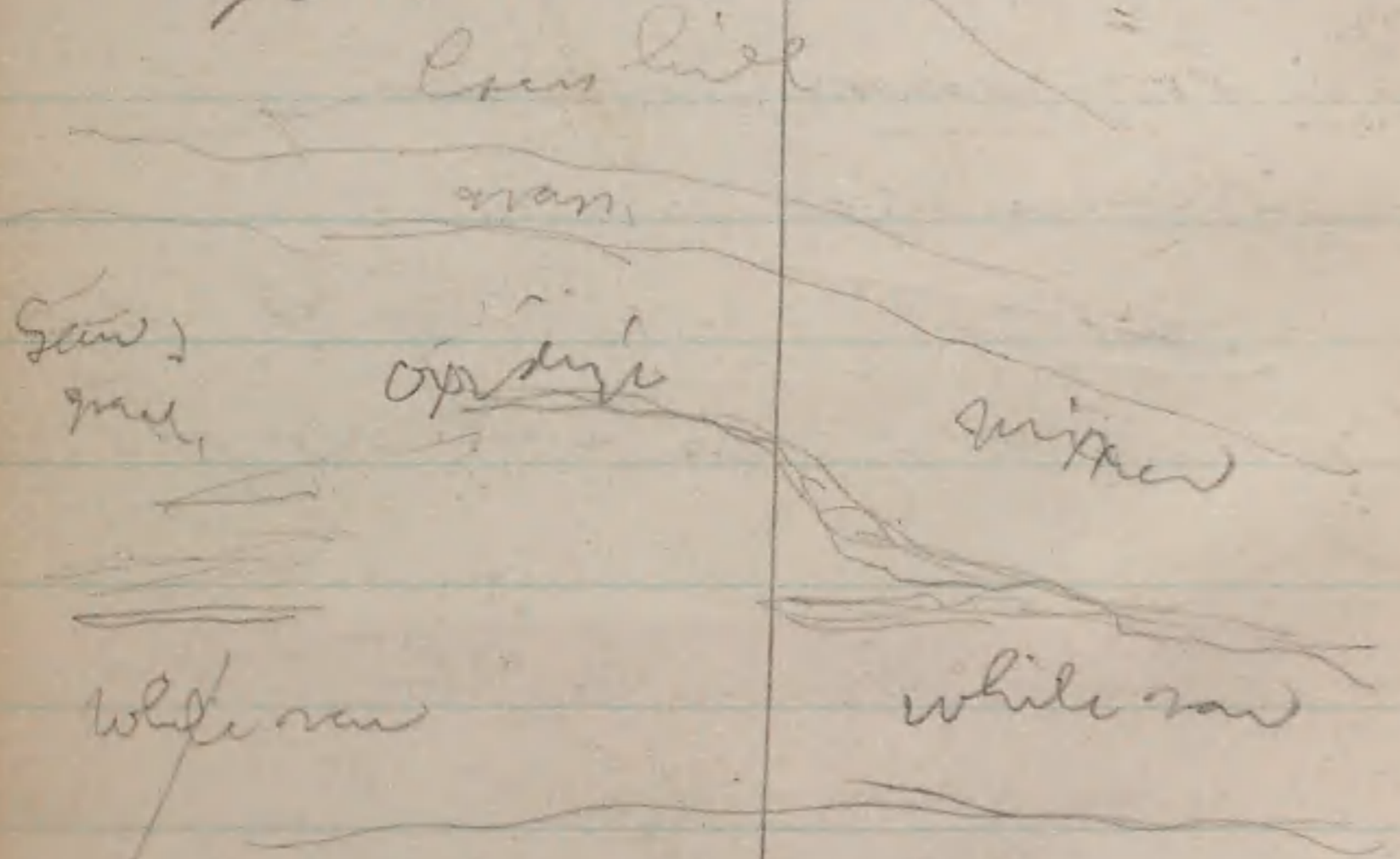
Up the East fork of Woodward  
 Glen. from N.W. side, a high  
 bank about 25 ft high  
 cut 2



The pre-K. is very typical & here  
 jointed, though wet.

No. 3 is the old Woodman pit  
this is near road & low.

The new Woodman pit (no. 4)  
shows about 3 ft of fine white  
sand, & above it irregularly  
about 8 ft of sand &  
gravel -



quartz (see box)  
The white sand contains a  
mud ball (like Coxi)  
It is mostly afternoon

its base is about 5 ft above  
road & probably 20 above bottom  
Some of the upper layers of  
sand & gravel are vestige in  
strata & lower.

At Smithland visits  
A. M. Furman pit.

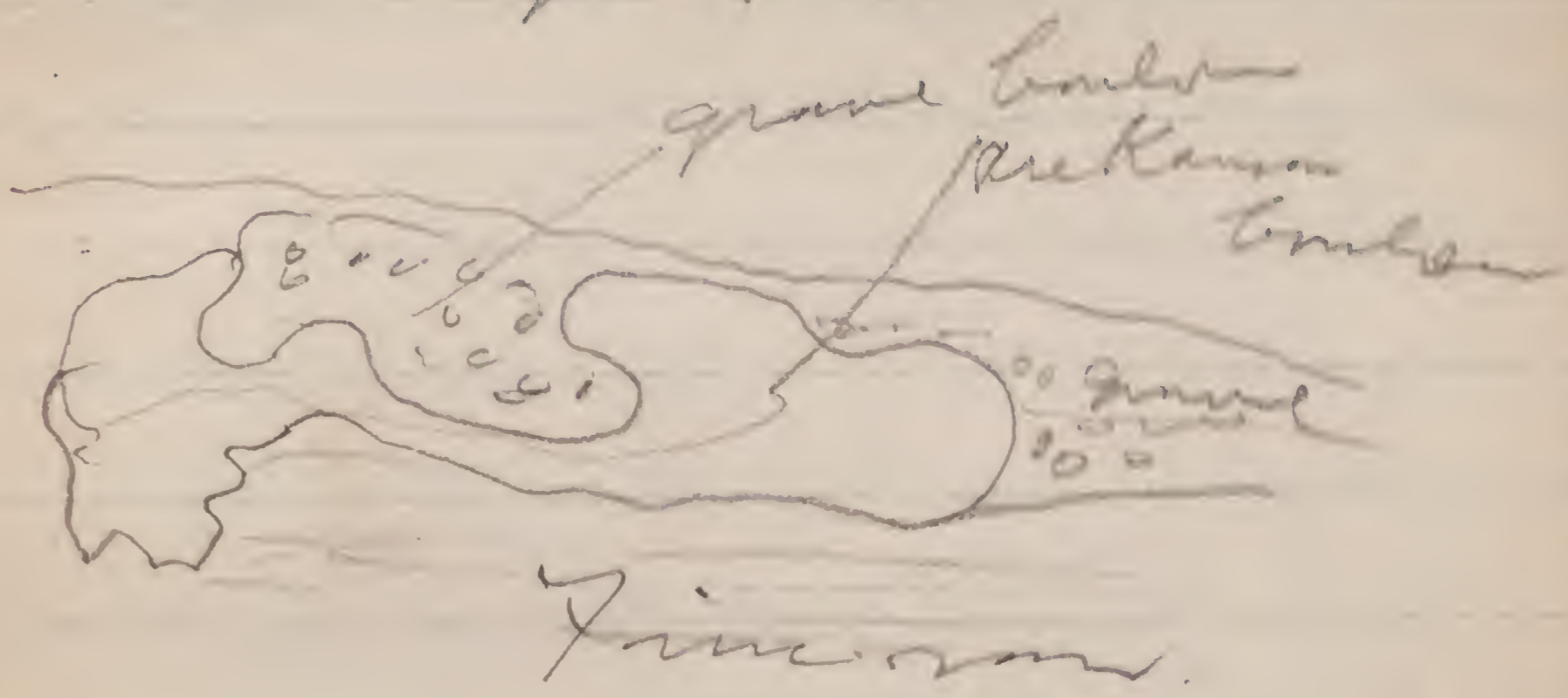
(Tooth came from near Authon  
in road cut - about 4 ft.)

In N.E. part of Smithland just  
N of road. The top of pit is  
65 feet above bottom &

the sand is probably (says  
Mr. T) is at least 30 ft deep.

Found fine sand (white)  
Road = 45 ft below top of gravel  
& bottom 65 ft.

E. end pit



this pit was there last year.

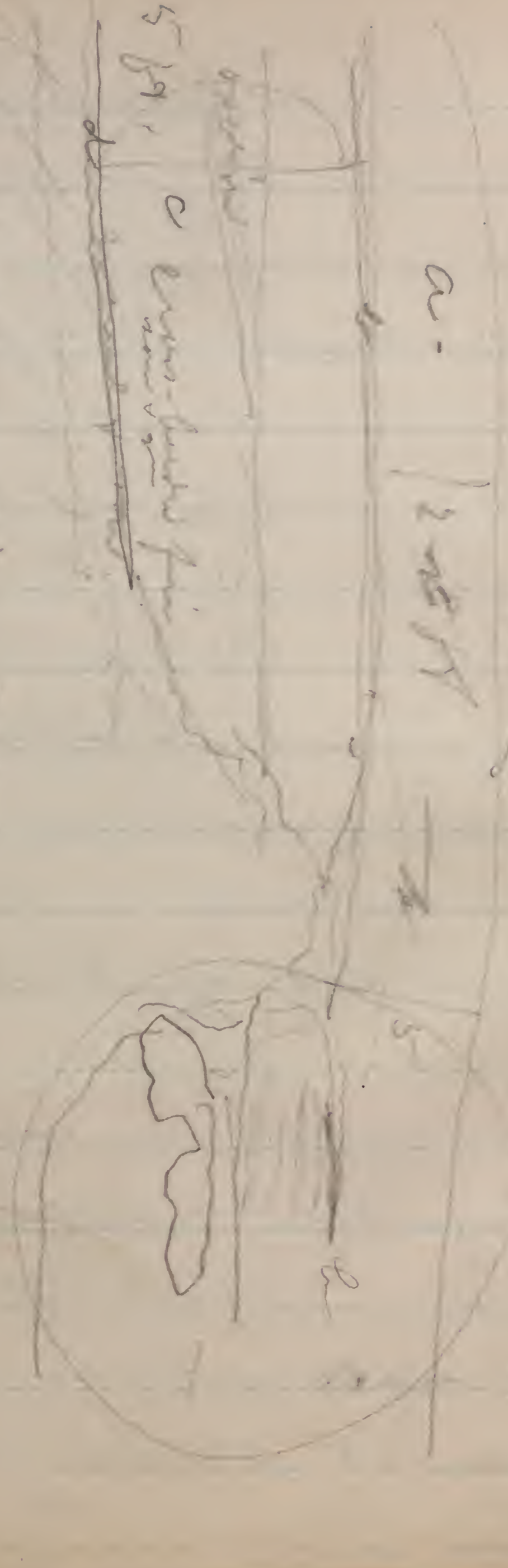
Dr. Rice says there is stratified gravel near the old mill (in South part of town) but now covered,

The material in the pit is of the usual Aftonian type. Toward E. some black

Work photos 9+10

Gravel layers

a. 12-15 ft



see sketch page

5 ft, c even-banded fine gravel

a = Kanran side - typical

b = lime plaster - 1000 m. above

c = plaster & is even-banded fine gravel typical of type.

d = lower Pre-Kanran terrace up on it follows from the main wall (see sketch)

sand & gravel, also oxidized  
bands, alternately fine  
gravel lines & sand wedges,  
sand balls, ~~off~~ white  
nodules, and all.  
Toward E. side there is more  
flowing & irregularity.

