

II 1934

1934-II.

Lyon Co.

Hawarden.

Diamond Lake.

Gull Pt.

9 mi.

421.9

430.7

Can Lake

# Note Book

No. 188

Copyright G. P. Co.



B. Shinnick - Iowa City, Ia. 512 7 Brown str.  
 gas - Rock Rapids 1.16

Lab -	0
#9 + #32	3.9
Little Sioux Riv	7.5 1/2
Loke Park Riv	11.0 1/2
Hanging log road	13.3
Co. line -	14.2
Ocheyedan road	21.5
Road (#21?)	26.9
Sibley (- 2 Bels)	33.7
Co. line (Lyon)	39.1 1/2
Little Rock turn	42.0
Rock Rapids (River)	56.1
#75 " "	56.6 1/2
Lester (Riv)	64.3
Larchwood (Riv)	70.7
State line	75.5 1/2
E. So. & exp	80.2
Granite run	86.5
Park /	81.7

Gas - 1.68



Aug. 22, 1934 - Wed.

We left at about 8:15 am, from  
Lab, and reached the Lynn Co  
park at about 10:30.

They are building a shelter-  
house in SW part & are cutting  
into ledges for road. C.C. camp.

They have also criss crossed  
the whole area with roads  
(trails) & the park is evidently

turned into a recreational affair.

And all this chiefly for the  
benefit of Hot Falls!

I first worked the top of the  
plateau and the ledges, then  
along Big Run & low plain N. of  
jasper pool.

Headache, weak. Lost my field-  
glass.

It had evidently been very dry  
earlier, & the aspect is clear.

On upper, Br. O. part.

Quercus muhlenbergii - small tree E. edge  
a small tree common fr.  
silex (various)

Andromeda reticulata fl.

Monticola oregonensis fr. fl.

Panicum in yucca fr.

Monticola oregonensis fr. fl.

Chenopodium

Vernonia stricta fr. fl.

Rosa pratincola fr.

Silene acaulis

Eryngium yuccifolium

Chrysothamnus fl.

Euphorbia heterophylla? fl.

Acerida - fr.

Cyperus - fr.

Portulaca - fl.

Panicum capillare fr.

Aristida grandiflora fr. few

Oxybaphus occidentalis fl. sp.

Euphorbia heterophylla fl.

Andropogon scoparius fl. patches present

" furcatus fl. patches "

Grindelia squarrosa - fr. fl.

Symphoricarpos occidentalis fr.

Petalostemum purpureum fr. a cat

Potentilla arguta fr. a cat.

Kuhnia euphratica - var. fl. present

Lepachys columbiana fr. com.

Acerida v. latifolia fr. few

31 Artemisia ludoviciana fr. com.



- 32 - Lepidium albidum fr.
- Zinnia peruviana fr.
- Panicum (Panic) fr.
- Opuntia fragilis fr.
- Allium stellatum fl. out.
- Prosopea angustifolia fr. out.
- Cirsium canescens fl. out.
- Aster multiflorus fl. com. bud.
- 40 Amaranthus gracilis fl.
- Salicaria canadensis fr. bud.
- Setaria glauca fr.
- Achysalis heterophylla fr. bud.
- Achillea millefolium fr.
- Sporobolus heterophyllus fl. fr.
- Muhlenbergia ( ) fl.
- Solidago nemoralis fl. 5-10
- Hemichloa hirsuta fl. out.
- Trisetum sp. fl. out.
- 50 Liliopsis angustata fr. out.
- Delphinium elatum com.
- Rubus occidentalis fl. few.
- Amorpha fruticosa fl. com.
- Aster multiflorus fr. bud.
- Oxybaphus hirsutus fl. out.
- Borghnia nutans fl. out. bud.
- Liriodendron tulipifera fl. out.
- Rubus vulpina fl. few.
- Lactuca scariola fr. out.
- 60 Solidago missouriensis fl. com. bud.
- " speciosa var. angustifolia fl. com. bud.
- Salix lasiolepis fr. out.
- Petalostemum candidum fl. out.
- Amaranthus retrofractus fr.

- 66. Equisetum fl. com.
- Solidago rigida fl. com.
- Helianthus scaberrimus fl. many in fl.
- Rhynchospora virginica fl. out.
- 70 Braunonia angustata fr. out.
- Aster rugosus - small
- Erigeron " 1-2 buds
- Polygonum ramosissimum fl. out.
- Isanthus caeruleus fl. out.
- Symplocos tinctoria fl.
- Polygonum convolvulus fr.
- Anemone hepatica fr. out.
- Carotus minima fl. out.
- Panicum Scribneri fr. bud.
- 80 Woodia oregana - in
- Rubus grandis fl. edge bud.
- Rhus typhina fl. out.
- Cassia chamaecrista - fl. - few.
- Silene mollis fr. out (edge)
- Ambrosia psilostachya fl. com.
- Anemone v. hepatica - fl. out.
- Liatris pycnostachya fl. out.
- Isanthus caeruleus fl. few.
- Lactuca ludoviciana fr. few.
- 90 Sporobolus cryptanthus fl. few.
- Onoserotum occidentale fl. few.
- Veronica erythropus fl. few.
- Erigeron ramosus fl. few.
- Ampelopsis 5-lobata fl. few buds
- Benthamia puberula fr. few 1-2 buds
- Oxybaphus ? fr.
- Erigeron virginicus fl. bud.
- Hordeum jubatum - fl. out. bud.
- Echinochloa crusgalli fr. few
- 100 Bromus pumilus fl. out. on ledge



1) - Polygonum commutatum L. var. <sup>ledy</sup>  
Polygonum tenuis Br. var.  
Carex "fastuosa" var.  
Ponthera serotina fl. <sup>fragrant</sup>  
Asclepias syriac. <sup>oleif. var.</sup>  
Muhlenbergia fl.

The Prunus pumila had two  
shoots with flowers. - On E. side  
of Jasper Pool.

Salinum was good until  
about 3:00 PM, & then the  
pretty red flowers appeared  
everywhere.

Filia americana Br. Seeger →  
Smutex herbacea Br. " →  
Xanthoxylum fl. h

Lower, along Big Spring

Salix rostrata fl.  
Rudbeckia hirsuta fl.  
Agrimonia eupatoria fl.  
Vitis vinifera  
Acer Negundo  
Quercus alba  
Vitis vulpina  
Lactuca ludoviciana fr. sp.  
" scariola fl. fr.  
Eryngium yuccifolium fr.  
Artemisia ludoviciana fr.  
Stemodia fr.  
Sua xanthina fl.  
Agrimonia eupatoria fl.  
Salix rostrata fl.  
Rosa virginiana? fr.  
Potentilla anserina fl.  
Urtica dioica fl.

Pool  
Urtica dioica fl. com.  
" pennsylvanica fl. com.  
Rudbeckia hirsuta fl. com.  
Agrimonia eupatoria fl. com.  
Rumex crispus fr. var.  
Helianthus scaberrimus fl. var.  
Cirsium discolor fl. var.  
Polygonum hydropiperoides fl. edge of pool.  
Salix amygdaloides fl. pool  
Eryngium yuccifolium fl. bank few



E. ledge

*Bouteloua breviflora*  
*Sporobolus breviflorus?* fl  
" *crystallinus* fl  
*Artemisia canadensis* fl  
*Chrysopsis* fl  
*Bouteloua oligostachya*  
*Astilbe* fl  
*Zinnia purpurea* fl  
*Verbena stricta* fr  
*Polygonum ramosissimum* fr  
*Gravillea canadensis* fr  
*Ammannia gracilis* fl  
*Euphorbia maculata* fl  
*Plantago Purshii* fl

We visited the exposure 2 mi,  
E. & found it badly partitioned  
We stopped at Rock Rapids  
for supper and then drove back  
to the Lab.



Milford - gas. 1.04 gas + oil .83  
 Harwarden - supper 81.68  
 oil + gas 1.61  
 Lake Park dinner 8/25 72  
 8/26 Salem gas + oil 1.62 Milford  
 Hampton - dinner 72  
 Skull Rock - gas, oil 2.28

