

Thurs. Sept. 1. 1904

Worked about Clondroft with excellent success.

They have had heavy rains up here, and the plants show off well. Blunternuts, snails, etc, were abundant, especially under gnawing up logs.

The cornifers seem to be less favored.

There were Apaches in Clondroft again.

They come from the reservation, and are Geronimos old hand. This was his old field of operation.

In evening changed dress & bed.

Friday - Sep. 2 - 1904  
 Started down mountain  
 at 9:30 AM. after  
 packing, etc.  
 Got barometer at 8150  
 at depot at Concord.  
 Boston - 7900  
 Switchboard - 7300  
 Woburn  
 Spring Branch - 7050  
 Wooten - 6725  
 Mountain Park - 6300  
 Highville - 6200  
 Orate - 5650  
 El Valle - 5200  
 La Luz - 4675  
 Adamsquide.

Found the large Yucca  
 with almost simple  
 panicle, & no stem  
 to plant common  
 on rocky ledges  
 near Spring Branch.  
 After an interesting  
 day in the field I took  
 the Express to  
 Mountain Park &  
 reached Concord  
 at about 5 PM.  
 Pursued plants etc.

Sat. - Sep. 3 - 1904  
 Spent whole day  
 pursuing plants to  
 Dan's farm plantation,  
 which had been sent  
 to Chicago for collection  
 nearly two weeks ago.

Did not have usual  
break this morning,  
a messenger (my  
good, reliable) who  
was here in Webster  
City, Pa. a few  
days ago, called  
to see me from  
about 10:30  
and about 10:30  
weeks ago.

Sunday Sept 4, 1904  
No transportation,  
No. 3. from Chicago  
(yesterday) announced  
for this afternoon.  
Delay caused by  
rough washout  
near Decatur.  
The CR&P train  
was delayed from  
Decatur to find  
the CR&P - San  
Louis, then on  
to St. Louis then  
on Santa Fe line  
to Kansas  
Train came in at  
about 4:45 P.M.  
Spent evening in changing  
draws.



Monday - Sep. 5.  
 Mr. Martin made  
 out new transcript  
 over the C.R.D.P.  
 & we started at  
 10:40 AM for home.  
 I was up at 8 AM  
 preparing - got  
 things out of  
 safe - (K. H. H.)  
 Verba (K. H. H.)

Corona deinde

- Red Cedar & Phoradendron <sup>common</sup>
- Yucca elata (not)
- Yucca - common (in fl.)
- Atriplex - 7" <sup>Common</sup>
- Gutierrezia
- Many yellow comp.
- Bunch grass (this)
- Dryodora <sup>not rare</sup>
- Rudbeckia <sup>base of</sup>
- alysium <sup>not</sup>
- Salvia <sup>not</sup>
- Large 4-icled
- Artemisia - <sup>not</sup>
- Prostrated-resinous shrub
- Pinon
- Small leafy shrub (K. H. H.)
- Ratibida (low)
- Small prostrate
- Blue bushy cactus (medium)
- Stems low Yucca
- Prop. some Pinus ponderosa at <sup>base</sup>

Full Malvastrum ?  
sprouting flat  
Solanum elaeagnifolium ?  
collected plants at  
Tucuman  
Gallinas  
Common water tank (M. G.)

Heavy cedars & Pinon  
just at corner of  
nearly to Torrance  
at Torrance a  
grassy plain

At Llano very  
extensive grassy  
plain. No yucca  
or other plants  
at Pastura some  
Yucca elata appeared  
on the grassy plain  
all this is rolling  
country.

As we approached  
Santa Rosa, rougher  
with outcroppings of  
red beds (rock) with  
cedars, etc.

10

11



12

~~17~~  
~~18~~  
~~19~~  
~~20~~

Prairie Co

13

Low.

stratified sand

• (see next page)

S. Pond hole in ridge

Pub. Cemetery

Sandstone?

High sandy ridge

Crest

hill

shale

outcrop

No

C. Rapids



Sep. 15<sup>104</sup> Cedar Rapids

The sandy, ball clay  
road to Cemetery  
shows little sign  
of stratification, except  
in lines of moisture.  
The hill at which

the center stands is  
nearly 100 ft above  
general flat of  
Cedar Rapids.

Sand fine & fine  
no pebbles there.

The stratified sand is  
fine, shows distinct  
fine laminations,  
especially where  
weathered, & the  
fine above shows  
partial lamination.

This is about 50' or 55'  
S. of road to cemetery.

15

Just before reaching  
Prairie creek strike  
loam - about 6 ft  
over fine "sugary"  
sand - is shown on  
W. side of road.

No fossils.

The lower end of the  
bank (S.) on W. side  
shows (from top) about  
6 ft. of loam - then  
for about 1 ft  
alternating bands of  
sand & loam - &  
then sugary sand.  
For a foot - then  
narrow band of  
loamy stuff 2 or 3 in.  
then loam sand.  
The sand etc.



shows more or  
less laminations  
& stratification.  
Base of loam is  
about 6 ft  
above floor of  
bridge & about  
20 ft. above Prairie  
creek.

On hill S. of C&NW  
R.R. the loam is at  
least 10 ft thick &  
grades below into  
fine sand.

No fossils.

The sand is quite  
laminated with  
reddish lines - not  
very distinct (the lines)  
There are also limy

spots in the loamy part  
of the sand.  
Next ridge a little  
S. shows less also -  
not deep cut -  
No fossils - this is  
on slope of loam ridge  
whose top, to south,  
is higher & sandy.  
all along the road  
to Western there are  
evidences of brown  
drift. The topography  
is rolling, & occasional  
knolls? appear  
there is one such in  
sec. 22<sup>nd</sup> which seems  
to be worthy of investigation.  
Mr. Candler says that along  
N. & S. road west - there is  
a cut which shows clay

18

4 in. sand.