Murman found what he  
thought might be piece  
of (elephant) tusk.

Drove down E. side of Little  
Sioux.

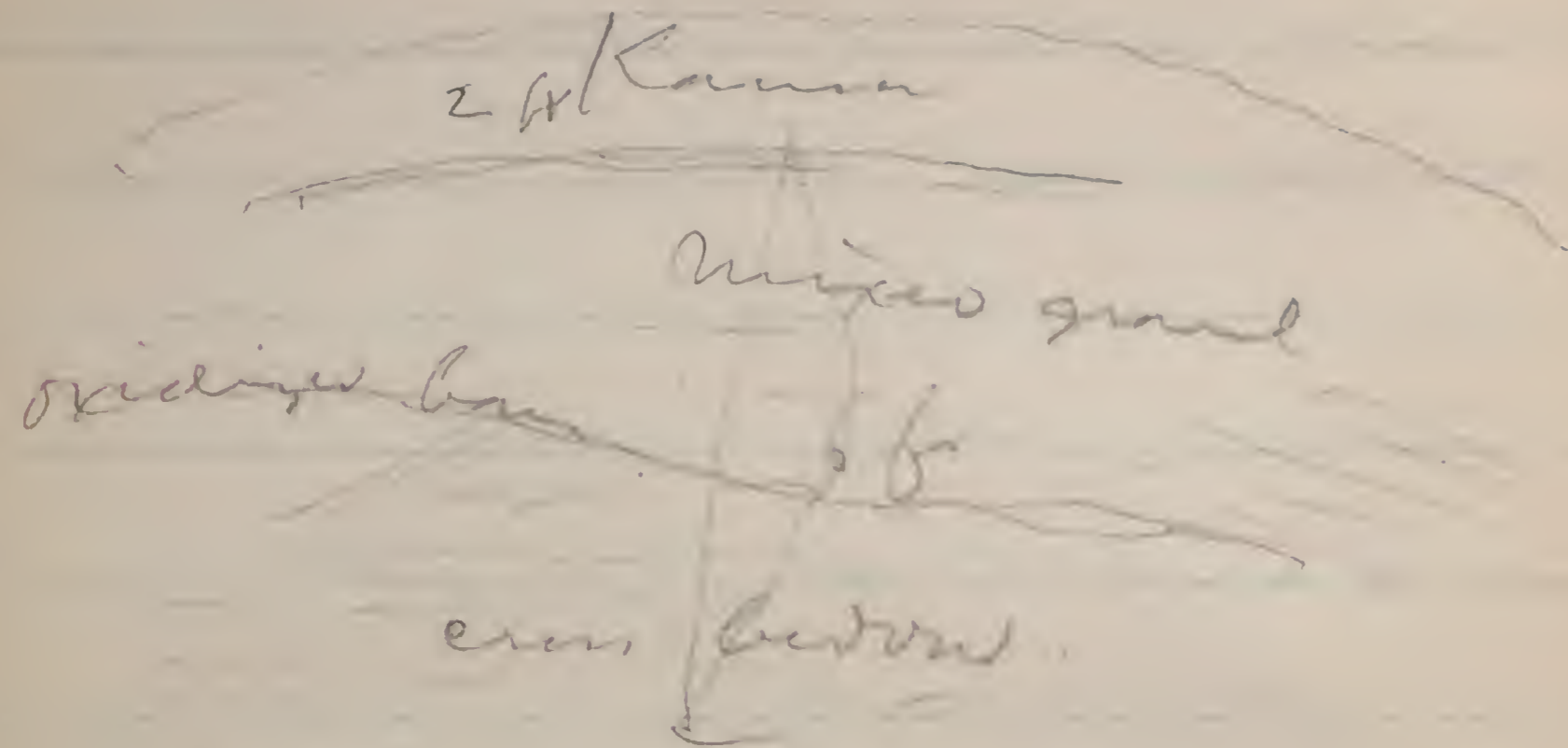
At Stone house  
saw pit (5), it shows  
about 6 ft. of red  
cross-bedded gravel (all  
fine) with some sand.  
It seems to show a little

till to S.

It is capped with Kansan,  
but old contact line is  
not so well marked here,  
though outcropping plates of  
lime suggest that it is  
merely overwashed at top  
& dug in & found this to be the  
case. There are lime plates  
between Kansan & Aftonian.  
The hill sides here on W.  
side of creek-gully are  
strewn with Kansan boulders  
(small) & gravel up to a  
great many feet above  
gravel pit.  
The surface is covered  
Kansan except as very  
top where from about



shrub,



The upper part was probably flowered.

This is Aldrich & Young pit.

- on the Kaum surface I saw:
- Dioscorea
- Benthamia racemosa
- Galatella hali
- Kuhnia
- Mullein
- Symphoricarpos (white)
- Verbena stricta
- Geptilium complanatum
- (badly pastured)
- Cinnamomum dissectum



SW<sup>1</sup>/<sub>4</sub>-27-85-44

No. 6 is a small but heavy  
lime plate between  
Kansas & Astoria stages.  
3 ft of same & 2 ft of  
Kansas

Just above same - 15 ft  
above bottom

(Located Wernyan pit on  
map) Same height  
as others.)

The point of bluffs reaching  
W. is rugged & the northwesterly  
slope (which we could well  
see) are mostly forested.  
On the curve there is  
protection.

Holmes says that Wernyan  
pit has much sand &  
some gravel. It is situated

on bench about same as  
the other.  
Mr. Storre (at Stone bridge)  
says Wernyan really has  
two pits.

Is it not a fact that all the  
bones & teeth are in deposits  
along tributaries and that  
none occur along main stream?  
(no)

Nov. 28-1908

made trip to Woodbine  
& up the willow. Look  
up notes,

Dec. 17- (Wed.)

Left Iowa City for Omaha  
at 12.45 AM. Reached  
Omaha at 9 AM (late)

Dec 18 - 1908

Left Chuffs at 7<sup>50</sup> AM  
& went to Mos. Valley.

Drove to Cox's & got 3  
horse teeth.

Interviewed Mr. C. H. Dues.

In 1897 he planted 1000 apple trees  
Jonathan, Winesap, N.W.,  
greenings, Grimes<sup>3</sup> Golden  
Ben Davis<sup>2</sup>. He values  
1, 2, 3 best in that order.

In 1898 he planted 4000 trees

" 1899 - " " 900 " (at N. end)

At N. end, 18 A., 1400 trees, Ben Davis<sup>2/3</sup>  
& Jennetts<sup>1/3</sup>, also 500 "Champion"  
peach-trees (which he will  
destroy - too uncertain)

Total 60 A. of trees

On low ground he raises practically

nothing, except 2 years ago.  
Variety has nothing to do with it.  
So far as flowers go N & S. sides are  
practically same, but fruit colors  
better on S. side. Bush rougher  
on S. side & growth of wood & twigs is  
better on N. slopes.  
Last year Jonathan's failed because  
too dry in August.

Thinks commercial orchard pays here  
if cases few.

also has 1000 concord grapes planted  
4 yrs ago. A year ago crop brought \$400,  
last year \$80. On S.W. slopes. Set  
out 600 more last year.

Lot 16 + part of NW 1/4 S.E. 1/4 sec. 1-78-44

W. A. Fouts - 2 mi. N. of Mos. Valley  
(N. of John Cox). Succeeded with  
fruit & vegetables. 40 acres of land,  
about 15-18 in trees. Mostly apples -  
Ben Davis, Jonathan, Wealthy. also  
about 1 A. of cherries

abe L. Haight - 20 A. S. of St. Johns. <sup>above</sup> <sub>not cared for.</sub>

W. T. Worth - E. of Wondaminia "in hills"  
mostly younger than Dues's. Replan<sup>7</sup> 1/2 E. 1/2 NW 1/4 26  
50-60 A. NW 1/4 & SW 1/4 NE 1/4 23-80-44  
A. S. Worth - S.E. 1/4 NW 1/4 80 A. Raise many trees. So wells

4000 + 2000 from Dues

22 The wattle's first green small fruit,  
Raspberries heard about trees.

Left for Logan at 1 P.M.  
Found blue loam at Logan 1  
block W & 1/2 blk. N. of  
depot (C&N) in row.  
glauw iron tubes

I drove S. & across valley at  
Oston's siding & up the valley  
on W. side, to map terraces.  
The big Logan <sup>bench</sup> terrace (E. side)  
is broken & irregular toward  
S. end, & also fades out  
westward, as if eroded.  
also map low terraces on  
W. side of river, yellow  
loam everywhere covers  
these terraces.

23

I returned to Logan at 4:45 P.M.  
& went to look up well-  
diggers, David Leyesham  
and Lowery Moreland, but  
found neither at home.

Left Logan at 5:58 P.M. for  
Woodbine. Put up at  
Hotel, phoned to  
Kinney - not at home,  
Searched names of Theodore  
Warren and Ed. Hoelton  
at Woodbine, - well-diggers.  
Interviewed Mr. Theodore  
Warren as follows.

Mr. Theodore Warren, Woodbine.

This is usual section on terrace.  
ordinary section for wells.

yellow clay

25-40

Blue-gray clay 4-10.

no sand or pebbles.

Blue sand, very fine sand (too fine for 60 ft.)

blue gray, 3-6 ft.

coarser rusty sand. - probably 8-12 ft. (or more)

sometimes strike hardpan

sometimes rusty, or blue-black

strike

usually stop in sand.

Run from 45 to 75 ft.

to get water.

In south part the sand layer is thinner & coarse gravel at bottom.

Mr. Warren says that rock was obtained from bed. or river about 4 or 5 miles (near old poor farm). Used to burn lime.

Well near Willett's ending off the bottom on bench

Hard rock - limestone (bluish rock at base)

This was a dug well 70 ft. deep. & Mrs. W. drove 35 ft.

Along RR. in Woodbine he strikes rock (limestone) - usually about 28-30 ft. in place.

This is all on flat.

In S. part of town he strikes

boulders - yellow clay  
blue sand  
fine sand  
Boulders in joint clay.  
this is just off bottom (low town).

This side of graveyard strike  
water (in sand) - 60-80 ft.

Beyond graveyard strike  
bank at 90 ft. (brown)

On E. side of river there  
is no blue <sup>gray</sup> clay (& up toward  
Dundlap on E. hills) & water  
does not rise.

On Woodbine <sup>bench</sup> terrace water  
always rises as soon as  
boiling is made through blue  
gray clay.