1914 22 1 hr 44.2 - 1159

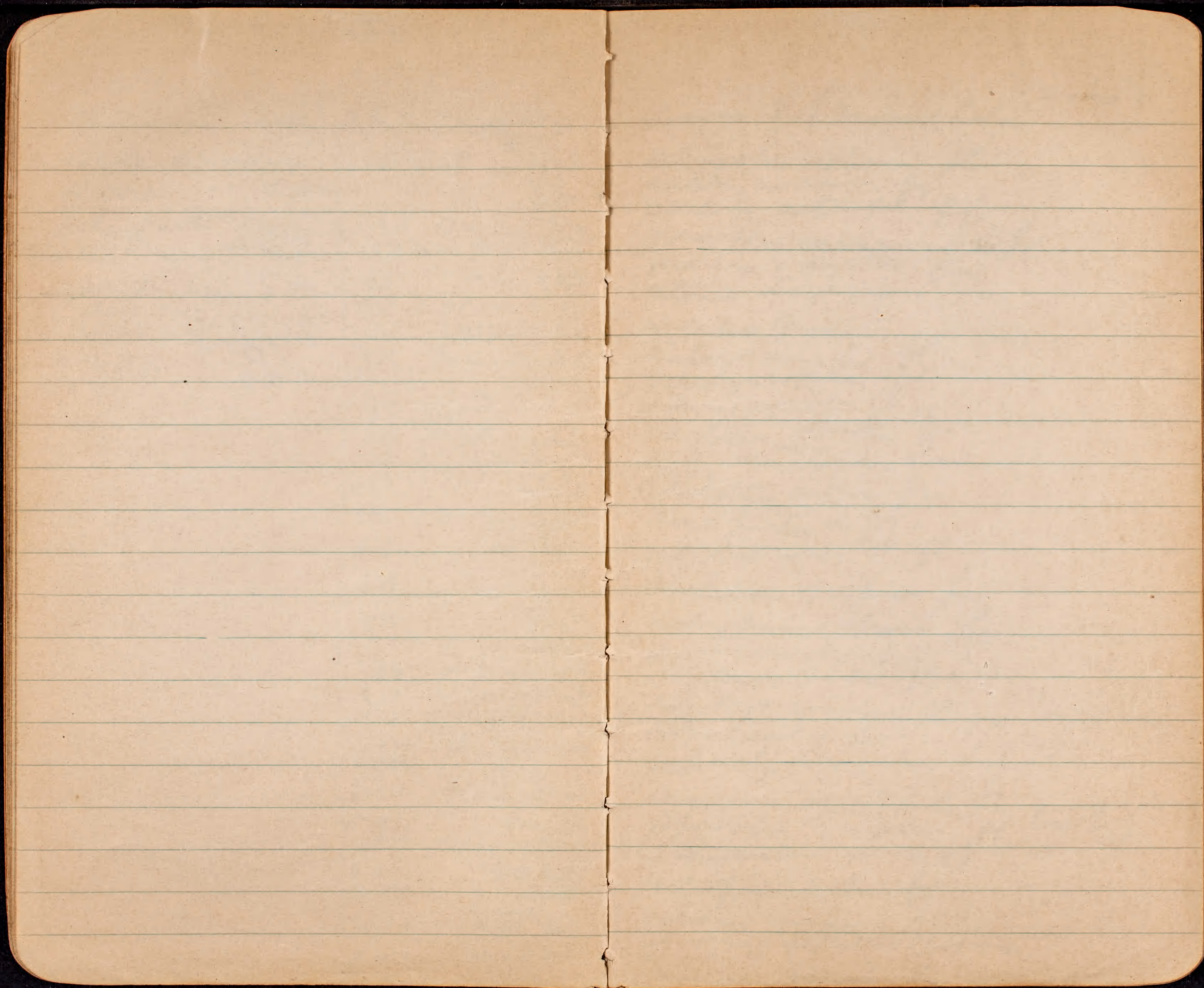
Aug. 24, 1934 Fri.

Left at 12:59 PM.  
 Lab. 0  
 #9 3.9  
 Lake Park road 11.1  
 Bug road 13.3  
 Co. line 14.3  
 RR. (Rush Lake) 20.1  
 Ocheyden road 21.5  
 Sibley 33.7  
 Co. line (Lynn) 39.1  
 Little Rock rd. 41.9  
 Rock Rapids (inn) 56.1  
 Lester 64.3  
 Larchwood RR. 70.7  
 state line 75.6  
 S. exp. for Q. 88.2  
 Park 81.8

Harwarden 130.6  
 #75 146.2  
 Sioux center  
 #18. 159.1  
 #71 210.2  
 Milford 220.5  
 Lab. 225.9

Return  
 Lve. State line 88.9  
 Larchwood (RR.) 93.8  
 Lve. #9-S. #26 95.2 1/2  
 Inwood. RR 104.1  
 #18 104.2  
 Co. line (Lynn) 107.1 1/2  
 Lve. #18. 111.1 1/2  
 Hudson corner 115.6  
 Rock River 120.0  
 Lynn 122.0  
 Oak Park 123.0  
 Back to road 124.2







Præni S A Diurno Latus (on road)

Helianthus scaberrimus fl  
Bontelium carolinense fr  
ambrosia artemisiifolia fl  
anaphalis canadensis fl fr  
Solidago v. angustata fr

Setaria viridis fr  
Andropogon furcatus  
Liatris scariosa fr fl  
Lupinus albus fr  
Kuhnia v. corniculata fl  
Verbena stricta fr  
Aster multiflorus fr  
Petalostemum candidum fr

Rosa pratincola fr  
Solidago rigida fl fl  
Petalostemum purpureum fr  
Andropogon scoparius fl fr  
Panicum scribneri  
Solidago nemoralis fl

20 Solidago canadensis fl fr (more lower)  
Aster laevis fr  
Helianthus maximiliani fr fl  
Branneum angustifolium fr  
Sporobolus tenuifolius fl (near here)

25 Astragalus canadensis fl  
Helianthus scaberrimus fr  
Solidago missouriensis fl fr  
Anemone cylindrica fl fr  
Lygodesmia juncea fl  
Cocophis palmata fl



- 31 Comandra  
Lepachys frumata fl. fr. sc  
Acerata v. lanceolata fl  
Aster aciculus fl  
35 Artemisia ludoviciana herb  
Ceanothus am. fr. (low)  
Panicum acrophyllum fr.  
Allium stellatum fl. (low)  
Sambucus racemosa fr. "  
Mosses milled "  
Polygonum fl. (low) (moss)  
Sarcocolla ludoviciana fr. (low)  
Asclepias speciosa fl. "



Milford 7.7  
 10.15 = 7.7  
 22 " 11.15 48.9  
 3 " 12.15 92.9

4<sup>th</sup> 11.15 - 135.6  
 Am 158.1<sup>1/2</sup> Ocean  
 160.2 - West Fork River

Sunday, Aug. 26, 1934

Left at 9:23 am. 25995

Lab. gate	0	Hampton -	146.6
Milford - 10:15	7.7	#65	142.0
Spencer TR.	20.7 <sup>1/2</sup>	Co. line (North)	156.3
Turn E.	22.0	Durham	159.0
Dickens (road)	27.9 <sup>1/2</sup>	Allison road	169.8
Co. line (road)	33.5	Shell Rock -	180.3
Ruthven	34.3	Co. line (Prum)	181.8
#17	41.2	#218	185.4
Emmettsburg, #17 -	45.9 <sup>1/2</sup>	Waverly, #10 + #218	186.3
Cylinder (road)	53.9 <sup>1/2</sup>	River -	186.18
Co. line	59.4	(road)	186.7
Whittier road	60.3 <sup>1/2</sup>	#59	193.5 <sup>1/2</sup>
Algona W. 169	69.6 <sup>1/2</sup>	Redlyn road	199.0
" E -	70.6 <sup>1/2</sup>	Co. line	206.4
Sexton	76.9	#11	214.7 <sup>1/2</sup>
Wesley	81.8 <sup>1/2</sup>		214.8 = 11
Co. line	83.5	Belwin - #10 + #11	217.2 <sup>1/2</sup>
Hutchins	88.2	Co. line	219.6
Britt III	92.3	Hazelton -	221.5
Eagle Lake road -	95.3 <sup>1/2</sup>	RR -	223.9
Duncan	97.0	Independence	232.4
#15 (W. of town)	101.7	RR -	236.1
Woodville	114.1	Road	239.5
Co. line	115.1	Co. line	244.0
Belmont	119.3	#101	244.9
#10	126.0	Co. line	247.0
	126.1 <sup>1/2</sup>	Walker	250.3
Rowan	129.3	Center	256.4
Co. line (Franklin)	132.0	Louis	269.9
Coulter Road	138.4	Co. line	272.9 <sup>1/2</sup>

Stopped at Gull Pt. & collected more truck material (see list) for Woodcock's case.

A beautiful clear day. We drove to Spencer & E. on #18 to Garner, Minn.