N. of house, well, in  
sec. 22 & 23 the slope  
is sandy, & cut (not deep)  
along road shows that  
fine sand below grades  
subside into a clayey  
soil (see loc, but  
thin)

Between two schools  
in Shumaker on N  
side state road  
is a gentle slope  
(hill) & cut  
shows down  
capped with  
loessite & about  
1 1/2 ft. more deep.  
See sample.

Between Western &

19

Shumaker all brown  
Top of hill W. of  
high school shows  
sand - grading up  
into loamy soil  
mostly dark.

Going S. from  
Swisher

- 1 - Exposure on E. side -  
up to 12 or 15 ft.  
Lower part sand &  
sandy clay.  
Upper 1 ft. or more  
yellow somewhat  
sandy, loamy, say  
black soil 6-8 in  
partly fine sand. Few  
pebbles below,  
found below show, basaltic  
shards, when weathered.



The exposure is several  
miles long -



There are bands of  
ground moraine &  
an indurated layer  
in lower part &  
clayey below -  
The exposure is about  
half way between  
Bismarck & Fargo

2. A low ridge on  
both sides - 2 ft.  
higher to 1/2 ft. yellow  
loamy soil - (red  
mounds not here)  
This lower part is  
distinctly stratified

3. Way down low - miles  
to 2 - lower part  
occasionally gravelly  
Several miles out with  
mostly sandy, yellow clayey  
above. At base of  
low ridge, there is  
a high ridge a few  
miles.

4. is a cut across from  
0 to 6 ft. -  
600 ft. long.

The lower part  
Upper layer - 1/2 ft -  
deep - a brown (see sample)  
The next layer <sup>3 or 4 ft</sup> is sandy  
some stratification &  
considerable iron, which  
is most pronounced  
at base of this layer.  
Next thin variegated layer



22

Then a few inches to  
2 ft. of loam (see  
sample) - No fossils



23

The sand is loam in places  
especially below &  
also a little common  
below. It is not  
over up. ~~It is not~~  
Portion of the lower  
part have small  
pebbles - yellow in  
the lower part. It is  
blue, abundant in  
strata with some  
the upper is somewhat  
reddish - but lower  
this is what appears  
low ridge which  
runs eastward to  
higher ridge. Small  
creek just E. E. of it.

24

- 5 - now get 3 to 7 ft -  
 about 15 ft long,  
 mostly fine sand,  
 some laminar sand &  
 part of it with 1 grain  
 of mica - some very fine  
 - even in the stream  
 All time of year was  
 very open and w  
 reddish, - no  
 Kauri  
 An outcrop in front of  
 the house - about  
 10 ft high.  
 This is just 3 ft deep  
 6 - The next one is open  
 on E. side as before  
 shows heavy stuff  
 on top? gravelly  
 layer below  
 This is 8 or 10 ft

25

- of no. 5.  
 7 - This is 200 ft. S.E.  
 of 6 - It is only  
 63-4 ft high with  
 gutter cut 1/2 ft.  
 4 at bottom shows  
 old loam - above  
 gravelly layer  
 on top heavy layer  
 This is E. of track.  
 8. This is only 100 ft  
 further S.E. from 7  
 4 is 2-6 ft deep  
 4 about 300 ft  
 long.  
 Below it just  
 shows old loam.  
 Then sandy & in places  
 gravelly (boulders 2+ in  
 diameter) 4 part



the upper part - only  
seen to have broken -

of the same bed  
[faded]

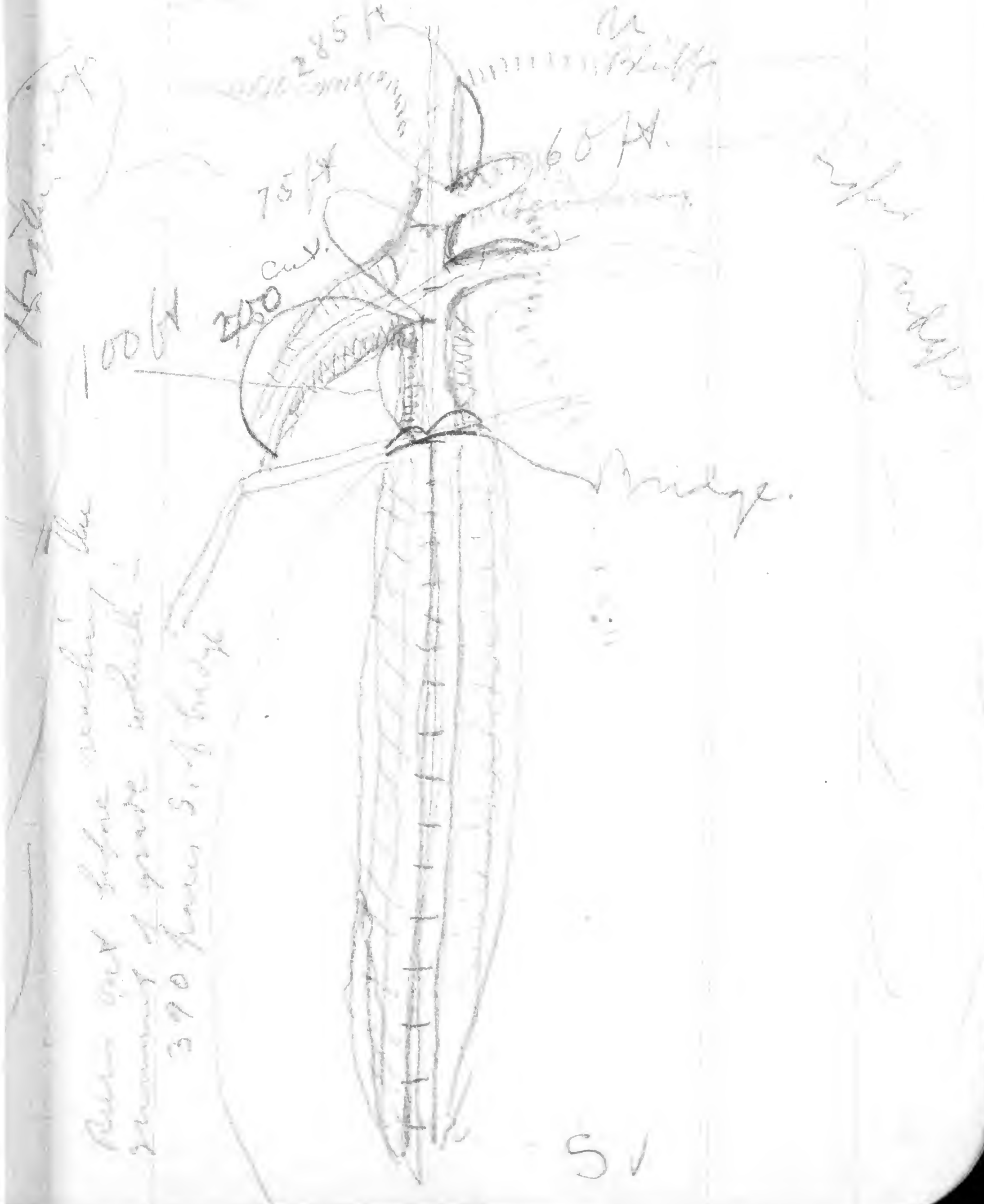
very large  
1-3 ft. being  
sandstone below  
same as fossils.