In hills on W. side

yellow clay - ??

gray clay (lighter than on  
terrace) -

Limey rock - (evidently  
Kansan) -

This gets lower & lower -  
& then comes rock.

Dec. 19, 1908 (Saturday)

Starts N. on N. side of valley  
Hills low & rounded on both

sides.

see 1/4-81-41

At I. - Kansan bluff appears on  
lower slope, with blue loess over  
it, a little higher up this is  
cut 6+ ft. & shows 5 ft. or more  
of blue loess with many iron tubes  
& above it 1 1/2 - 2 ft. of nodular  
yellow loess.

(See samples.)

Some rounded nodules below.

Above a few fossils.

Gullies of crabs all deep

Took one photos N. 2 hrs

see 17-81-41

n. side sec. 9-81-41

Cut II is at edge of bench &  
is about 12 ft deep.

Upper part is light yellow loess  
& this gets a little heavier, with  
no streaks, & laminated below.  
a few round nodules.

See fossils & samples of yellow loess

n. side of sec. 5-80-41

Cut III is in yellow loess (see  
samples) with few round nodules.  
12-15 ft deep.

Fossils.

This is also at edge of bench.  
Probably not, but it is not much  
higher than terrace. It is a narrow  
ridge, cut N. & S. by road, & a cut  
going East.

Cut IV is at edge of terrace - 7 ft deep  
few round nodules, nodular layer

above. Shells. (see sample & shells)  
E. side (1/2 mile) sec. 6-80-41.



The terrace from cut <sup>IV</sup>(4) to creek is fine, nearly flat, & there has evidently been much cutting done by the Pisayune creeks. The bluffs between the creeks are indistinct, & the terrace not sharp, both evidently landing.

Much of the bottomland on E. side from Dunlap south slopes up gradually to foot of hills, so that very much of this is evidently tillable, & is now in corn, etc.

All the terraces have fine farming surfaces.

Reached Woodbine at 12:30 PM, took dinner, & left at 1:40 PM for Orulha, (45 min. later)

The terrace opposite Dunlap (cut II) is about 45 ft. above valley. That on which Dunlap stands is cut by creek & is irregular, but business part of town is about 40 ft. above valley & <sup>other</sup> some parts probably 50 ft.

The terrace opposite & above Woodbine seems to be about 35 or 40 ft.

~~Was the trip up Soldier  
 & to Bigler's grave  
 (from Woodburn) made  
 on Dec. 19, ? -  
 also to Woodburn gravel  
 pit.~~

see shells, etc.

Nov. 28.

Left Iowa City at 9:30 P.M.  
 Dec. 30, 1908

Cedar Rapids for Oquaw  
 at 1 A.M.

Dec. 31, 1908 (Thurs.)

Reached Oquaw at 11 A.M. about  
 2 1/2 hours late.

Left for Canton at 12 noon  
 (about 30 min. late)

Mr. G.M. Day.

Belvidere (lunch)

well 120 ft deep - probably  
 sand & gravel.

Saint Lucy - well tigger.

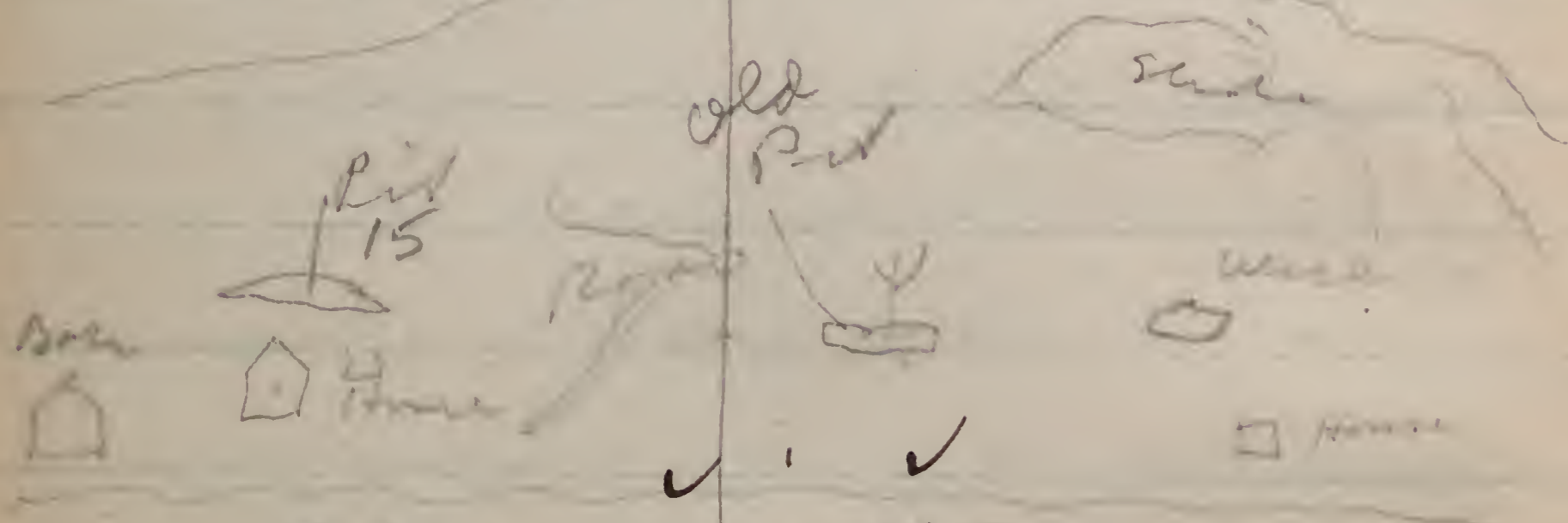
Combs Keairns - the man who dug  
 the well at pit.

(The bone - Mr. Day's came from  
 upper pit, nearer well.)

this is pit described  
by Day.

The pit about a mile below  
Mapleton is just S. of RR. bridge  
on E. side, in bend of river,  
See Vincent C.E. at Quawwa  
1

~~John S. Ogdenway~~ (all)



Photos 17 & 18

SW NW all 13 NE corner

The road is on bottom (15 ft  
above bridge) + the top of  
quartz is 40 ft above river.  
The other pit is about same  
of width as only a little higher.

The *Strophomena* are up at least  
15 ft. above top of gravel.  
The gravel is red, orange &  
brown, seems to be nearly  
horizontal in surface.  
This red gravel layer is  
shown at N. end of *Strophomena*  
along 2 or more rods.

Several large boulders - one  
granite  $4\frac{1}{2}$  ft  $\times$   $2\frac{1}{2}$   $\times$   $1\frac{1}{2}$   
a fine  $2\frac{1}{2}$   $\times$   $1\frac{1}{2}$ .

still *Strophomena* visible.  
These seem to lie just  
on gravel, - at least that  
is true of the big granite block.  
A blue block  $3\frac{1}{2}$  ft  $\times$  2 ft in  
blow on surface. So is big  
granite - its lower face

At S. end the the gravel  
 also shows. It has cemented  
 plates above & coarse material  
 almost gone below in upper  
 part. Coarser & finer below.  
 Much streaks also in  
 upper & part in plates (MnO<sub>2</sub>)  
 Above this is but 18 ft  
 of blue clay & then at  
 least 5 or 6 ft of red joint  
 clay, with small tubercles  
 in lower part.

All this is at S. end.  
 The fine sand from which  
 I got shells is above  
 gravel.

There is fine sand running up out  
 least 5-6 ft. & meets horizon  
 by an irregular line, looks as if

sharp - old surface  
 took shells. The base of  
 clam fine fine gravel, rest  
 from fine sand.

At N. end the gravel is only  
 about 3 ft. deep & under it  
 is a red sand, very fine  
 in the gravel (were  
 numerous large clams &  
 Sphaerium entire  
 (see pit 15, N. end)

The well is 55 ft. above road.

Took sample of sub-terrace  
 from well (which I called

16 - really not that, but 16 is  
 photo 11 & 12 Looking S. across  
 terrace.

The terrace is 85 ft above  
 road.

The road is nearly on level with banks of river.

The flat just near depot is about 5 ft. lower than banks of river.

The RR is about 6 or 7 ft higher than flat.

The cross-street opposite bank is 65 ft. above flat (60 ft above RR) and the terrace above, towards Days, is about 85 ft.

They strike gravel everywhere on the Cantain terrace.

Mr. Day speaks of Belvidere terrace S. of Cantain, - where Belvidere stood.

Mr. Day's house is 140 ft from flat.

(Saw Mr. Day some of the bluff photos - prints)

Mr. Zary

On Belvidere bench (The More)

38 ft. deep this is gravel, Mr. Rex Bisbee's survey row - about 125 or 30 ft

yellow clay - + some blue clay before gravel.

Below the gravel pit (below home, at Ordway's - my rec. 15, about 4 or 5 ft. above row

hard pan - blue black - 2-3 ft

of surface, went down 55 ft with shade + lower 120 ft. more. - all hard pan.

About 2 1/2 mi. N, 58 ft. (first water at 8- to sand gravel) blue clay

Kansas run from 3 to 25  
 ft. - even 50 ft  
 gravel below it  
 2<sup>nd</sup> water

If no gravel - no water,  
 & has pan next

On higher ground on same  
 bench (ca 58 ft)

89 ft to sand & gravel

Finds blue clay (light)

above sand & gravel

twice out of 3 times,

if he doesn't he won't

get water.

The yellow clay (loam) must

blue loam 2 or 3 ft with

iron tubes in indication

that he is getting close

to 1<sup>st</sup> water, which is just  
 below. To get to it -

run through 30 to 40 ft of  
 yellow stuff, with sometimes  
 lighter streaks,

Finds small shells in  
 both rusty tube layer  
 (blue loam) & yellow loam.

In Cartman,

on top of ridge

well 124 runs from days

to sand & gravel

about 3 ft of blue clay

above gravel

To find water ~~water~~, 90 ft.

all yellow to this

On his own finds some  
 blue loam (a little on  
 this terrace.)

at John Arden  
place (where cemetery  
is - on beach)

20 ft to 1<sup>st</sup> water

to sand & gravel about  
37-40 ft.

Blue joint clay above  
= 12 ft.

This is at foot of  
bench, not on it.

~~Mr. Tracy's well~~

at Will Day's - about

as high as JWP Day's

well - 133 ft deep,

to gravel.

On other lot - near

blue clay - 3 or 4 ft

above sand & gravel.

Mr. Tracy's well -

~~92 ft - no sand or gravel~~

went into sand & gravel,

at 90 ft.

At 2<sup>nd</sup> lot W. town

little bench (20 ft

lower) he went down

about 75 or 80 ft &

found no gravel - ran

into bare pan

(subsoil)

about 30 ft to find

water.

1<sup>st</sup> water in a joint

clay - light color -

a sort of light steel

color -

Mr. David Tracy.

(see report).

Pond wells down at  
Dunlap, & 2 in wooden  
(only to 2<sup>nd</sup> water)

At Dunlap no gravel  
in S. part. S of creek  
In NW. part of wooden  
no point water, - no  
gravel.