27461 #30

27445



2 blocks N. of

Expenses

Aug. 11. Gas, oil, <sup>10 gal. - 1.50</sup> \$ 1.80

Aug. 12. <sup>10</sup> ~~Hotel~~ <sup>10</sup> ~~Waukegan~~ <sup>10</sup>

Fire, gas, oil <sup>25</sup> 1.84 <sup>25</sup> <sup>crane mail</sup> 2.22 <sup>245</sup> <sup>22</sup> 2.67

Salesville, Wis. Supper .80

La Crosse - room 2.00

Pr. du Chien <sup>1.94 + 8</sup> 9.49 <sup>1.55</sup>

Toll - Dubuque .30

Supper " .72

Aug. 14. Hotel <sup>1.50</sup>, supper <sup>11</sup> - Bellevue 1.91

Toll, Sabuk .30

Luncheon - Clinton .72

Post Ryan - gas 10 gal. 1.85

Trip To La Crosse, etc

156  
8579  
8035

Wednesday

Aug. 12, 1936. - Reading, 8879 (879)

Left at 5:43 A.M. over road 1054.5

Home	879	Peno, Minn	1054.9
(Anna's) 7 AM 19 <sup>th</sup> + 1 <sup>st</sup> Av.	987	Brownville	1061.8
Manchester #20	948.6	#16	1069.3
Strawberry Pt. #10	966	La Crosse <sup>6/14</sup>	1072.0
Elkader	981.4	Darlsbach	1077.4
Juno on #P	982.3	Sakota	1078.9
Gunder	993	La Moille	1087.8
#18 + #22	1001.8	Homer Minn	92.3
Portville #52 + no 51	1003.6	6/14 - Juno	96.7
(Darius before from home)		Winona <sup>Business - 98.4</sup> <sup>Brady</sup>	98.6
#9	1019.0	Ben Brink	1099.3
Waukegan	1020	Marchland, Wis <sup>(school)</sup>	1108.7
Church (Juno R.)	1025.6	Centerville, Wis	1109.1
at 1 <sup>st</sup> (after out on river slope)	1033.4	Galesville, #53	1115.6
at edge of valley	1033.8	Holman	1127.1
double back		Midway	1129.6
over 243		Onalaska	1133.2
New Albin	1045.0	N. La Crosse <sup>enter</sup>	1134.9
		La Crosse, Wis	1139.2 - Juno back
			1139.9 La Crosse Hotel

45.8  
33.8  
11.2



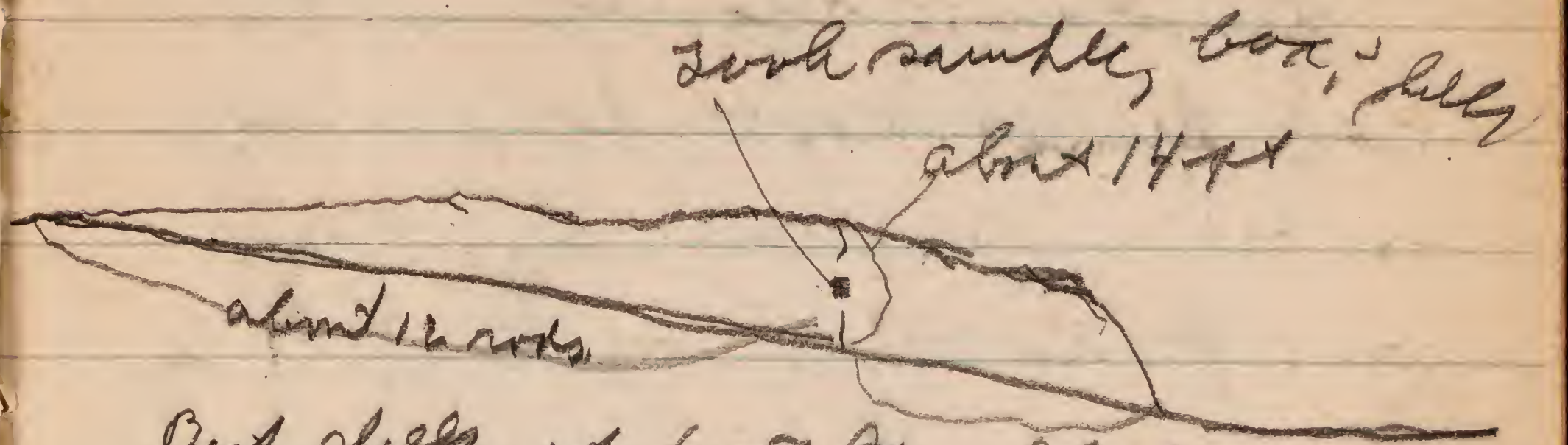
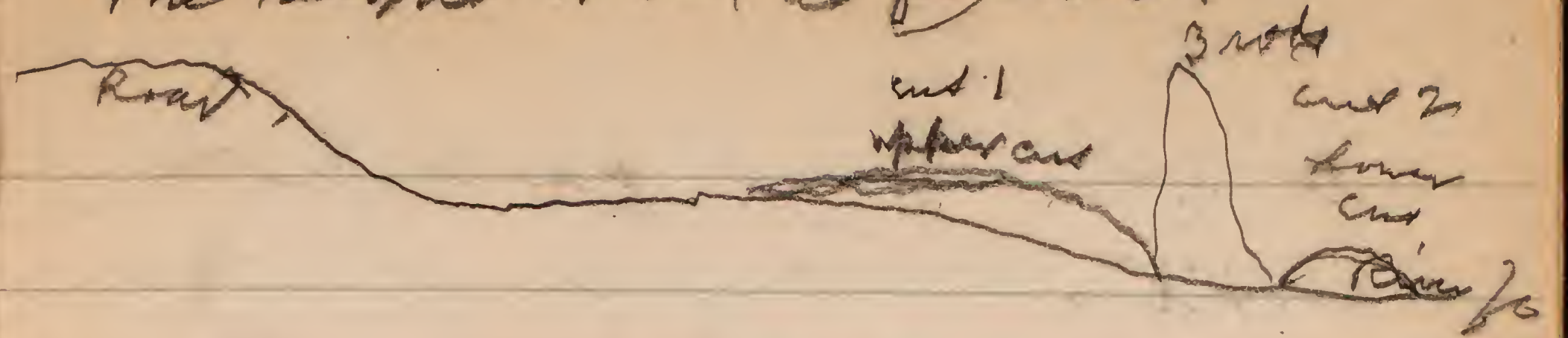
A heavy day, quite hot  
later

We drove via Annis, had  
breakfast, left Ella, & started  
on #13, to Wauchoy, then  
on #7 to Postville & on #51 to  
Wauchoy.

We then drove towards the  
cabin. There are low hills  
(but harder & no fossils)  
cuts on the uplands, but  
no real fossiliferous cuts  
until on lower slope (near  
base) of long hill leading  
down to valley of the Upper  
Iowa.

The first cut is a few ft.  
(estimated) above the  
lower end. It is on W.  
side of road, only.

The slope to N. is followed



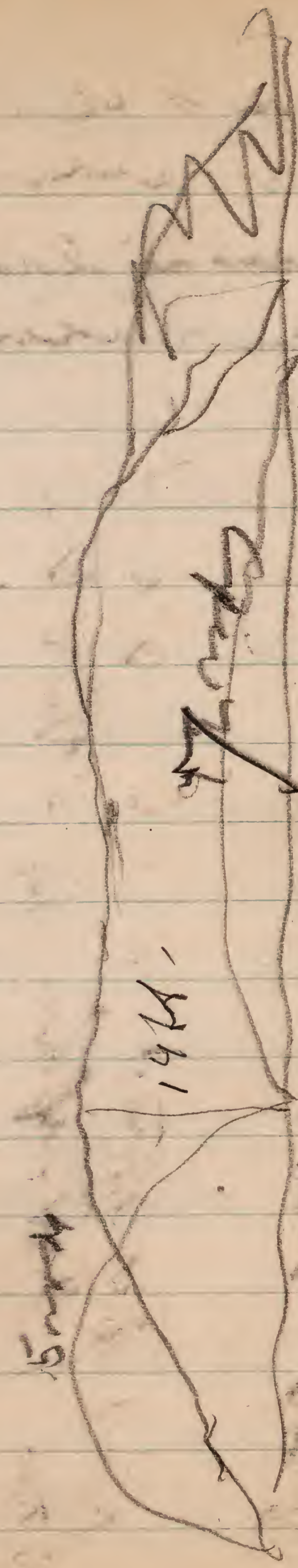
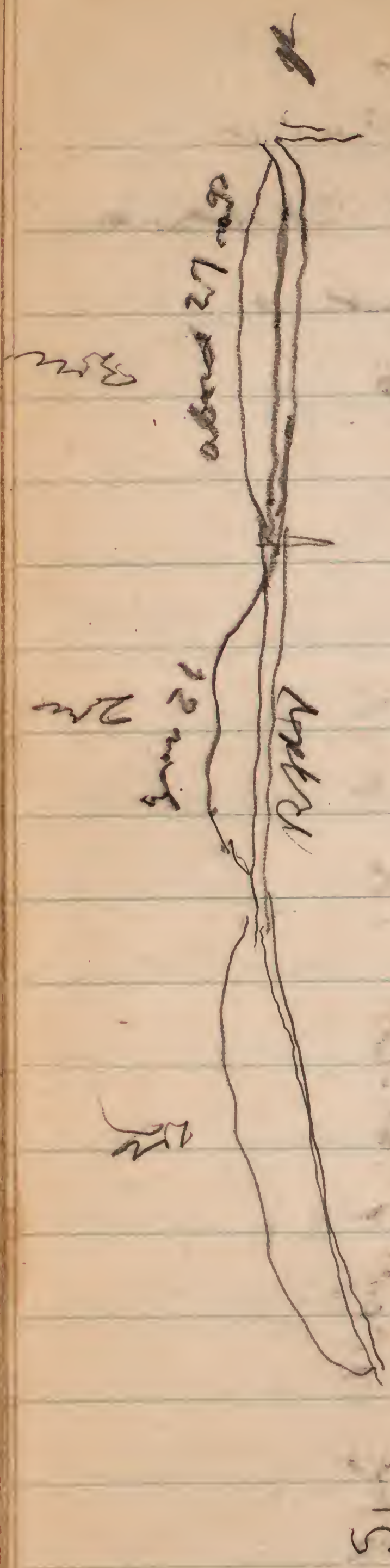
Best shells at 6-8 ft about 5 rods

Soil sample & box from about  
8 ft. above gutter, top is 6 ft.  
higher

The base is mostly clean  
but there are narrow  
sub horizontal streaks of gray.  
Lower part is heavier & heavy  
rough but stratified, - not  
loose.

cut 1 is probably 10-12 ft above  
cut 2 + 2 & 3 are more nearly  
in level, - the N. end of  
3 coming to valley edge & only  
a few ft. (6-8 ft) above





cut 2-11, 20, 23 (in yellow) at lower stretches  
 mostly mullen low stuff (water)  
 no fertility, low sandy

cut is in river, a little  
 lower.

all have been above, 1  
 few which above in #2, 27, 3

Had fracture as cuts, channel  
 tires + had repair at New Albin  
 Drove up river on #26

then seems to be lower  
 open or almost to  
 below general level +  
 just above valley



at 10 54.5, just below  
Rens, there is clay first  
in a sort of terrace. It is  
about 12-15 ft deep & shows  
a yellow material much like  
loam (especially the dust) but  
much of it is stratified, with  
strata of iron, sand, etc.  
No shells.