[faded text]

[faded text]

Friday Sep 18 - 1904

Commenced at cut  
on Intervale in sec.  
27 - Madison Mt. at  
overhead bridge.





The cut at the bridge is about 22 ft deep. Top of main cut at about 250 paces north of the bridge -

It runs up gradually from 0 to about 4 ft. at the 150 pace mark S. of bridge. (I count paces S. from bridge, but am moving west.) It is mostly black prairie soil, looking lumpy in places.

at the 150 pace mark a red layer appears below. It is not sandy, but has much iron, & is like hardpan.

at 140 paces it is already 2 ft thick (that is that much in exposure) & the black soil is over 3 ft thick. The line of demarcation between + black soil & red layer is not sharp. This black soil

Took sample of red layer at 120.

Sample of black soil at same place) at 110 paces the red layer is exposed over 4 ft & becomes quite a bluish brown below with many red streaks. There is here a decided

red layers, made up  
in large part of iron  
tubules, etc., which  
is over a ft. thick.

From the 110 face  
roughly 5. The land  
through which cut is  
made is a low place  
in the prairie.

At 110 the cut is 6 ft  
deep.

At 92 faces a  
compact sand layer,  
stratified, appears.  
The cut here is 8 ft. deep,  
3 of black soil, 5 of  
hard pan, loess-like  
below, & a trace of  
sand.

The sand has much iron  
where it shows above

stratification plainly.  
At 80 the sand is  
already 3 ft. thick &  
shows alternating bands  
of white sand & iron-  
sand.

The transition from the  
loamy upper part to  
sand is not sharp.

At 60 the sand (now)  
is about 3 1/2 ft. &  
changes above to loam  
in a few inches.

The sand is stratified  
in wavy lines, more  
or less irregular  
(see picture).

The loam above is  
more loam-like (see  
sample). No  
fossils in this upper



loves. The sand  
somewhere shows pebbles  
The loose sand, when  
broken, shows characteristic  
lamination -

To the samples of sand,  
The darker colored (iron  
ore bands)

The cut at 60 paces  
is about 12 ft.

The sand extends to base  
This dips down so that  
at 45 paces it is

only  $1\frac{1}{2}$  deep & shows  
alternating bands of  
clay (loam) & sand.

The loose layers are  
from  $\frac{1}{8}$  in to  $2\frac{1}{2}$  in thick  
& sand about same

The sand is looser

This is alternating  
sand & clay surfaces,  
Sand from  
the present country  
at 45 cut is 14 ft  
deep & most of it has  
showing bluish streaks &  
also iron blotches &  
black carbon spots  
at 36 (see photo with  
Newspaper (insert) in it)  
The alternating layers  
& sand is 6 ft  
thick, at a ft  
from base, & 2 ft  
thick is a looser  
layer with fragile  
fossils in it. (see  
shell & sample of  
clay) This is mostly



yellow, with carbon spots all through it. Shells scattered, but more in sand. The lower part again shows alternating bands of loose sand & loam.

There are thin sand streaks even at 60 ft above base in what is mostly loam.

At x on opp. page found a few shells. There are in place, where loam has some bands in it but saw no shells in sand.

1 ft black and 2 ft sand sandy & nodular? over loam?



N. of the 30 pice  
 level the sand  
 seems to run nearly  
 to top, except 2  
 ft. - nodular loam  
 & 1 ft. of soil  
 & the talus obscures  
 the loam.

On the W. side (at  
 preceding is on E. side  
 of track) the  
 cut is lower &  
 less distinct, but  
 as far as it shows  
 it is about same  
 as on E. side.

At 25 paces S. of  
 bridge, on W. side  
 loam is 3 ft deep  
 & then alternately

of loam & sand show  
 for a foot or more.  
 Next is talus.  
 This loam gets a little  
 thicker N. toward to  
 bridge -  
 The track rises from  
 bridge to summit 5  
 at least 10 or 12 ft.

N. of bridge - W. side at  
 angle of road (S. side)  
 the lower part or base  
 is alternating loam &  
 sand & then about  
 15 ft. of loam with  
 decalcs & bands of  
 sand - at least  
 $\frac{2}{3}$  way up. No fossils  
 a few fragments of shells  
 seen. None collected.