The sheet water (in  
gravel) runs in streaks  
Sometimes runs it in a  
few rods.

At Dunlap (N. side)  
you get gravel, about  
65 ft. deep.

1<sup>st</sup> walnut tree depth  
33 ft. - Before 1<sup>st</sup> water  
& below this were walnuts

This is about 6 miles  
S.E. on Jordan creek.  
(the Harv. / Hutchins  
place.)

Also one from "lion's  
front limb" in similar  
situation - before first  
water,

about  
saw & gravel 30 ft  
below tree.



As Mapleton visited  
well-digger - W.M. Osborne.  
In upper part is yellow  
clay - about 62 ft. in  
upper part, about 9 ft  
of this is sand & some gravel  
fine sand about 9 ft.  
then gravelly but never  
went through.

On bottom at least about  
20 ft of black soil  
then a hard layer  
crust -

usually by about 42  
to sand -

Always fine sand at  
41 to 42 ft.

Sometimes rusty vein.

Above sand is bluish gray

layer - Sometimes 7 or 8 ft. of it.  
Fine line nodules in it.  
Never curb wells -

Jan 1 - 1909  
arrived at 6:30 am  
The Mc Cleary bit is on  
slope facing SW, about  
50 ft or more above creek,  
& shows very long Kan  
above surface (evidently  
below) sand.  
Mr. M. says he found  
some gravel on sand,  
His pit runs out on  
one side - he was surprised  
to find - Reminds of plowing?  
No bones or teeth have

been found.

About 12 ft. deep.

Heavy clay with some  
boulders underneath.  
He says whole business  
runs in waves.

He also says that mostly  
in the gravel there were "regular  
clam shells" and "periwinkles".

Evidently this is some  
clam layer (gravel) at  
pt. 15. Caston.

This pit is in sec. 1 84-43.

Returned at 8<sup>30</sup> am. &  
Took train for Turin at  
9<sup>12</sup> am.

C. F.  
Mr. Griffin - Mapleton  
Well 40 ft deep - E. of  
Mapleton 2 mi. + 1/2 mi. N.  
Loose gravel. South of  
35 ft. -

Chas. J. Whiting - banker  
has it - Elephas

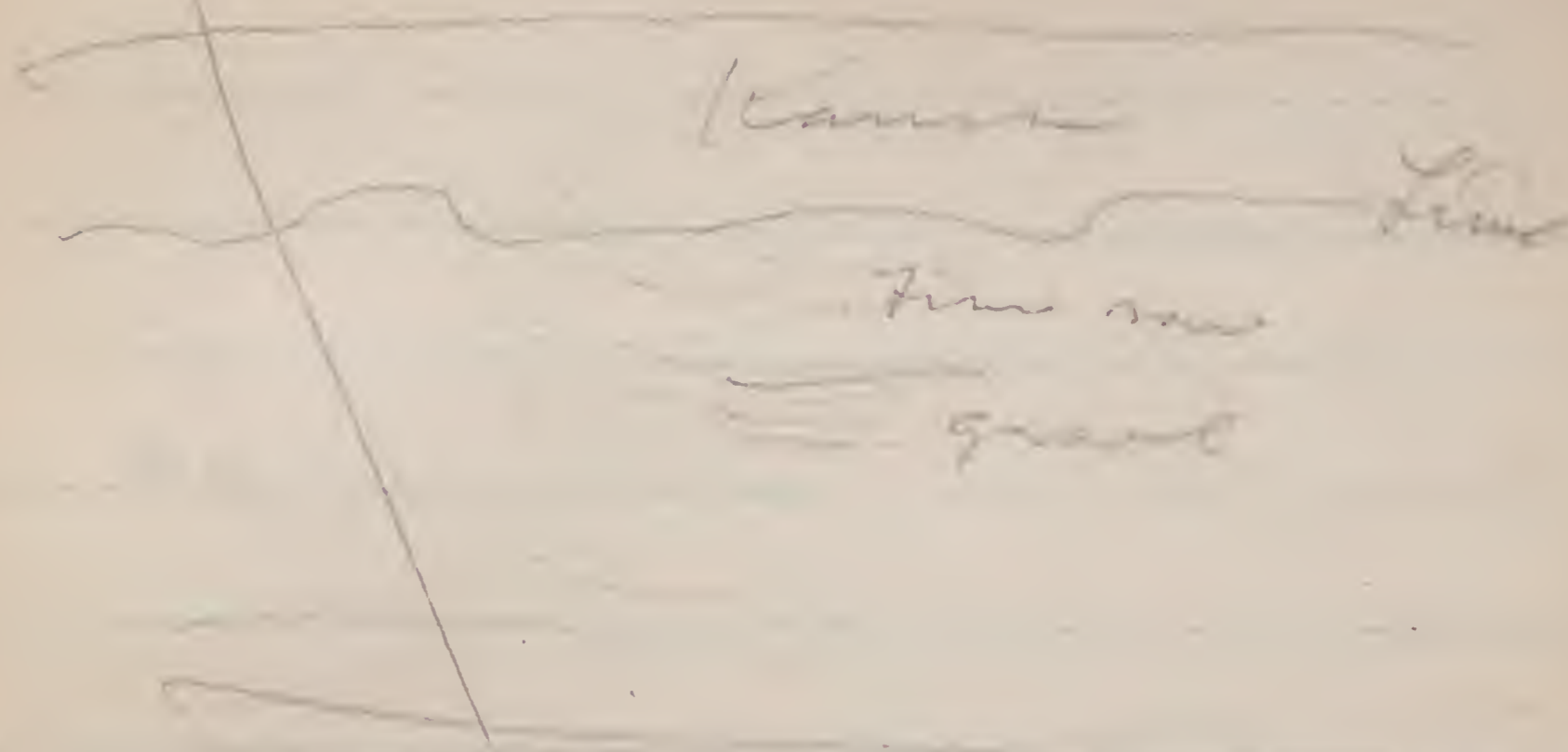
T. E. Wilkinson  
N.W. of Mapleton -

From Turin of Mapleton  
Mr. Whiting has it?

✓ ✓  
Photos 25 & 26 - Iron Findings

top of ground in  
This, however, pit is 35 ft  
above bottom, about 8  
ft of sand, with some  
gravel, + Kansan above  
with white lime pebbles  
fragments of shells (Sphaerium?)  
but not identifiable unless  
Kansan about 2-4 ft. in  
in 6 in to 1 ft below lime  
layer the fine sand is red  
(oxidized)

Photos 23 & 24



and ~~21221~~ farther view  
21222

✓ ✓  
Photos 27 & 28 - looking S from same  
facing view.

NW 1/4-27-83-44

In sec. 27. Crabbs bluff

Get much gravel - now dumped

Above it a thick (10-15 ft?)

of Loveland clay, & loess  
above

180 ft above bottom

cut 22 - sec. 3-82-44

yellow loess - fossils - see samples

All the loess along here

toward Turin is mostly

laminated below - yellow

with bluish streaks below

Pt.

✓ 13 - Craig bench

✓ 14 - from Turin

✓ 15 &amp; 16 Turin

Pt. = 170 above bottom

nearly level

This great bench connects with  
"Belvidere Bench", being cut off  
by a creek. The bluffs E of the  
creek higher.

All the top material is yellow loess

N. of pt. above 22 where red Loveland  
appears in road, there is some Kansan  
in the road, - along bank.all along inner line of Big  
crescent in bluffs below  
Turin. The yellow Kansan  
loess comes down to foot of  
bluff into road. But on  
main faces of bluffs the  
Kansan is a prominent feature  
the bench on which road  
runs.

There are springs, some fine,  
below Twin and Top, line  
& also N. W. of Grant  
Center (W. side ridge) which  
come out of Afton's  
ground.

Apply to John S. Ordway  
for record of cottonwood  
sales. Castana, Ia

Met Harvey - C. E., on  
train, in in Duluth  
Reached Whiting at 4 + PM.  
Met Am. Will Whiting &  
went to his home. Has daughter  
Woodson.

Wanted wild flowers for cultivation

- |            |                        |
|------------|------------------------|
| Anemone    | Onoclea struthiosperma |
| Synedra    | Aspid. spinulosum      |
| Juncus     | Asplen. filix-foemina  |
| Mertensia  | Aspid. acrostichoides  |
| Polemonium | Adiantum -             |

~~Went~~ (sent a basket in May, 1909.)

Went out to Chas. Holmes'  
place for night.

Jan 2-1909

Examined groves.

No. 1 - Maple grove planted in Spring of 1865. (seed).

Cultivated in ordinary form.

The walnuts in this grove were filled in later, - not much later.

About 6 rows of soft wood N. of line, 12-17 in in diam.

In main grove trees mostly not filled. Trees 8-15 inches (mostly 12-14).

appear like forest. Ribes numerous.

Sambucus racemosa, Eupatorium agrostoides, Rubus occidentalis, Mulinum (slender)

A fair leaf mulch is developed.

Prickly ash, Rhus americana, big Quercus.

Vitis riparia ✓

Photo 23 & 24 - In heart of grove 1. Walnuts next to house (i.e. - on old barnyard) all 8-15 in - fine trees

no. 2. Walnut - (seed)

Spring of 1867. (The walnuts collected in fall, covered with dirt. Buried in a few of boards - layer of nuts thick (15-14 in of boards & 4 in earth & 10 to 11 in of walnuts -)

no. 3 - Mostly walnut - some  
cottonwoods (older) -

(Cottonwoods along the roads in sec. 25  
are oldest - Planted in early  
60's (1862 or 3?)  
used small seedlings  
from sand bars)

In grove no. 3 the cottonwoods  
were planted in spring of 1866.

no. 4 - all walnut - about 1869  
(from seed).

no. 5. Soft Maple - About 1870  
Seed, (The seed was collected on  
the Little Sioux.)

no. 6 all walnut (a few cottonwood)  
about 1871 -



No. 7. Beginning at W. end -

about 275 yds. of green ash

then S. two rows are maple &  
rest walnut, up to line of sec. 29.

In sec. 29 - N. 3 rows walnut &

S. rows are green ash.

(green ash - seed from the Belle  
Spring). This <sup>row of</sup> grove runs a  
little over  $\frac{1}{2}$  mile in sec. 29,  
E. end of grove is all cottonwood  
extends a little over a quarter long  
(to a  $\frac{1}{4}$  W. of E. sec. line.)

The S. row on the W. part in  
sec. 29 - is all soft maple  
Mr. W. here experimented to

see if walnuts protected from  
S. wind would do better, but  
they did not do as well

W. part - N. side 29 - (near house)

Soft maple 8-12 in diam - best high

Green ash -  $5\frac{1}{2}$  -  $8\frac{1}{2}$  in.

Walnuts - 6-7 in.

3 rows of soft maples -

9 " " green ash

2 " " walnut.

A cottonwood right in row = 23 in

A box elder " " " = 11 in

A few of the two latter are found  
in here.

The rows in this part are 5 ft apart

In row in main

Stock run in this & trees are  
not doing as well.