We passed a big dam  
below Dubuque, under  
construction.

We drove to Winona. The whole  
distance shows abrupt bluffs &  
knobs, - the "Winona Hills".  
The Mississippi is very low,  
show extensive bars which

are evidently usually covered.  
We crossed the river at  
Winona and drove to Galena  
and La Crosse.

The bluffs are mostly low,  
though a few sharp peaks  
appear opposite Winona.

Unlike the heavily wooded  
bluffs on the Minnesota side,  
the bluffs are mostly bare  
of trees excepting in the  
back ravines, and sometimes  
in the terraces in bluffs, &  
in the more broken part,

The bottomlands show some  
lagoons, and all along  
there is a ragged forest  
growth on the bottomlands,  
occasional sandy terraces  
show on the way down.



This is no level country (except in pockets). The valley is not wide and evidently not many bars when water is not so low as at present.

At LaCrosse we hunted about and finally located at a tourist's place S.E. of the LaCrosse Hotel - on #61?

We returned early and slept well after a strenuous day.

Thursday  
Aug. 13, 1936, left LaCrosse (return) at 6:57 AM

Returned to LaCrosse Hotel.

LaCrosse Hotel	1141.2	June 5, on 35	1244.3
Calvert	1147.0	Patch Grove	1245.2
<small>Physa at 1149.6</small>		Bloomington	1250.2
Coon Valley	1159.3	# 81 - (Benton)	1258.0
Westby	1169.5	(Grand River just S.)	
Viroqua	1176.9	Lancaster	1266.
Juneau #29	1180.6	Rockville	1275.1
Liberty Pole	1182.9	British Hollow	1276.7
Monument Rock	1184.7	Dickinsonville	1285.5
Rising Sun	1189.9	Kiel	1289.1
W.A. McKinley	1197.7	Mount E. Dubuque	1291.9
Seneca	1202.1	<small>at 1294.9</small>	1294.9
#35	1207.2	E. Dubuque #20	1297
Eastman	1210.6	Galena, Ill	1311.2
Pr. du Chien <small>at #18 1223.3</small>	1223.5	Cut - on return	1313.6
<small>Juneau back to #18</small>		E. Dubuque	1329.3
Worm Creek	1226.1	E. Dubuque	1329.9
Stand #18	1229.3	W. Dubuque	
Dodgeport (turnover)	1235.5	#52 #67	1330.5
Return -	1237.3	Jimminy on return	1324.6
Boone - N	1237.3 1/2	Rockwell	
S -	1237.6	Juneau S. on #52	1333.3
		1st cut	1333.5
		Belleme	1354.5



We drove S. on #35

The bluffs at La Crosse are covered with a low ragged growth.

A good range of bluffs below La Crosse shows some ragged timber, the bluffs curve to SW. Bluffs come to road at 1146, - near Calvert.

A valley runs E. from Calvert, - bluff shows woods on S. side.

We drove up this valley (E) & the wooded bluffs show all along on N. side.

at 1149.6 - E. of Calvert, I dredged a few *Physa* out of a promising but polluted creek.

In deep as low water along #61  
+ #14

I found a bag Fomes on stump of oak (white oak?) at 1184.7 - is Monument Rock, a tall pinnacle of rock very narrow, made up of blocks, looks almost artificial, - very narrow we drove to Prairie Chien & at 2 1/2 hrs W. of the junction with 18 further S. we got stuck at a gas station (Red Crown) - sold us 10 gals of gasoline & on return paid 8 more in, - & the tank held 14! We also had one or 2 gallons in.

We drove to Pindisport - now almost extinct.

Up the road from depot (past the abandoned little town) the new road fills spots wide & the east side is



are shown. In the place  
where main road goes a  
little down hill to new  
bridge (& about on level  
of top of terrace) there  
is a cut showing yellow  
loam but no fossils.

Probably 6 ft. exposed.

The main road & bridge are  
only a little (20 or 30 ft?)

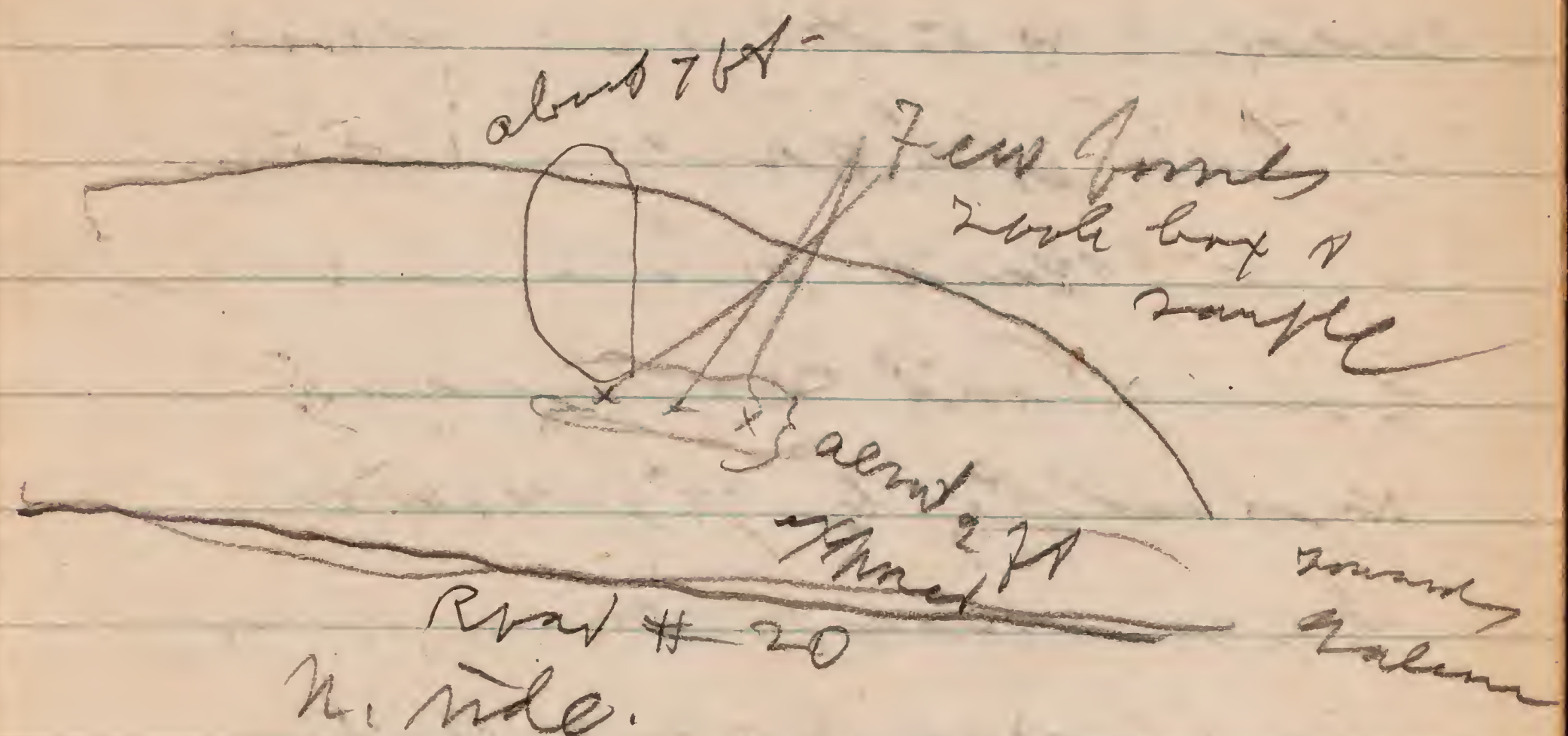
below top of terrace &  
well above Bridgeport.

We stopped at Dickerville  
and look at the Grothues.

We then drove to E. Dubuque, Ia  
& took #20 for Galena.

Part way (4?) up the hill  
just at edge of Galena, a  
small pit shows a few  
fossils in a rather hard  
yellow loam.