The same alternation appears along road on W. side - 17th N. + S. sides of road along this + fragments (few of shells)

It appears as if under the bridge a larger sand bank has been heaped.

The smaller cut on road east of RR. shows nodular loam above, + alternately bands, with more sand below.

This lower part is very sandy. 16 ft deep in deepest place  
170 ft long, see map.

A few in shells at alternating loam + sand (see of the latter, about 5-10 ft below top - all along + they were only in clay - the latter was (red) 1-2 ft. at top (see map))

of sand from base of cut on N. side. No shells in sand.

Here across cut N. of bridge is about 20 ft deep on E. side (west is low) + in sandy sand with a few loam bands. It is capped with loam - about 4 or 5 ft. There are joints

in stone all over but evidently all came from top. A few big blocks, dropped from above, showed joints + I got a few on bank above. Other



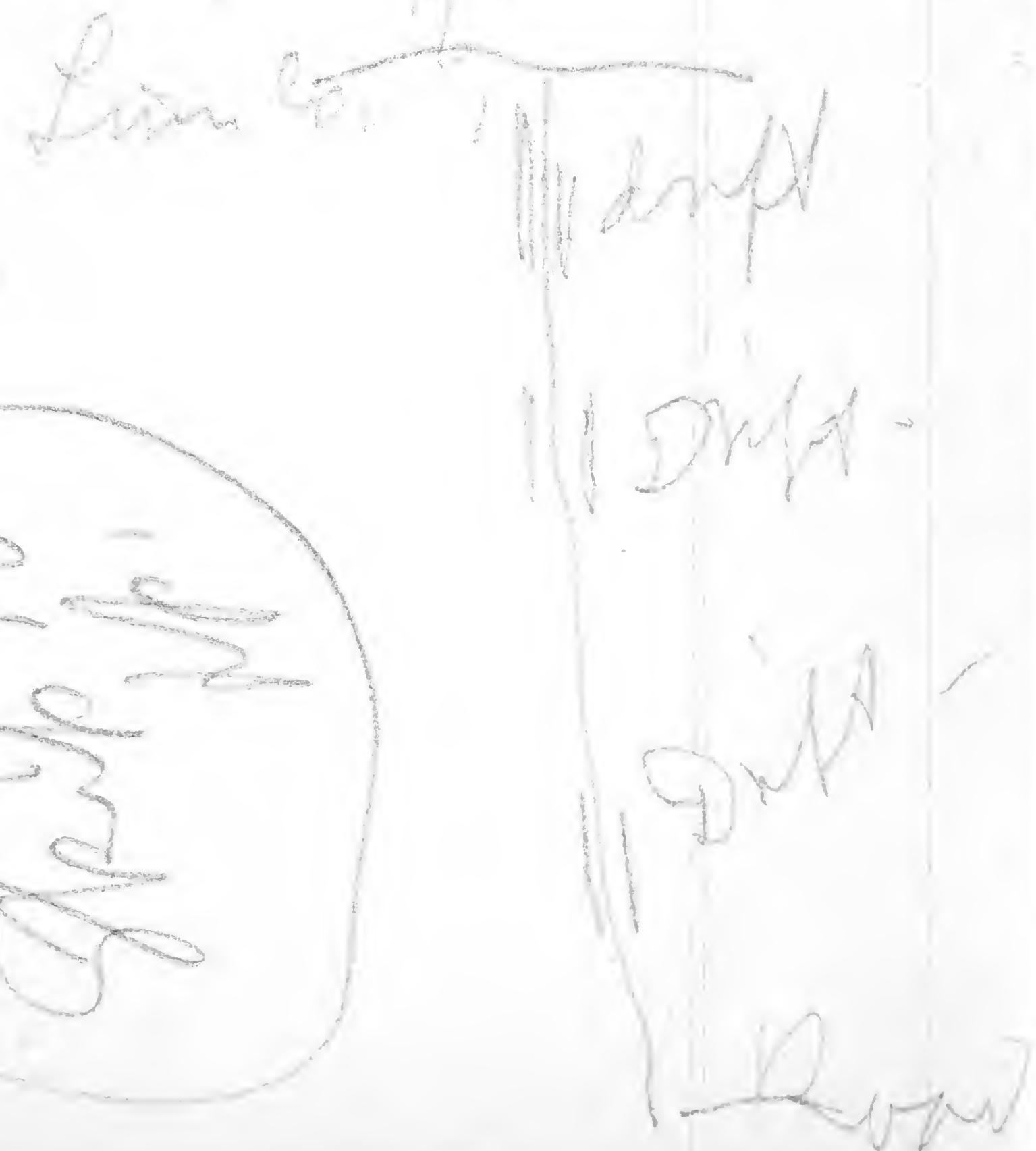
North view looking E. of S. from S. end  
 of bridge. River is about 1000 ft W.  
 of W. end of 2<sup>nd</sup> cut about bridge.