A row of soft maples about  
2<sup>nd</sup> row from north has crown and

The N. row of walnuts & ash

The cottonwoods at E. part  
run from 8 1/2 to 18 in.

They are single in size  
throughout

About 15 rows - 5 ft apart  
Stark "roots" here & trees thin out  
Charles Hobbs says stark  
enclosed by hard trees.

Stark scars & many drop out

The W. end of this cottonwood grove  
is more affected by stark - the  
latter waters near by & doesn't  
go so much to E. end.

✓ ✓  
Photos 27 & 28 - Looking N. of E.

along E. end, cottonwood

Photo 15 & 16 - Looking NW

part W. end cottonwoods & at end  
grove W. of gap

Photos 13 & 14 - looking W.

from <sup>W. 76</sup> N. E. in NW 1/4 sec. 29 -

toward gravel bar

Photo 17 - looking E. in same

point cottonwood grove to right

Photo 18 - looking W. from Hobbs

home toward the mountains

E. of Hobbs, Co. 2 rows of <sup>(1 row out)</sup> ~~maple~~

maples on S & about 11 of

walnut.

Not pasture, but maples

Walnuts 4-8 in

Photo 25 - looking N. of road

at W. end grove #7 & at

school.

Soft maples are lower trees

at W. end of grove.

In this grove the soft maple

show effect of increase of

winds in branches, v walnut,  
ash & cottonwood do not

✓  
Photos 26 - looking E. at  
grove 1 - hometree

oak  
elm  
□ grove □

✓  
Photo 11 - looking E. at grove  
1 - school

a cottonwood in no 1 mean  
45 in. other trees in 401

White Pine 19 in, 19 - 13, 24.

Black locust 8-10 in - fine

Hemlock

Hydrangea 12 in, 17 in, 24  
Sutch pine 4-6 in cluster 12

Red cedar

Mulberry

cottonwood 45, 41,

✓  
Photos 21 - White pine, at grove 1

In grove 1.

White elm 13

Soft maple 36

Box Glen 26

Balsam 11

Salix alba

Norway spruce 23,

Austrian Pine 13, 18,

✓ ✓  
Photos 12 - + 22

Woodlawn - 1 home - old  
hometree

✓ ✓  
Photos 27 & 28 - In C.S. Cozine's  
(old hometree) Soft maple

Photos 25 - 26 Looking W from X

at x continued 24-27 in  
 valleys 7-8.

13 1/4 look N. from y, at  
 turn just E. of Whiting

Mr. Mitchell Vincent, C.E.,  
 at Onawa.

Blue prints  
 works with Wattle

Judge Addison Oliver  
 Onawa, Ia.

Apply to him for tree-  
 information.

Reached Onawa at 1:10 PM  
 & put up at Monona House

Spent afternoon in  
 court house, re-creating plat  
 of roads.

Met Mr. J. P. Day there  
 again, and together we  
 visited Mr. Mitchell Vincent,  
 an engineer, who is an old  
 settler, & with Day & Wattle  
 form a tri- - - ? of  
 old settlers and hale fellows.  
 Vincent is now quite low,  
 but was able to talk to us  
 freely, and promised plats.

In evening called on Parker  
 Holbrook.

Not at home.

Went to court house to see  
ditch plots + left at  
8<sup>13</sup> P.M.

The Copine place (old Whiting  
homestead) is a beauty,  
stately trees reveal the effort  
of Judge W.

White Pine, Balsam, etc,  
thrive in shelter of grove.

The Walnuts near the house  
are the finest I have seen  
in this part. They are  
sheltered but not crowded  
by other trees.

The Honey Locusts are  
also fine, showing larger  
trunks than usually. They  
are protected like walnuts.

Left Onawa for Wisconsin Valley  
at 8:13 pm. & got there at 9:30 pm.  
Stopped to see Brown, got box of  
plates, & left at 10:52 for  
(really, aftall) for Council  
Bluffs & put up at Kiel.  
Re-loaded plates & repacked.

Jan. 3 - 1909 (Sun)

Left for Persim at 7:50 AM,  
Day misty & promising storm.

Cut I - n. line sec. 8 - 78-41.

found red joint clay in road &

+ a loose boulder (small)

On bank on E. side about

4 or 5 ft. of yellow loess with

6 ft. of red joint clay

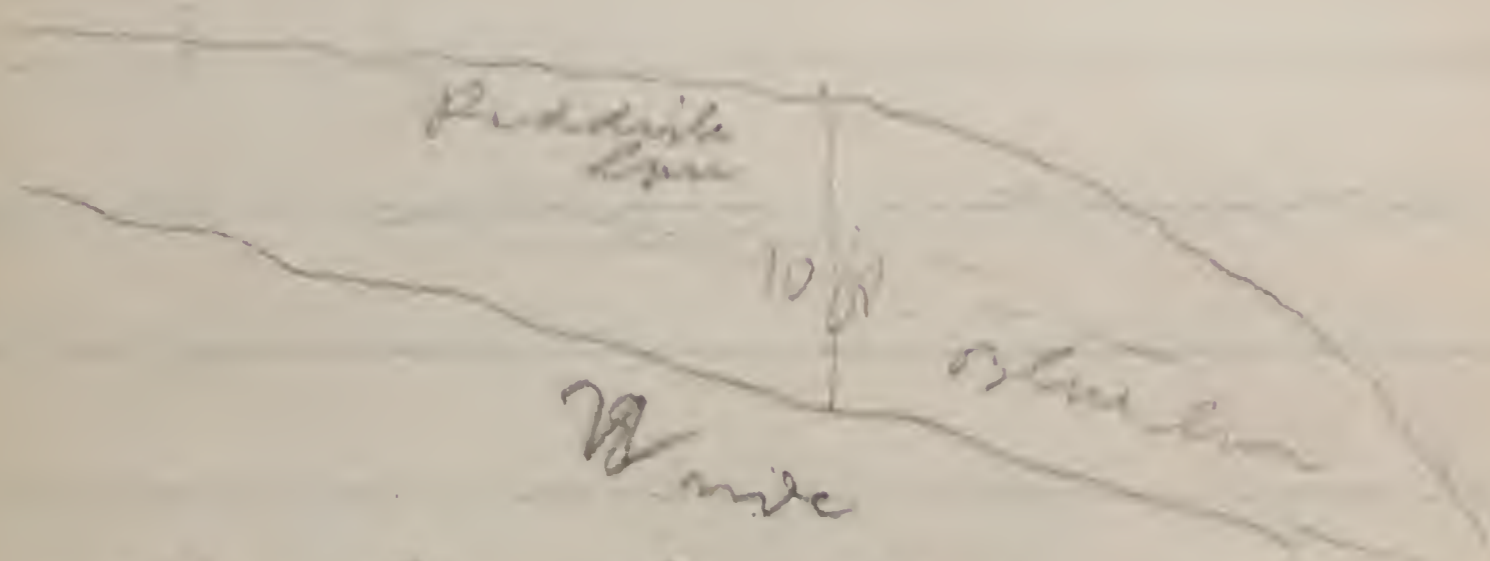
n. line 7-78-41

cut. It is a long cut running up  
line to 60. It is from 4 to  
nearly 7 ft deep. at base of  
slope it shows Kaman till with  
boulders (small) & pebbles.

Above, a narrow belt of Laveland  
all the way up the hill, - a long  
moderately steep slope, the blue loess  
with numerous large iron tubes  
shows. Above it is yellow  
nodular (rather heavy) loess 4-5  
ft. deep. In places, especially  
up toward upper part, the  
line between the two loesses is  
sharp; the tubes ending abruptly  
& line oxidized.

n. line NW 1/4-12-78-42

Cut III is on steep hill  
along road rising N.  
It is about 10 ft deep.



The blue loam tubes &  
shows laminations  
Also a good many water  
Fossils quite.

Took sample & studied.  
Above the yellow loam is  
5 or 6 ft deep

n. line NW 1/4-12-78-42.

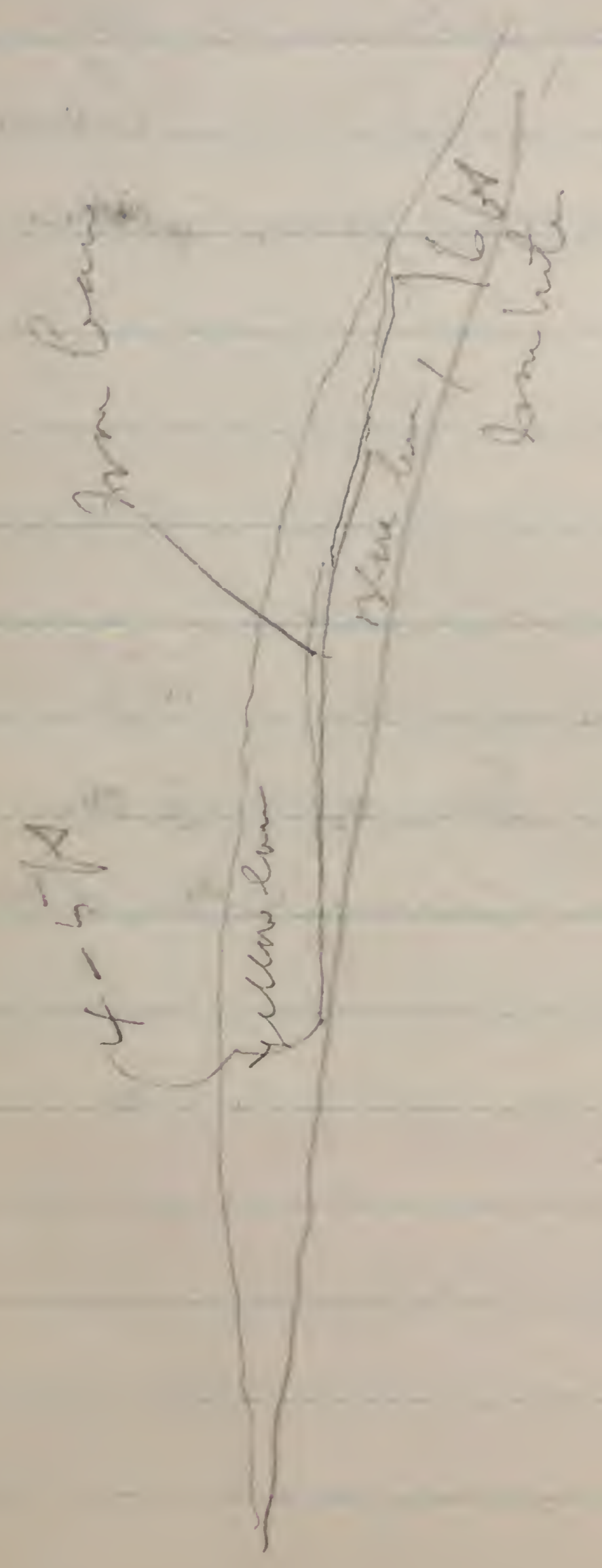
Cut IV is a trench slope to W  
& is about 6-7 ft deep  
From 5-6 ft yellow loam (one  
sample) & a ft of blue  
loam below with iron line  
between

nw 1/4 22-78-42  
Cut V run down hill 5

on steep slope is  
only a couple of feet deep &  
shows blue loam with iron  
tubes & shells. Also in lower

n. line NW 1/4<sup>36</sup>-78-42.  
Cut VI Blue loam tubes  
nodules & shells - run  
down hill to E. 3-5 ft deep

Nodules common  
Lime in a line or narrow  
band. Shells more abundant  
in lower slope.