There were a few small nodules  
(regular & round) & a few shells  
took box & sample.



at 1313.6 on return

The Zimmerman cut,  $4\frac{1}{2}$  E. of  
E. Dubuque, on small road just S.  
of #20. A fine cut of  
very fine yellow loam, with  
few soft, small nodules, and  
scattered shells, especially about  
12 ft. from top.  
Loam is at least 20+ ft. deep  
and runs up about to top.



Took sample, box, & picked (along) a few shells. They are scattered at 1333.5, on 52 + 67 11, 12 mi. S. of town in 1<sup>st</sup> big cut - has yellow loess base - 8 or 10 ft? but no fossils

We drove to Bellevue on #52 + #67, saw an upland road which offers numerous attractive views but does not come in sight of the river until near Bellevue.

We put up at the Weck hotel.

We were in rain much of the day, - near N. of Dickeyville Wis

Aug. 14, 1936, Friday

at hotel	1354.6	at start	
Drove W. on Magnolia		Bluff (return)	1432.3
on #62		Return to #80	1435.5
Turned back on	1357.	Albany	1442.8
Hotel at Bellevue	1359.3	Cordova	1452.2
Turn to park	1360.3	Port Byron	1457.4
Return to #52 + #67	1362.6	Rapids City	1459.6
Sabula (bridge)	1385.3	Hampton	1463.4
E. end bridge	1386.	E. Magnolia #6	1466.5
Sabula (business)	1386.8	return	1467.2
Return - Sabula	1387.5	Magnolia bridge	1471.7
Turn #52 + #80	1388.6	return	1472.4
Turn back to #52	1392.5	E. end	1472.8
Back to #52 + #80 (in town)	1396.3	End	1472.9
E. on #52 - (turn back from bluff)	1398.1	at bridge - Dicks	1476.1
Return to 52 + 80.	1399.9	Johnson	1479.
Johnson	1409.4	Home	1536.9
#30	1416.4		
Fulton, Ill.	1417.4		
E. end bridge	1417.6		
W. " "	1418.1		
Clinton (down town)	1420.7		
return	1425.7		
E. end bridge			
Fulton			
#80 turn S.	1426.9		
#30 " E.	1429.2		
Bluff E. (turn back)	1431.5		



We drove out along the  
 Manaheta road #62 to the  
 big hill. This has been greatly  
 changed. The road is blocked  
 through side & the grade  
 reduced.

We returned to Bellevue & drove  
 down into the state park. Picturesque  
 cliffs & fine views of valley.

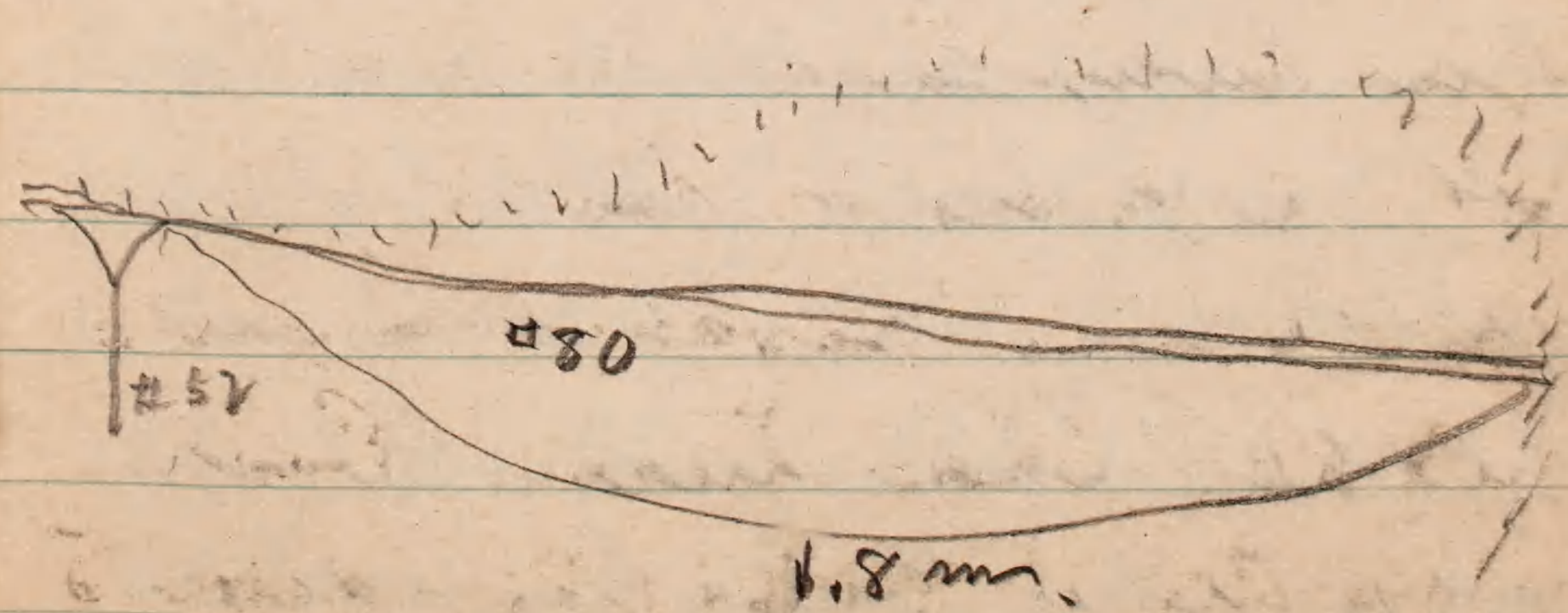
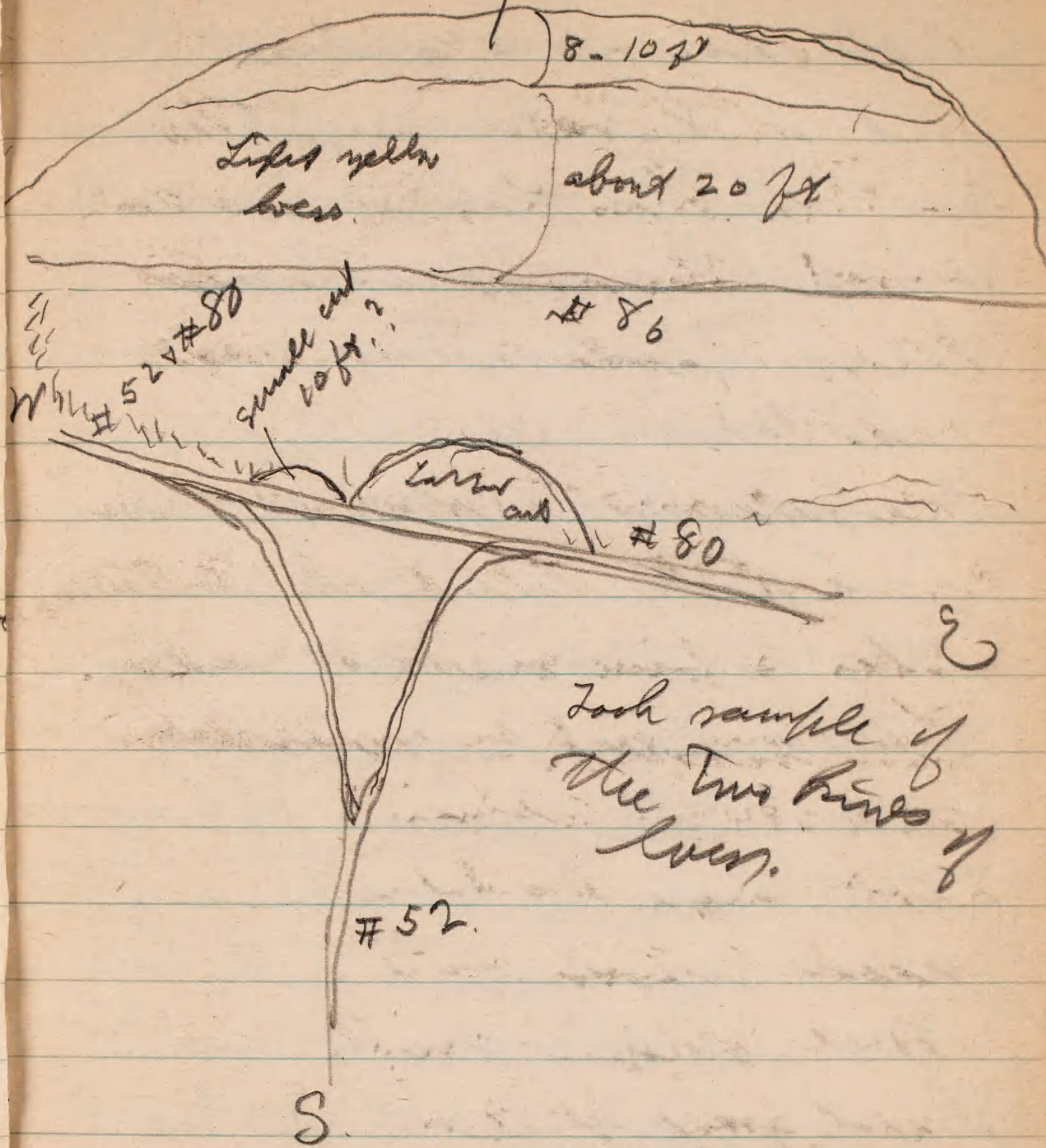
The road route an undulation  
 Drove south on #52 & #6  
 at 9384.8 - alluvium

woods beyond Sabala  
 collected *Polytrichum* and  
 + *Fun. obliqua* - crusty  
 on wet ground, sticks of  
 a few under logs.