Depth 10  
 11  
 12

40

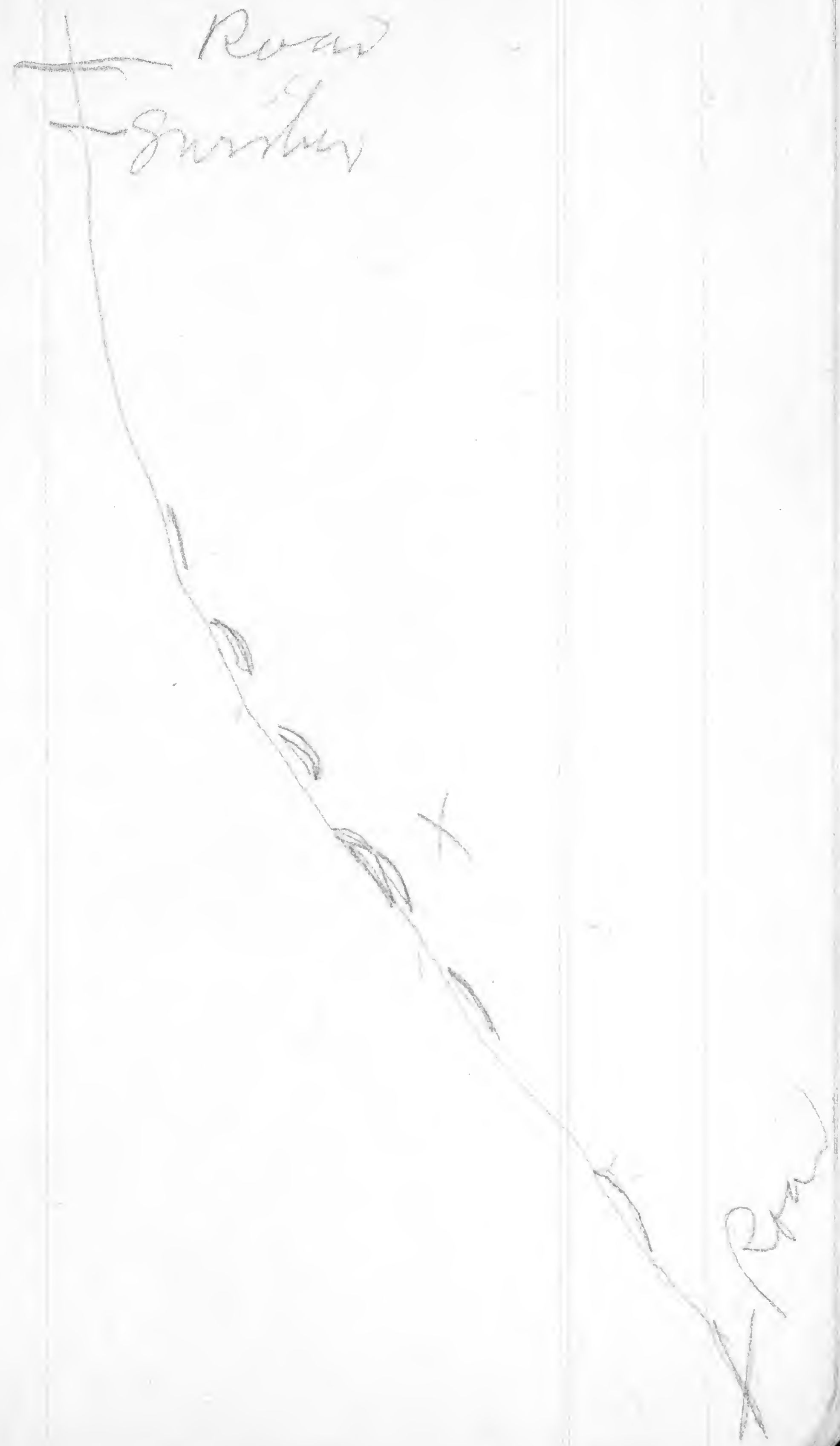
(Cretaceous)

were picked up here.  
 The sand is stratified.  
 No pebbles.  
 The wide cut is only  
 6 ft deep & mostly sand,  
 alternating with bands of loam,  
 & capped with reddish  
 loamy loam. Fragments  
 of shells are on surface,  
 & may come from bands.