S line SE 1/4 - 8-78-41

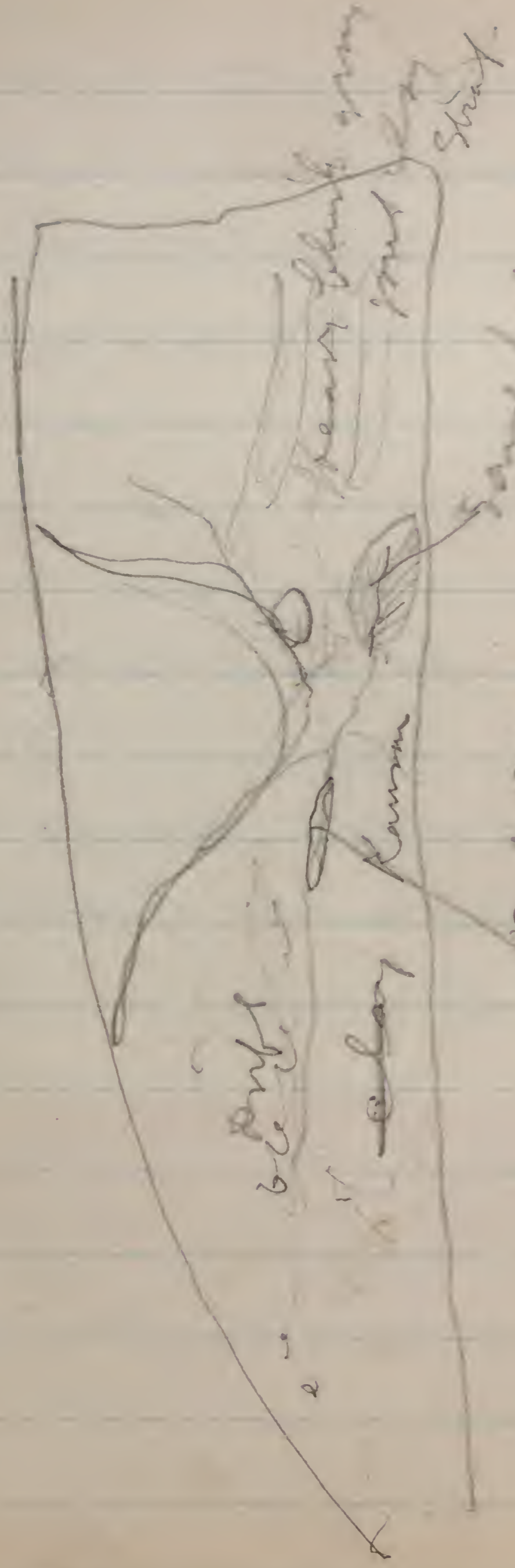
Cut III is heavy yellow  
 blue streaks above (nearly  
 Kanna<sup>2</sup>) & blue below  
 Took fossils from yellow  
 part

NW 1/4 - 9-78-41

Cut III is a block W &  
 3 blocks (long ones) south  
 of depot, where road comes  
 up hill  
 Just S. of road going W.  
 (over)



Cut VIII



On wide red clay above, <sup>as at</sup> a line <sup>is</sup> <sup>in</sup> <sup>the</sup> <sup>valley</sup> <sup>is</sup> <sup>about</sup> <sup>25</sup> <sup>feet</sup> <sup>wide</sup> <sup>in</sup> <sup>the</sup> <sup>valley</sup>

Cut VIII has been used as a sandpit, but it is evidently all plowed & tumbled together, and does not show any ground except in packets.

All along the Pacific route I found blue loess with iron tubes, & over it a yellow loess - usually not over 3 ft, sometimes 6 or 7. The line between the two is usually sharp & unconfused. In cut VII (& the one before it) the lower part of yellow loess is blue & red streaked, probably belongs to Kansan. The fossils are chiefly in

part Kamin layer, only VII  
the one before (one plant) showing  
shells in yellowish brown.

The latter is heavy &  
not like Mussoni layer.

Jan. 4 1909

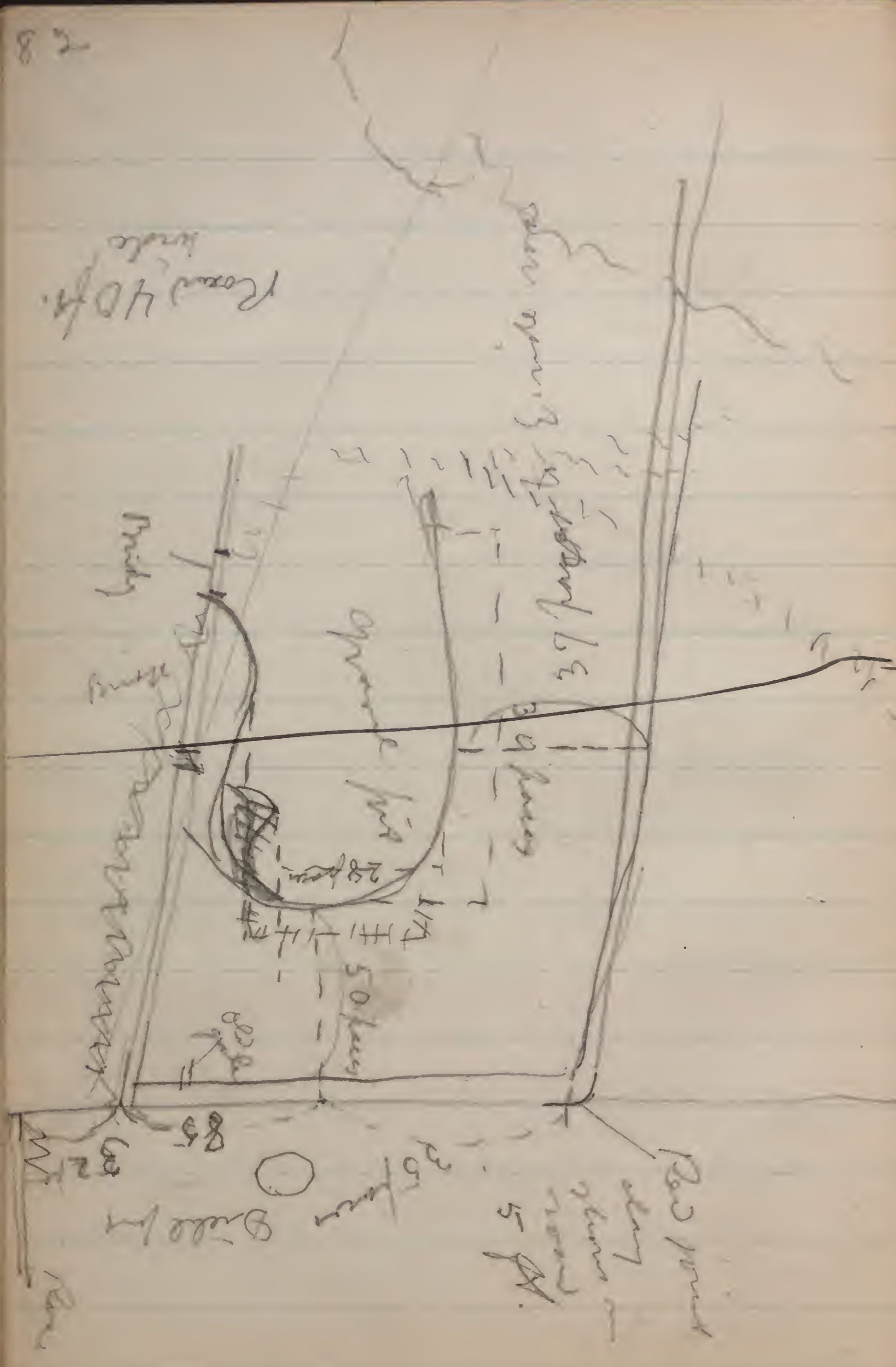
Cox pit

old  
elevation of <sup>old</sup> ~~rows~~ above top  
of row = 25 ft.

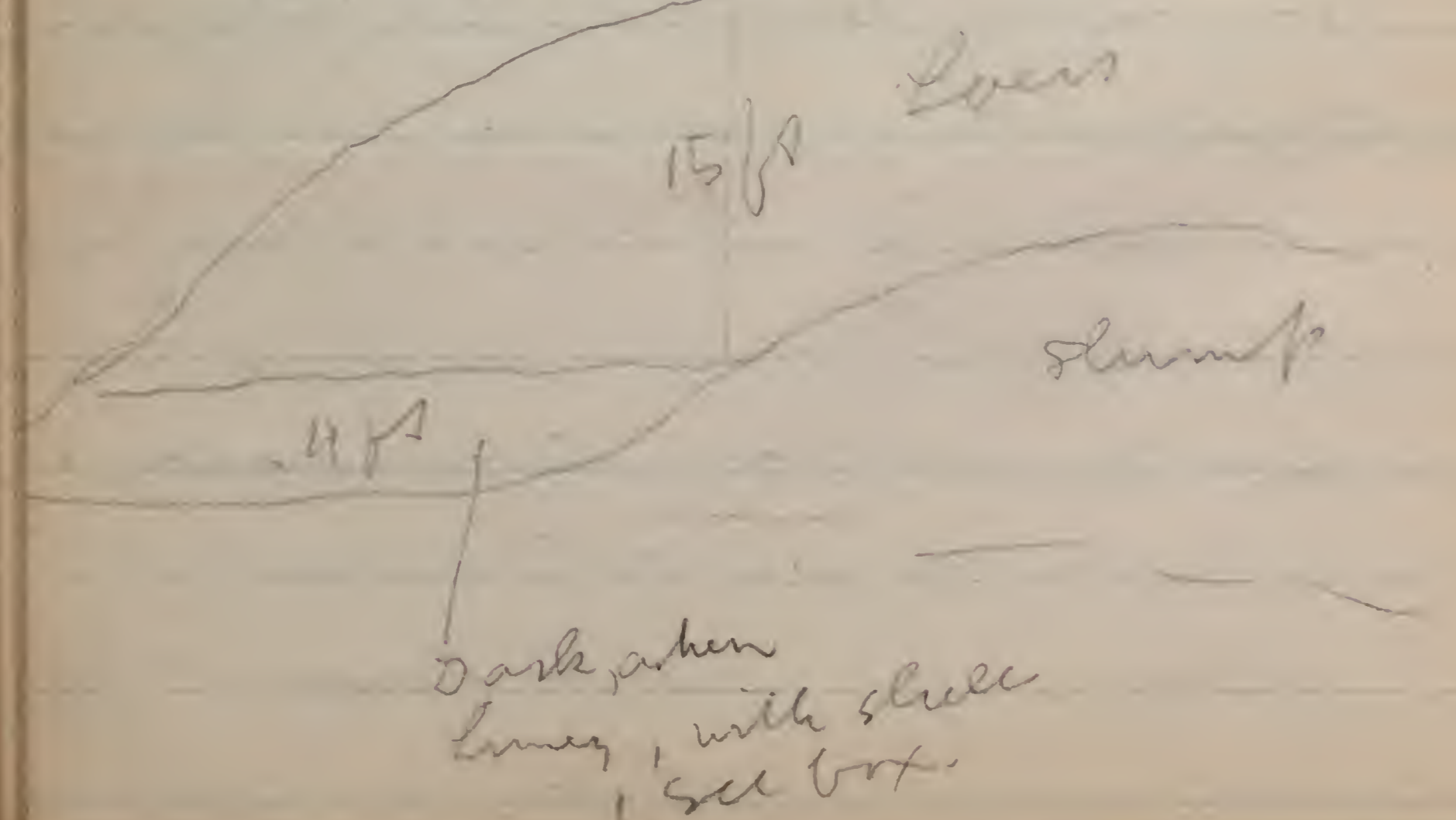
well is 150 yds E. of E. line  
of old row.