Also a *Panus* on log

We drove to Savannah & started  
 S. on #80, then turned back  
 to junction of #52 & #80 & drove to  
 bluffs on #80 (E). Return to junction

Looked at big cut  
 reddish loam





This big cut is just at W. end of big crescent formed by bluffs which recede abruptly and far out just below Savanna.

The loess is very loose & probably has a lot of very fine sand.

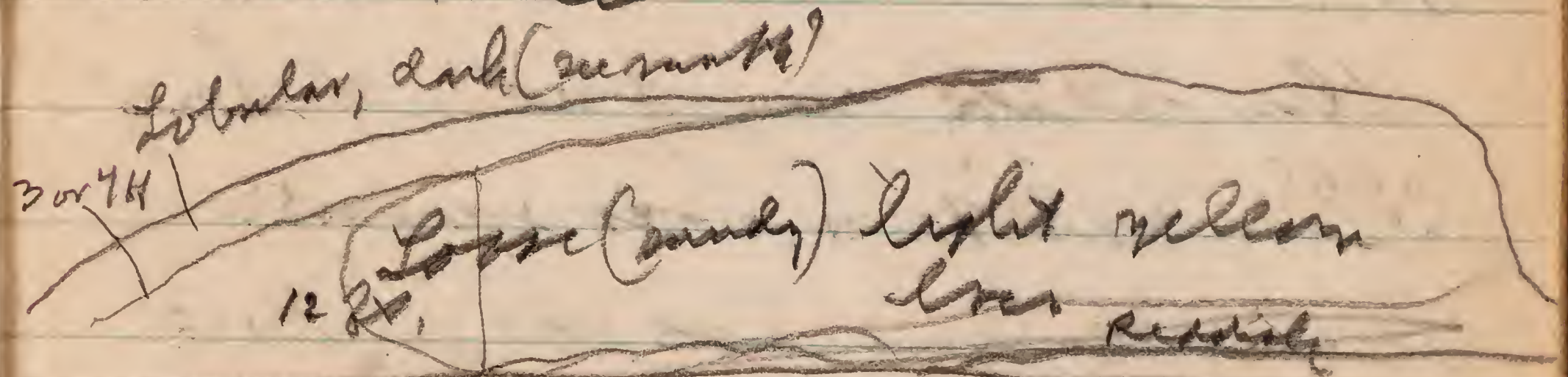
This bluff was fully exposed to the south & was evidently covered with prairie, hence there were no shells, and none are found in the loess.

We drive S. on #90 to Fulton. The bluffs are out eastward on a broad crescent and do not swing back until below Fulton.

The plain is sandy, and in many places Euphorbia corollata whitens large areas.

We crossed the river to Clinton and had luncheon. Then drove along Bluffs back to Lyons (near Clinton) and recrossed river to Fulton.

Just opposite 211 Locust Place, along bluff, there is a large cut on west side.



Rock.

The light yellow loess is mostly crumbly (sandy) like at Savanna. Parts at left are firmer & show a sort of stratification (see sample). No fossils.

Along the Bluffs Blvd. - we were a few miles from Fulton. Bluffs come to road at New Albany. Ill. again run away east a little below.

30' to 40' but  
 to be  
 30' to 40'



at 1446, 6 we ran up  
on a terrace - very broad  
+ flat - 12-15 ft<sup>2</sup> above  
lower level. Can see in  
bluffs E. We ran on this  
terrace.

Bluffs came in sight (distinct)  
at 1451.

Bluffs come quite close  
(abruptly) just below  
Cordova.

Here they look like  
rounded overgrown  
sand-dunes.

The bluffs all along,  
from Savanna down,  
are quite low & rounded  
as they run back.  
Right at Savanna they are  
higher.

The knolls below are old dunes (some  
with woods), sand shows in cuts.  
The rounded dune knolls also  
appear below Port Byron.

Below Port Byron the low  
rounded bluffs are near road,  
the river is also near.  
Same to E. Moline.

Bottom visible at E. Moline.  
We drove over the new bridge  
to Bettendorf + on to John's.

A very hot day, - hot wind.  
We had bad weather for  
quilt work all the time.  
1<sup>st</sup> day very hot; 2<sup>nd</sup> day rainy,  
& 3<sup>rd</sup> day very hot.

Stopped at John's, dropped in to see  
Ed. Bloomer & then drove home.



Expenses

Aug 31 - Gas 11 gal. (+ 4 gal) \$ 1.98  
 Conn + into Cedar Falls .21  
 Sept - Sturgis, gas, 11 gal 2.00  
 H. Cronk's, of Rockwell <sup>even drinks</sup> .20  
 10 gal. gas, 1.38 / gal. oil .25 2.13  
 Milaca, room 1.25, supper, 30, paper 5 1.60  
 \$ 8.12  
 Sep. 2 - Breakfast <sup>50¢</sup> paper <sup>5¢</sup> car. <sup>75¢</sup> 1.30  
 Dinner at Garrison 1.00  
 Walker, gas, 12 1/2 gals 2.45  
 Supper at Meunier .70  
 Sep. 3 - 0  
 Sep. 4 - Dinner, Bemidji, Bemidji 1.60  
 Sep. 6 - 8.6 gal. gas + 1 gal oil 1.90  
 Sep. 7 - Wadena, Minn. Vesp. mtg, Rhyndy, etc .78  
 - Sank Centre gas, 10 gal. 1.87  
 Changing tire 25, inner tube 2.90 3.15  
 Room (Carlson's) 1.25  
 Sep. 8 - Sank Centre, breakfast .50  
 Redwood Falls - Dinner .50  
 Windom, gas 10 gal 1.81  
 Sheldon, room 623 - 10<sup>th</sup> m. 1.00  
 Sep. 9 - Sheldon - breakfast .41  
 Hudson Co, D, gas, 10.7 gal 1.60  
 Hawarden, Tablets, etc .71  
 Akron - dinner 46, <sup>10</sup> Rodas .86  
 Mapleton - supper <sup>31</sup> 1.00  
 Soter - Ponca + Soter City, <sup>10</sup> Mapleton 1.31  
 Joe Snow at 30  
 25

1 - 793.8 39.8 4 - 916.4 - 42.4  
 2 - 841.5 - 47.7  
 3 - 874.0 - 32.5

Aug 31, 1936, Mon.

Started at 1:30 P.M. at 9754.

Home 754.0  
 Cedar Rapids, #30 779.8  
 #00 + #218 798.6  
 Vinton 812.9  
 La Porte City 832. -  
 Waterloo (Hotel) 846.8  
 Cedar Falls, #20 854.0  
 Waverly, #10 867.9  
 Plainfield RR. 878.7  
 Washburn <sup>879</sup> 886.6  
 Charles City, #18 897.5  
 (Marion #) 897.8  
 No. 18 Minn W. 902.7  
 Floyd - 903.4  
 #9 + #218 - 914.3  
 Orage - 918.3  
 #218 + # 924.8  
 Sturgis 930.5

930.5  
 754.  
 176.5 m. to Genoa

Genoa - breakfast #.75  
 Mapleton - breakfast .41  
 Gas 9 gal. - 1.59  
 Oil .26 } 1.85  
 Genoa, dinner .91  
 Soter, paper .15  
 Dinner, Soter, 1 m .20  
 Marshalltown - gas - 11 gal. 1.98

Belle Plaine & Suther 14



Clear & somewhat windy. Warm.  
 S. of Clinton trees with dead tops.

In some of the draws (from W.)  
 although ground mostly corn  
 smaller than back of shelter on  
 hill.

Cooled towards evening  
 We drove to Harris and camped  
 all night.

Much of the country with  
 of wavy draws green pastures  
 etc. The stubble fields are  
 also looking greener, & on the  
 whole this is better than  
 we have seen southward.

The corn is small and much  
 of it has been (or is being)  
 cut for silage.

Solidago canadensis just coming &  
 most common. Almost only new  
 in bloom.