41

Road  
 4  
 Quarry

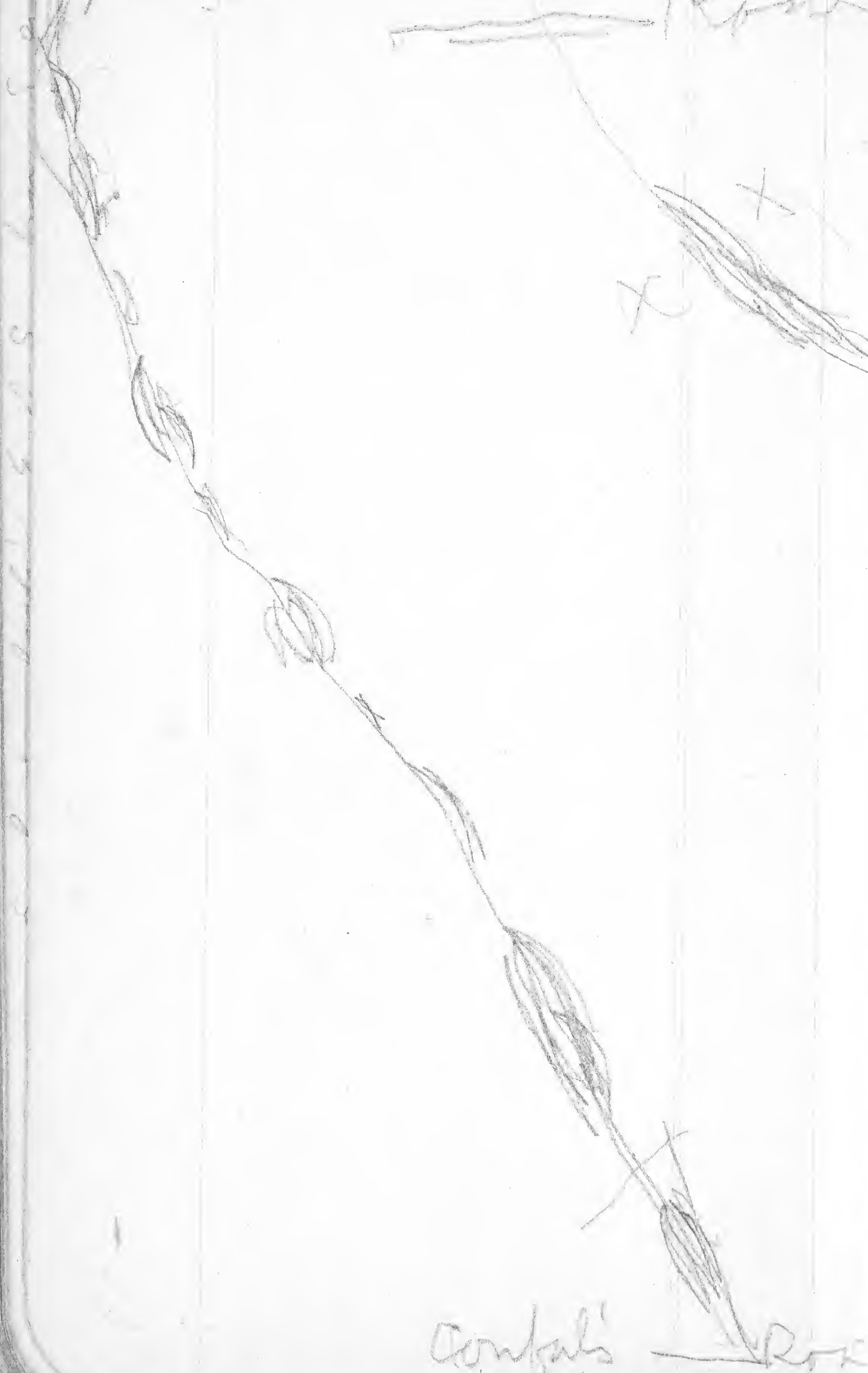


Row

42

Row

43



Confal's Row



Row

A Row

Row

to you



Joe Henry 44

Road

4

~~Old Road~~

Point

11

Do You

45

Chamblain

Road  N. Lake

~~Road~~ Stewart  
Zon. ~~46~~ 46  
This should  
be a longer  
stretch

R<sub>1</sub>



same below

R<sub>2</sub>

More? ~~More?~~



cut to this



48

Root to Tulsi



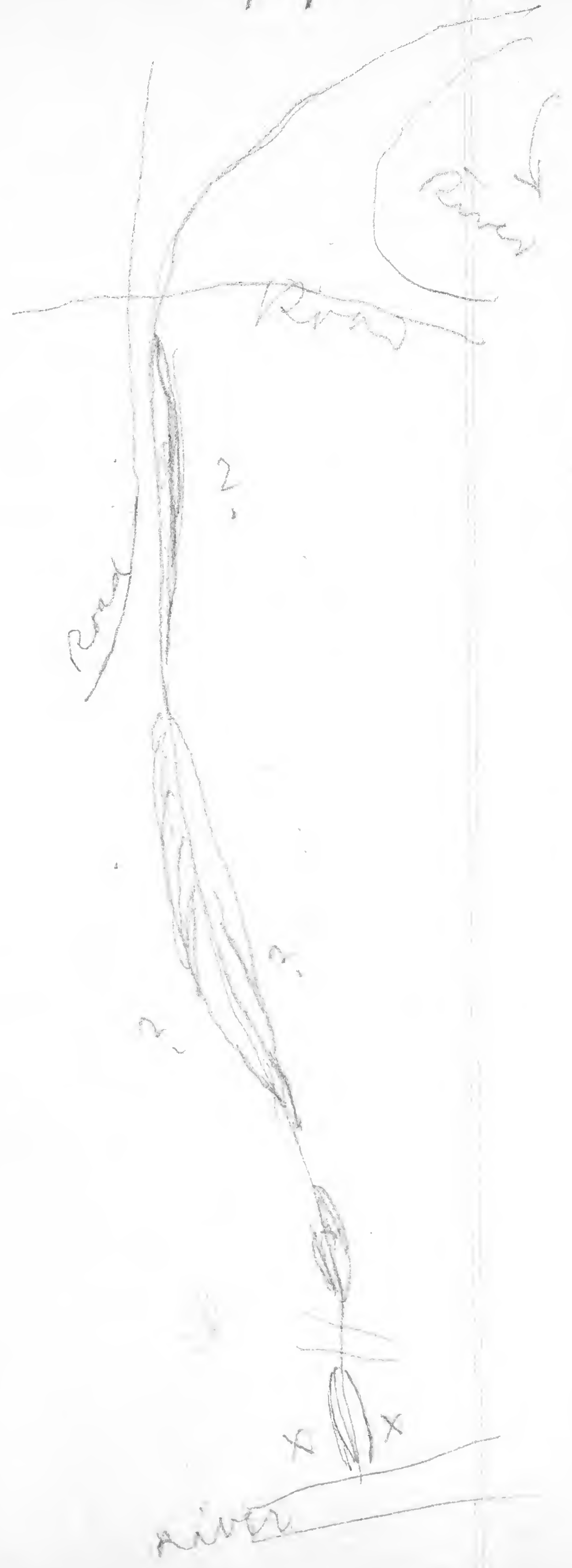
x Fruits

x  
x  
Dipt. Cedrus

Root

ambuli

49



Root

Root

2

3

x x

river

(<sup>50</sup> Look back 10 pp.)