It is just about E. x S. E. from  
pit, - a little north.

The well is 65 ft. above top  
of sand. The <sup>old</sup> row is about  
30 ft. above row.



Went into Snyder Photo  
 cut just E. of spring  
 Photos 15 & 16 more distant view Mud  
 " 21 & 22 near " "



The same dark layer appears  
 in <sup>2<sup>nd</sup></sup> cut E. - run 3 ft  
 deep - 5 in 6 ft - also  
 road - see shells  
 run below into heavier yellow  
 & red dirt much & above  
 into loose yellow material  
 looking like sewerbox loam.

E. end of same cut - at turn  
 shows much more material,  
 some like blue loam worked  
 up (see sample) & full  
 of shells - this is all  
 part of 2<sup>nd</sup> cut.  
 The very E. end has sandy streak  
 & little layer of broken  
 shells (some Linnæus etc.)  
 showing water action

2nd 2<sup>nd</sup> end 2.5 ft  
Car called 3<sup>rd</sup> end



mining  
Darker  
6 or 7 ft

Stands, grass, etc  
see shells & samples

On W side of Black River  
bank, where hickory was,  
blue loam shown, but  
a part of it was probably  
overworked, purple in  
part certainly, couldn't  
examine it well

At Smith's hickory, & about  
a block N, Kaum shown.  
Also some red clay

Mr. J. S. Wattle's says  
that - add 1006.806 ft.  
to elevations in Harrison  
co. = mean gulf tide  
near New Orleans -

The Missouri survey in  
Monroe co. & the  
overflow map are  
Mr. Vincent's - give  
credit to him.

The Harrison co. work is  
Mr. Wattle's.

At city well in the Valley  
saw at 35 & rock at  
90 ft. - saw some  
below & at bottom  
some boulders.

Feb. 4<sup>th</sup> 1909

Left Iowa City at 12<sup>15</sup> am  
Called on Mr. Gilder  
in Oriskany, and saw his  
collection.

He has much miscellaneous  
material, - bones, skulls,  
implements, skulls (clams) and  
a part of a child mummy,  
green with some copper imp.  
Also a charred mat, bone  
hook, needles, etc.

He finds houses on Nebraska  
side & caches with them.

Here he has found much  
material, among other things  
the following clams:

Unio occidentalis - <sup>Several</sup> some with parts of epidermis  
" reclusi - <sup>several</sup> both red & white mussel

- Unio luteolus* - <sup>several,</sup> one a pair. Both ♀ & ♂  
 " *alatus* - with little <sup>several, mostly broken</sup> fragments of epidermis  
 " *ligamentinus* - 1, rather young  
 " *plicatus* - with some epidermis. <sup>2 spec.</sup>  
 " *metanev* (wardii) <sup>somewhat</sup> 2 or 3 valves,  
 " *reticulatus* - 1, doubtful - may be  
     *U. plicatus*, - but not likely  
 " *anodontoides* - one with piece  
     of epidermis - Several valves  
 " *rubiginosus* - 1 with fresh valve  
     + epidermis on part. 2 valves  
 " *lachrymosus* <sup>several,</sup>  
     2 or 3 broken valves,  
 Margaritana *emplanata*

Some of the shells are perforated  
(artificially) at umbones.

Some appear like scrapers &  
some were spoons with  
notches for handles.

Triplets made of shells, - such

as a small fish, etc. are in  
the collection.

The bone scrapers, needles, etc.  
are (he says) tempered to high  
heat.

On Jan 19, 1908 he found a  
fragment of *Unio* in the  
Longo's Hill mound which  
shows only umbonal region with  
two ridges (✓ tubercles) evidently  
either *Unio metanev* or *Unio*  
*lachrymosus*, - probably the  
latter.

On Jan 22, 1908, he found, at  
a point 50 ft. N. of center  
of my excavation, & at a depth  
of 3 ft., several bones (some  
ground), shells, & clam shells.  
Of the latter 1 is a somewhat



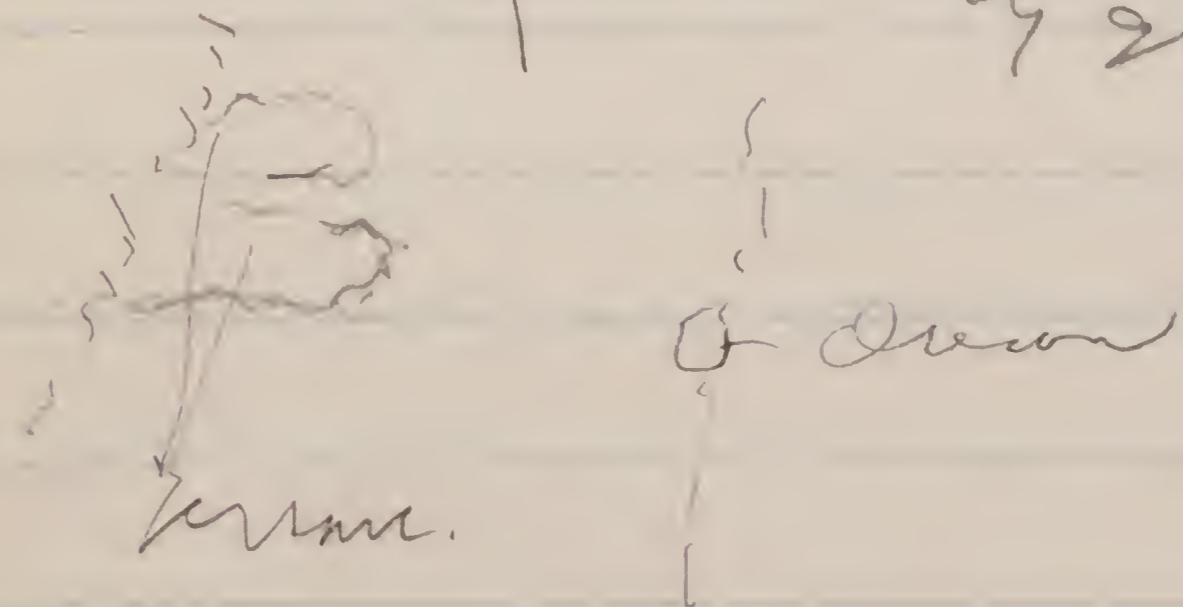
broken valve of Uris alatus, &  
6 or 7 valves of Uris  
lathyriformis.

Mr. Gidden says mounds  
on Long's Hill is like  
other mounds in these  
parts.

H. R. Newton & Co,  
Cement Works, etc  
Mo. Valley

Jan 5 -

Opposite Oregon the  
terrace is narrow & divided  
by gully or  
↓



Just below Mac<sup>William</sup> Lake  
the valley along RR is very  
narrow, - can't be  $\frac{1}{4}$  of a mile -  
less evidently. This widens  
gradually S. & on E. side  
the edge of terrace is just  
E. of wagon road.

Above lake the terrace  
edge is close to ~~river~~ all  
along E. side.

My terrace opposite Richardson  
is probably over me -  
Run back,

Feb 16 - On way to Gov City

Some of the cuts between  
Ute and Mapleton, along  
the C. M. & S. P. show  
considerable drift

One, especially, shows a good  
many feet (8 to 12<sup>2</sup>) with  
red boulders, & loess, not  
thick above.

The bluffs are continuous  
from Grand Center to  
Green Ellen, the R.R. being on  
flat. At Green Ellen the  
R.R. enters hills & bluffs  
run off to left.

Feb. 4 - lectured at Bruno,  
Ute. "Vichon ditte",

Feb. 5 - Spoke in afternoon  
at Farmers' Institute at  
Ute on "What shall we  
do with our bluffs?"  
In evening - scientific lecture  
on "The Agave, value of trees."

Feb 6 - Reached Spirit Lake.

Feb. 7 - Visited Salween Lake.

Oelwein, Ia. March 1, 1909

In long cut E. of Oelwein  
along C & W R.R. I saw  
much brown - red soil (or yellow  
rather) capped with 1-2 ft  
of black peaty soil, bleeding  
downward. (See samples)

In places boulders were  
scattered just below  
black soil.

The deepest Eastern part  
of cut - (at 1 mi. past E.  
of Oelwein, ) shows

Iowan - about 5-8 ft

Kanran - ?

Stumps still

cut probably 18 ft deep.

In places stumps still  
looked like pre-Kanran.

The Kansan is blue, with small  
 pebbles, some white & jointed clay.  
 The line between Iowa &  
 Kansan is sometimes  
 quite sharp, & again ~~is~~  
~~thin some cases~~ somewhat  
 blended.

There are trees - (as usual,  
 Populus tremuloides & red oak?)  
 in Iowa prairie S.E. of  
 Osceola, but I see  
 that SW! there is a  
 timbered ridge.  
 (Is this a Kansan island?)

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J. M. Heald  
Nashua  
Ia.

March 1, 1909.