1-9738-43.3 3  
 2-1017.3-43.5

1110

Sept. 1, 1936, Tuesday

We started from Starville, Ia.

at 8:17<sup>1/2</sup> a.m. Harris, Ia. 1104.6

George's -	930.6	Junk E.	1100.2
#218 -	938.1	(turn back - extract .3	
State line	943.3	at SA Cross Riv.	
Lyle, Minn. <sup>RR</sup>	943.5	below ferry	1116.7
Austin <sup>(couch turn</sup>	956.1	Return to #61	1121.0
Glooming <sup>turn</sup>	956.2	1 mi. N. of station	
920.9		Rush City	1121.8
Cixby	977.2	Rockwell -	1127.0
Pratt		Junk E.	1127.5
Swatona	989.2 (turn)	at Cross Riv. <sup>#70</sup>	1136.7
Clinton Falls	993.8	return	
Medford <sup>RR</sup>	995.8	To terrace -	1136.9
Faribault	1005.1	To west end	1139.8
Dundas	1012.0	scuffs	
Northfield	1020.4	Return to #61	1146.0
Farmington	1034.0	(W. out #70)	
Rosemount	1041.0	#70 leaves #61	1146.4
Radio Center		End of gravel	1156.3
St. Paul #61	1059.3	turn N.	
White Bear <sup>turn</sup>	1068.2	Junk N. at	1158.1
Hugo <sup>RR</sup>	1079.3	Brownsvick	1163.7
#8 & #61	1081.2	Junk N.	1164.0
Forest Lake	1082.8	Ann River	1168.5
Wyoming	1087.0	#27 turn left	1169.1
Stacy	1091.3	and turn	1171.1
North Board	1099.4	Ogilvie -	1176.8
		Book	1183.7
		Milaca #169	1189.1
		Milaca RR	1189.4
		Return to	



We left at 11 AM and drove west to #218

It rained much of the night, with much thunder. Day cloudy

Collected Vireo & Lynceus & Phainopepla on shore of White Bear Lake

Road approaching & beyond St. Paul, but beyond Hugo very flat.

We drove E. of Rush City to the St. Croix River.

I pulled up Uria & dredges Campbell, Phainopepla, etc. Drove E. from Rockchurch to the St. Croix River. Water is higher and dredging was poor, but I got some Porosiphon, Campbell, etc.

Pluffs are numerous on this low side, but a low valley first & then broad terraces on Minnesota side

Golden rods are much farther along northward. They were just budding & beginning to open at Orange & at Rockchurch, etc. They were in full bloom

Between Ogilvie & Milaca is nearly all cut-over land. Only scrubby quaking aspen & white Birch! Very few farms in this part. It is a pitiful sight to see the devastated country. There is no current area (this year) in the stretch to Milaca.

We drove to Milaca and put up at a tourist's home near the hotel (see block 8). Marie had the car repaired. A cool, windy evening



Sep. 2, 1936 - Wednesday.

Left at 8:35

A very foggy morning after a cool night. They have had much rain here just recently.

Fields after field of winter corn - 1 to 3 ft high, with tassels.

Most of this is cut over land. Farmer few, & few look prosperous.

Rum River shows only a few pools. It was evidently dry.

Beyond Rum River a good pine (also)

at 1208.4 we crossed Rum

River again. Also at 1210.5 <sup>also at</sup> 1211.5 soil poor - many boulders on surface & no hills.

We drove along W. side of Miller Lake, & picked up a lot of shells on beach.

*Arrodonta bostrax*, *Lymnaea stagnalis*, *L. emarginata*, *Planorbis*, etc.

Lake Eden S. of Regent

RR. at Milaca	1190.0
Page	1199.3
Rum River	1202.0
Onamia RR.	1212.2
Shells on beach	1216.4
Garrison #18	1234.0
Brainard	1254.7
<sup>#271</sup> Lost about 4 hrs.	
Brainard Turn W. on	1255.5
Mississippi River <sup>371</sup>	1256.1
Jordan <sup>#371</sup>	1257.6
Long Lake	1264.4
Long Lake	1265.7
Triska, RR	1271.0
Regent	1277.2
Round Lake	1266.7
Shell Lake	1267.7
Canbino RR. etc.	1281.4
Pine River	1286.2
Cone River	1290.0

Mildred <sup>RR</sup>	1273.9
Bishop <sup>#87</sup>	1299.2
Island Lake	
Hackensack	1307.1
Lothrop	1317.5
Walker <sup>RR</sup>	1320.7
Koberon Riv.	1324
Leech Lake	
Williamson	

Cass Lake <sup>RR</sup>	1346.7
Lake Audubon <sup>RR</sup>	1347.8
Mississippi Riv.	1349.0
"    "	1351.6
Bemidji	1360.4



It cleared up before noon,  
Left the shell beach at 12:25 pm  
The lake is shallow along shore  
& there are many rocky (bouldery)  
reefs. Landing is difficult in  
most places.

The beach is pebbly & bouldery  
all along.

Compass shown along #18 &  
then on along #371 beyond Brains.  
Long lake is very rocky at  
the west end.

At 1266.7, on beach of Round  
Lake (I marked labels "Long Lake",  
correct this) we picked up  
*Syrphus neozonus*, *L. thurleyi*,  
*S. summiti*, *Physo*, etc.  
(see box & purchase)

The day turned out fine?

At 1310.7 we entered Clipperton  
North Ford

At 1347.8 - beach of Lake Ansonia  
I picked up small box of shells on beach.  
We drove through Cass Lake  
to Bemidji and had supper.  
We then drove to Dewey's  
cottage. We found them 5 1/2  
miles N. of Bemidji, on the  
east side of the lake.

This area is still well wooded,  
*Betula papyrifera*, *Populus grandi-*  
*dentata* and *Quercus ellipsoidalis*  
being the most conspicuous trees.  
Lake Bemidji is quite a body  
of water, forming a chain with  
Lake Stora, Cass Lake & Lake  
Winnipegosis, - a series  
of basins which are more  
enlargements of the Minnesota



Sept. 3, 1936, Thursday

I spent the forenoon in cleaning shells and packing my material.

In the afternoon Elaine took her motor boat and we (Margie, Pearl, Elaine & I) went to the Mississippi outlet (about a mile) and went down two or three miles. The stream is mostly narrow & shallow, with many boulders, etc. on bottom.

It is really merely an elongated pond. I noticed following:

*Nauplius adum*

*Potamopygia praecipua*

" *metinula*

" *gortacubola*

*Myrio phylax*

*Ceratophyllum*

*Valisneria*

Wild rice, etc.

On higher banks white & Norway spruce, white birch, Balsam fir, white spruce.

In lower places tamarack, black spruce, etc.

We could see rather numerous fish in the clear water.

Also saw shells of *Union* (*U. ventricosa*, etc.), I noticed a few *Apharion* *rubescens*, an Anodonta & saw *Pleuro* *trivolvii* & *P. cambrensis* also saw *Valvata* *annicula*.



We returned (the motor  
broke down on Prairie road)  
and in the evening Mr.  
Mrs. <sup>Max</sup> Creager of Bendigo.  
He was formerly in the  
Montrose Hotel of Cedar  
Rapids.

Lake Bendigo is surrounded  
with alternating low  
(sandy or gravelly) beaches  
and higher banks or  
weathered bluffs, mostly timbered  
excepting on the face of  
the latter.

A fine, clear day.

1936

Sep. 4, Friday.

I spent the forenoon  
partly in labeling and  
packing collections and  
partly in collecting fungi  
and lichens, mostly  
chiefly on *Populus balsamifera*,  
*Populus grandidentata* and  
*Quercus ellipsoidalis*, - partly  
on dead logs & stumps & partly  
on living trunks.

We expected to go to Cedar  
Lake in the afternoon, but  
Marion was sick and  
I finished packing, wrote  
notes, etc.

Cloudy, rained a little  
in the morning, but  
there was some sunshine.

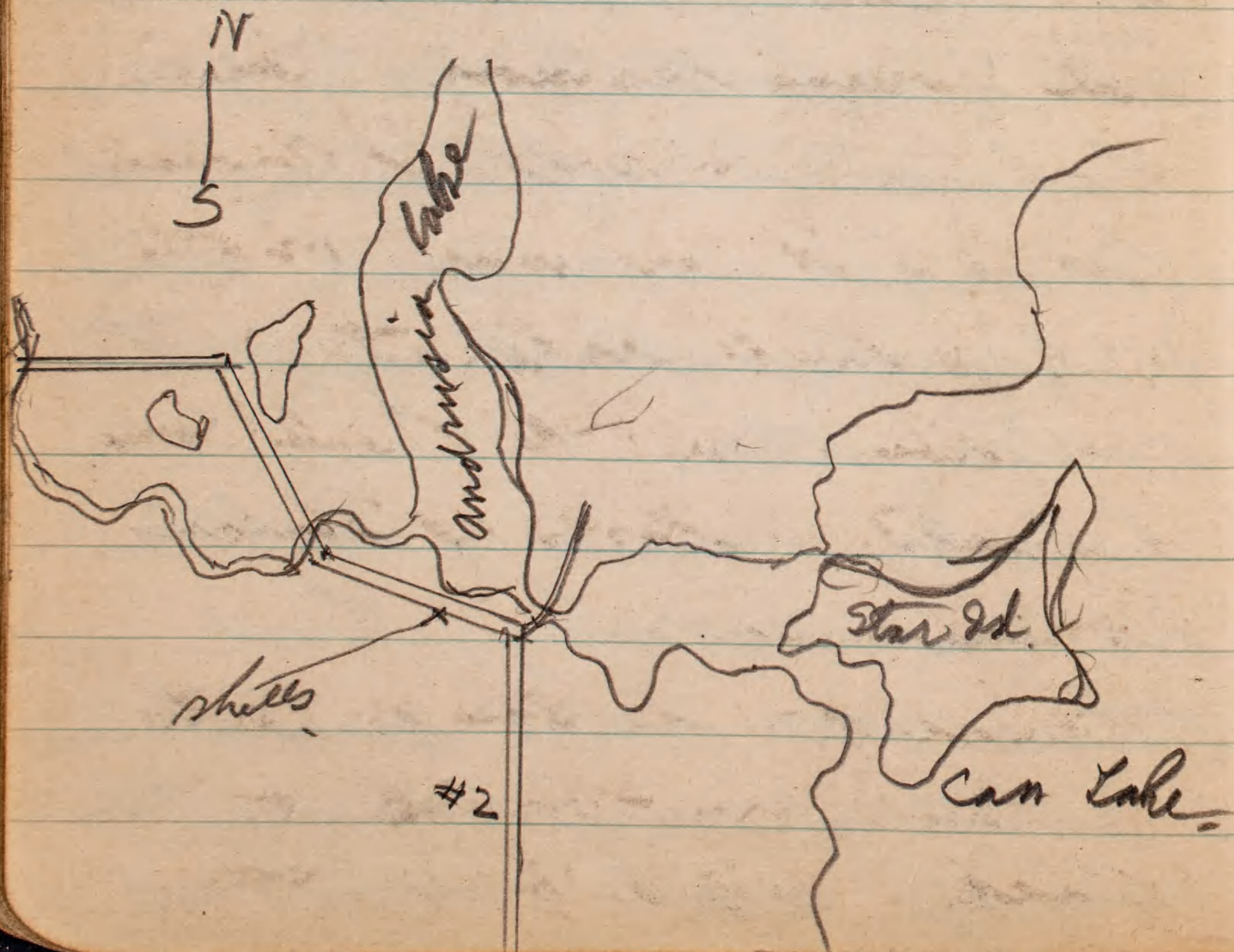
In late afternoon we drove to  
Bendigo and I walked up