51

Runs out into lower hills  
(Sandy flat hills)

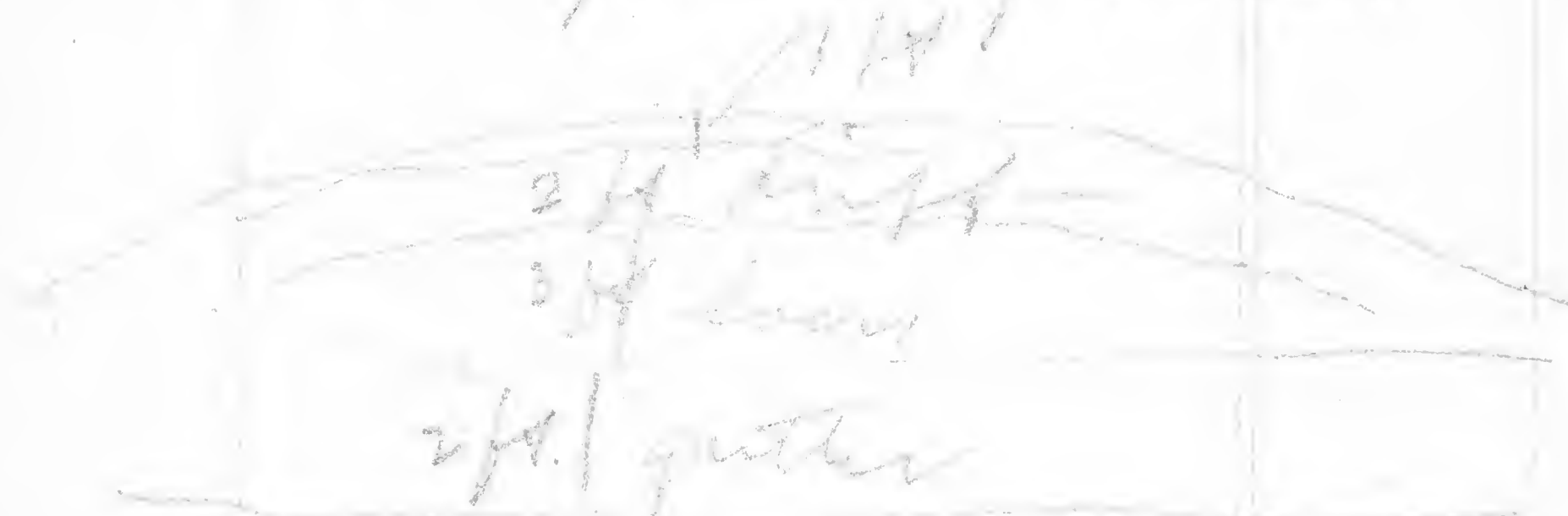




No. 7. of pseudogrip

The layer below is characteristic yellowish, no fossils.

The drift layer is about 2 1/2 ft deep & shows pebbles 1 1/2 in diam down to grains of sand.



Below drift in a layer less than 1 ft. partly black, below somewhat red lumpy.

No. 6. of pseudogrip has 1 1/2 ft of lobules reddish brown top, & then about 3 ft of fine

reddish sand, with scattered pebbles - some 2 in. in diam. - there are denser bands of gravel, several in deep. Saw one boulder 3 1/2 in. in diam. No loam exposed below, - not deep enough.

No. 5. The lower part is fine sand - 5 ft. Then a couple of feet of reddish clay with pebbles, some 1/2 in diam. The lobules seen above was removed on E side. cut on W. side deeper, & sandy to top (even top one with sand) One boulder 5 in.



no. 8 - of preceding trip -  
 On east side shows  
 about 1 ft. of old  
 loess, - yellowish -  
 then about 4 ft.  
 of mostly fine sand,  
 with boulders up to  
 nearly 3 in. scattered  
 through.

Then about 1 ft. of  
 sandy, lobular reddish  
 loess.

Lower half of sand is  
 redder & is bounded  
 from upper by sharp  
 line.

This shows about same  
 on W. side.

No. 9 is all sandy  
 below it is just W.

of small creek) & is  
 about same on both  
 sides.

no. 10 (new) A low cut, about  
 4 ft., E. of Iowa  
 river Park - Shows  
 only yellow loess, -  
 no fossils.

no. 11, a few rods below 10  
 Long low cut, 5-6 ft.  
 shows lobular loess above  
 1-2 ft. then sand & some  
 gravel & toward S.  
 end on E. side shows  
 over a foot of old  
 loess.

The W. side is shorter  
 & lower, but about  
 same.

This is on curve.



no. 12 - 3 or 4 rods below  
no. 11. This is  
my old Confully  
no. 2 exposure - where  
former lens is  
covered with sand.

at N. end the lens  
lens is about 8 ft  
deep, with fairly  
uniform texture through it -  
sand two or 3 ft in  
top & then soil.  
The sand layer gets  
thicker to S. end, until  
lens disappears, &  
the exposure is gravelly  
at base at S. end.  
I saw no pebbles in  
sand directly over  
the old lens.

no. 13 - is my Confully  
first exposure.  
Practically all  
white above, but lens  
at base about 1 ft.  
Rest yellow sand

no. 14 - 3 or 4 rods

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<b>Cedar Rapids</b> <b>R</b> This Receipt is good so designated. Condu If issued for Mile must so indicate by		STEWART	50								
		MOORE	55								
		CORALVILLE	60								
		IOWA CITY	65								
<b>EXPRESS ★</b>											
<b>BAGGAGE ★</b>											
<b>MILEAGE ★</b>											
JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
1	2	3	4	5	6	7	8				
9	10	11	12	13	14	15	16				
17	18	19	20	21	22	23	24				
25	26	27	28	29	30	31					
1904	1905	1906	1907	1908							



# Iowa and Cedar Rapids Railway & Light Company.

## RECEIPT FOR ONE WAY FARE.

Valid only on Date Punched, and for a continuous ride between stations. Conductors will punch amount of fare paid. *Day*  
 If issued for Mileage, Baggage or Express, Conductor must so indicate by punch mark. Form A. *Suburban*

## Cedar Rapids

This Receipt is good for one way fare only between stations so designated. Conductor will punch amount of fare paid. If issued for Mileage, Baggage or Express, Conductor must so indicate by punch mark.