	Mine	Puckett
Cab Iowa City -	<del>.25</del>	
✓ Iowa City to Cedar Rapids	.65	<del>.65</del>
Transfer " "	<del>.50</del>	
✓ RR. to Oelwein	1.08	1.08
✓ Breakfast - Cedar Rapids	.40	.40
✓ Transfer - Oelwein	.25	.25
✓ Hotel " "	.50	.50
✓ RR. to New Hampton	.67	.67
✓ Hotel " "	1.00	<del>1.50</del>
✓ Transfer " "	.25	<del>.50</del>
✓ RR. to Charles City	.39	<del>.60</del>
✓ Meals " "	.25	<del>.25</del>
✓ RR. to Nashua -	.24	.24
Hotel " "	—	—
✓ RR. to Waterloo 37 mi.	.75	
Transfer	(.25)	
✓ RR. to Marshalltown 48 mi.	.94	
✓ Marshalltown to Cedar Rapids <sup>69 mi.</sup>	1.38	1.39
Transfer from Cedar Rapids to Iowa City	.25	
	.66	

or  
 Waterloo & C. Rapids 52 mi  
 (Three more mi were in Puckett's bill)

Total

<del>\$ 13.01</del>	13.01
75	.21
Total exp. \$ 12.80	\$ 12.80
	60
	39
	21

Mine	Puckett
10.89	6.12
.50	4.00
1.00	3.00
\$ 12.39	\$ 13.12
13.12	
\$ 25.51	
\$ 12.75	

48  
 25  
 73

March - 1909

Cab. Iowa City - Puchet .25 P  
 Fare to Iowa City - 2 - 1.30 P. 65  
 Transfer - Cedar Rapids .50 P.  
 RR to Delwin - 2 - 2.16  
 Breakfast C.R. - 2 - .80  
 Transfer - Delwin .50  
 Hotel - " 1.00  
 RR. to New Hampton - 2 fares 1.34  
 Hotel. 7.85  
 RR. to Charles City 30m. 2x 60 = 1.22  
 Charles City to Nashua - 11m 2x 22 = .44

3.65  
 Puchet  $\frac{7.08}{3.54} = 2$   
 $\frac{2.00}{5.54}$

L.M. Utley  
 New Hampton  
 down  
 Puchet 2.75  
 80 \$  
 65 7.08  
 1.08  
 .40  
 .25  
 .22

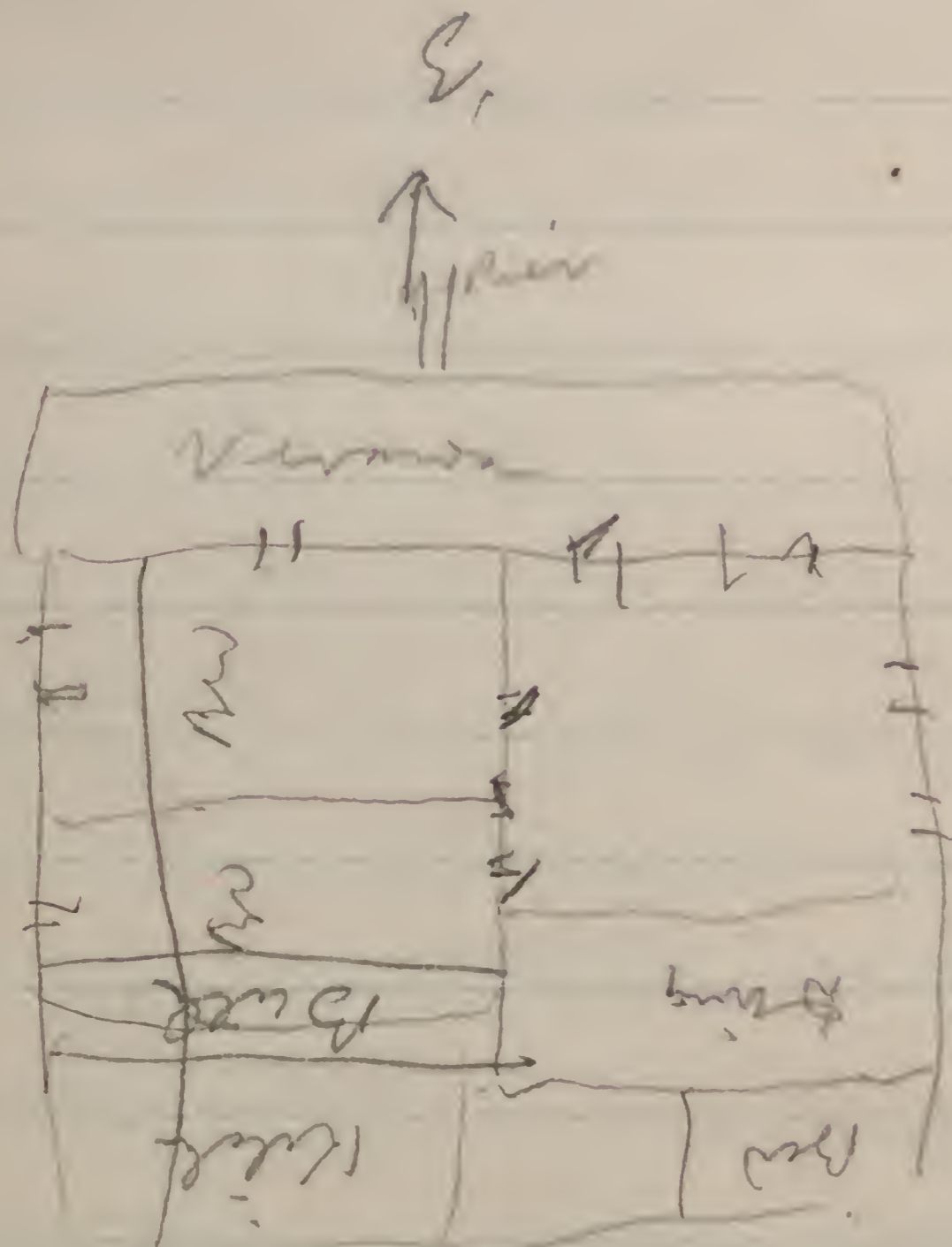
1 - 1865 - Soft Maple  
 2 - 1867 - Walnut  
 3 - 1866 - Cottonwoods, + walnuts later  
 4 - 1869 - Mostly walnuts.  
 5 - 1870 - Soft Maple -  
 6 - 1871 - Walnut.  
 7 -

$\$ 9.69$   
 $\frac{3.50}{13.19} \times 8^3$   
 $\frac{2.51}{10.68}$   
 $\$ 7.65$   
 $\frac{3.73}{8.00}$   
 $\frac{19.34}{9.69}$

Nashua to Waterloo 37-  
 Waterloo to Marshalltown 48-  
 Marshalltown to Cedar R. 69  
 154

New Hampton 3.00  
 Nashua .50  
 Transfer 2.00  
 2.50  
 $\$ 3.73$





The garden is so provided that it can be irrigated. Mr. Fr. Goodale of Milford owns hotel & much of the land near.

Meals 35 cts. \$9 per week. - beds & bedding furnished, except sheets & pillow cases  
 Cottage 7 room \$45 per mo  
 Mr. Smith's cottage - 3 room - \$90 year



30 paces or 10 more if necessary, & as far from road as S.E.

Mr. Smith's cottage is better for lab - about 20 paces  
 12 paces outside entrance

Dec. 30 - Fare to C. Rapids .50

" 31 - " " Omaha <sup>CRapids lunch .35</sup> 5.66

Sleeper <sup>2<sup>nd</sup></sup> Breakfast <sup>60</sup> <sup>1/25</sup> 2.85

Fare to Canton .44

Canton meal <sup>50</sup> .35

Fare to Mapleton .13

Jan 1 - 1909 - Livery Hotel <sup>1.25</sup> <sup>1.50</sup> 2.75

Fare to Zuni .28

Livery - Zuni 2.25

Jan 11 - 1909 - Fare to Whiting .36

Jan 2 - <sup>Zuni Whiting to Omaha</sup> 1.00 <sup>77</sup> 1.77

Jan 2 - <sup>Monroe Hotel</sup> Fare to Mo. Valley 1.77

Photo plates <sup>60</sup> .60

Fare to Co. Bluffs .43

Jan 3 - Co. Bluffs Hotel <sup>75</sup> <sup>1.00</sup> .75

Carfare <sup>10</sup> RR to Persia <sup>61</sup> .71

Persia - Livery <sup>1.25</sup> <sup>25</sup> 1.50

Fare to Co. Bluffs .61

Carfare <sup>35</sup> .35

RR fare to Mo. Valley .43

Jan 4 - Mo. Valley - Hotel <sup>1.50</sup> <sup>1.00</sup> <sup>.60</sup> 3.10

Fare to Council Bluffs .43

Carfare <sup>10</sup> Lunch <sup>25</sup> .35

RR fare to Iowa City 5.24

# 29.39  
107

Jan 16 - 1909  
RR Mo. Valley to <sup>So</sup> Omaha ~~.71~~

So. Omaha - 2 meals .50

Carfare .15

Omaha 1 meal .35

RR to Mo. Valley .66

43  
113  
66

1205.49

Dec. 17-1908

	Fare to Council Bluffs	\$ 5.18
	meal " " + bus 25	.25 + <sup>2</sup> / <sub>3</sub>
Dec. 18	" " Mo. Valley	.46
	meal " "	.50
	Honey Cuzzey "	1.00
	Fare to Logan	.17
	Team - Logan	1.25
	rr. to Woodbine, 16 trucks	-
Dec. 19	Team - Woodbine	1.50
	Hotel " "	2.00
	R.R. to Omaha	.97
	Carfare to S. Omaha	.10
	S. Omaha - supper	.35
	Carfare - Omaha	.10
Dec. 20	R.R. to Iowa City	5.49
	cab " "	.25
		<u>19.07</u>
		7.95
		<u>27.02</u>

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Total exp. \$ 25.56

Receipts	- From	30.00
	- Uter	13.27

\$	43.27
	<u>25.56</u>

46
15
<u>81</u>

\$	17.71
----	-------

95
46
<u>51</u>
200
33
<u>233</u>
4
<u>237</u>

lun. lig. to Marin	- \$1.30
Marin to Uter	9.32

\$	10.62
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lun	.50
oxfild	1.50
meal	.65

.76

\$	13.27
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Feb 4  
 Train to Co. Bluffs \$ 5.24  
 Lunch <sup>30</sup> paper <sup>5</sup> .35  
 Carfare .15  
 RR. Co. Bluffs to Ute 1.36  
 RR. Orem to Bruno 1.42  
 Lunch <sup>30</sup> paper <sup>5</sup> .35  
 RR. to Fremont — .68  
 Feb 5

Hotel Fremont .50

RR. to Co. Bluffs 1.00

Lunch <sup>30</sup> paper <sup>5</sup> .35

Feb 6 Ute - Hotel 1.00

RR. to So. City 1.15

So. City - RR. to Sibley 1.47

Sibley - Hotel <sup>50</sup> , Conductor <sup>5</sup> .55

RR. to Grand Lake .68

Supper <sup>25</sup> " " cards <sup>25</sup> .50

Feb 7 - Hotel " " 1.50

Team 1.50

Lunch " " .20

RR. to Iowa City 5.36

Frank " " " " 25

Wilford: \$ 25.56

to 77

C.H. Dyer  
 Minnie Valley  
 Well.

Lowery Moreland

Logan

fa.

Dain Laysan

Logan Jr.

Woodbine

Fleasom Warren

Ed. Hoelton

Minnie Valley  
 Hotel Mrs. Valley

Henry C. Heckert

Mrs. Ella Dunn Heckert

Mrs. Clara Perkins - Day Wash

Mrs. Steen - night

Minnie Valley 19-1918  
 \$ 19.50