TURNER PARK	10
SONKA	15
KONIGSMARK	20
SWISHER	25
COU FALLS	30
MID RIVER	35
YOUNG	40
NORTH LIBERTY	45

STEWART	50
MOORE	55
CORALVILLE	60
IOWA CITY	65

EXPRESS ★

BAGGAGE ★

MILEAGE ★

JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.
1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31					
1904	1905	1906	1907	1908							

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Nichols to Bayfield

Apr. 5 - 1905

Wet place - Black Birch

- ~~Sulix amygdaloides~~
- ~~Soft Maple~~
- ~~Cottonwood~~
- ~~Sycamore~~
- ~~Am. Elm~~

~~Alnus~~

- ~~Juglans~~
- ~~Salicoides~~
- ~~Quercus~~
- ~~Red Oak~~
- ~~White~~
- ~~Hamwood~~
- ~~Sessilis~~
- ~~Box Elder~~
- ~~Quercus~~
- ~~Spanish Pine Oak~~
- ~~Prunus~~
- ~~Rubus~~
- ~~Praxin~~
- ~~Wh. ash~~
- ~~Quercus~~
- ~~Red Oak - etc~~

~~Artis~~

- ~~Alnus~~
- ~~Larix~~
- ~~Populus~~
- ~~Crataegus~~
- ~~Coccoloba~~
- ~~Aspen~~
- ~~Tamarac~~

cut. S. of bridge Interurban  
Madison

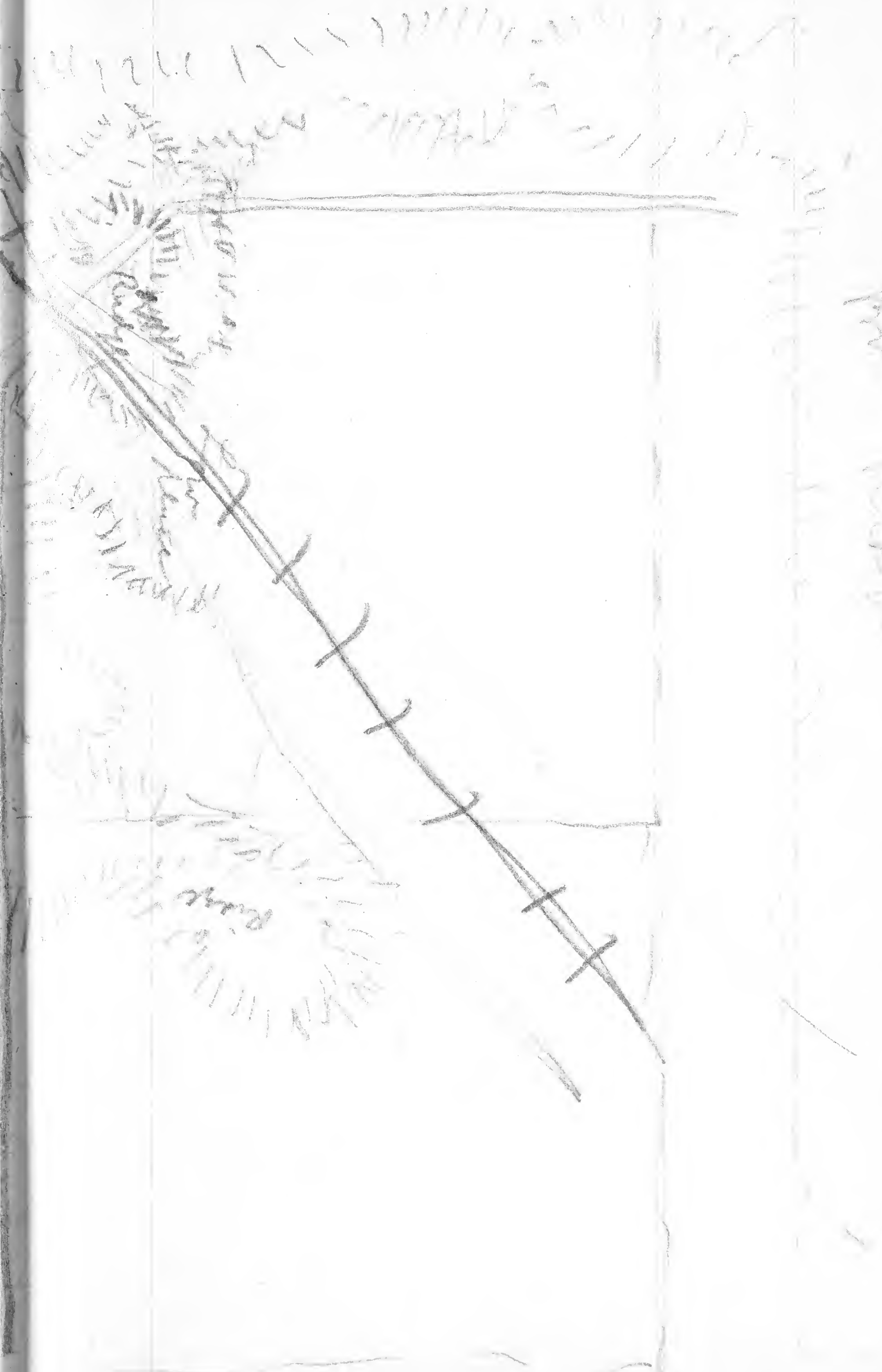
Apr 8-1905  
62

20

at great  
cuts 3. W.



63



Interurban  
Madison



64

65

88

Leve Iowa City 10.56  
" W. Lib. 12.01.  
" Bayfield 3.15 <sup>4.00</sup> 7.05 6.50  
" Muscatine 9.30  
" Wilton - 10.13. (arr. 10.40 <sup>W. Lib</sup>)  
" W. Lib. 11.23.

89



90

Sulek

Fourek

Vashek

Macháček

Basta

Vani

91