the west beach nearly  
half a mile. Found only  
a few older shells (see small  
set). *Plan*, *campanulata*,  
*Lymnaea emarginata* etc.

We had dinner at the Eddy  
Restaurant and then drove to  
the cottage.

We drove back to the  
cottage and returned early.



Sep. 5, 1936 - Saturday.  
It rained at night and in  
the morning.

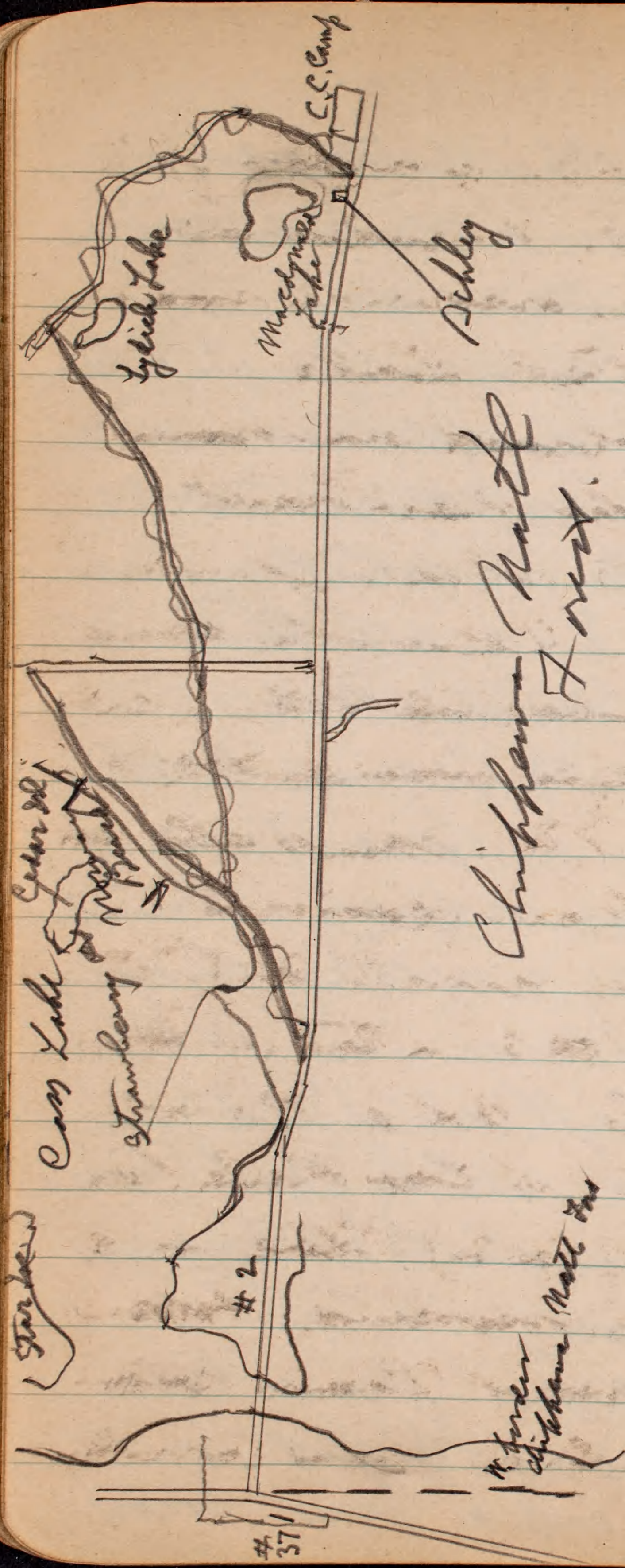
I collected some fungi (*P. form.*  
etc.) and packed some material.

In the afternoon we  
drove to Cass Lake, and  
thence E. on #2, to the  
Chippewa National Forest.

We drove to Norway Beach  
and saw a fine stand of  
old *Pinus resinosa*. Trunks  
very tall + without branches  
for 75 ft. or more, 125 to  
150 ft. high (estimated).  
A few white pine (some)  
+ scattered lots of *Pinus*  
*resinosa*.

collected a few shells  
on Norway beach +  
picked up a few cones





of *Pinus resinosa*, & a few off the trees of *P. Banksiana*.  
 We then drove on road past Lylich Lake. Here on beach we saw very fresh deer tracks. Collected shells of *Lymnaea stagnalis*, *Planorbis* comp. *Plan.*, *vicarialis*, & *Acicula* also *Physa occidentalis* in fruit & the small shrubby birch. (see specimens)  
 We then drove to the C.C. Camp to #2 & turned toward Can Lake. At a point 8.8 mi. E. of Can Lake (on N. side of #2) there is a tamarack swamp. Collected a few cones of *Pinus resinosa* & *P. banksiana*, in trunks



of P. Bankian, Black Spruce,  
tamarack.

Drove to Bemidji, - stopped,  
& then drove to cottage.  
Spent evening in packing  
and writing notes.

Sep. 6, 1936 - Sun.

We started near noon to drive  
around Lake Bemidji, - starting  
north.

Many cottages (some large) line  
the lake.

Many white birds. Few  
large Norway pines.

On N. G. beach I collected  
some shells with 1 broken

*Lymnaea stagnalis*.

On N. shore I stepped in a  
tamarack swamp. Collected  
a few Buryi, lichens & cones

We lunched in park and  
then drove to Lake Plantagenet  
stop to get strawberries &  
some rasp berries.  
Lake Plantagenet has rather  
risky shores as far as we  
could see.

We then drove N + E through  
cut-over dense area.

Collected puffball in road &  
*Arctostaphylos* in field.

Later very common.

Found 2 *Botulin* in sandy ditch  
along road.

Saw many tracks - some  
said to be sheep, but many  
deer, as were droppings.

We returned to Bemidji &  
went to the movie

Rained heavily as we drove in,  
after show



Sept. 7, 1936 Mon.

Partly cloudy, - but a pleasant day.

Before turn to S.W. towards Stasa  
the dunes were rougher. Lift  
sets in. Many boulders.

We stopped at a balsam swamp  
at 1539. I collected balsam  
cones & branches, *Phlegm* *swamp*  
logwood (pines & berries), old  
pink lily-tipped & lichen on old  
fallen branch of balsam.

Also an agaric

Some of these were marked  
at 1539.9; - correct this on label.

At 1541.3 a good black spruce  
& tamarack swamp.

collected black spruce branches &  
cones, & Betula (shrub) branches.

We drove to the Stasa State  
Park. We first went to the

Left camp at 9:50 am.

Dewey's -	1507.6	Browerville -	1644.1
#71 - Bemidji	1512.2	Long Prairie <sup>town</sup>	1652.1
Montgomery road	1515.7	Rosford Prairie	1657.1
(Return road - yep)	1523.0	Little Lake	1660.6
#85	1528.2	Kandota	
Wilson swamp	1539.	Sank Center <sup>#8</sup>	1669.1
Black Spruce & Tamarack swamp	1541.3	#52	1670.4
#92 Stasa Park	1542.1		1675.4
Lodge & P.O.	1543.9		1668.2
Headwaters Miss.	1549.6		2.2
Park to Lodge	1554.2		1542.4
Back to #71	1555.6		1539.
at S. end Stasa L.	1560.3		3.4
Return to #71	1560.4		1542.4
Park Rapids <sup>#34</sup>	1577.4		1541.3
#87	1581.7		1.1
Meranga -	1589.9		
Sebeka	1598.8		
Leaf River	1609.6		
Wadena	1613.0		
Hewitt <sup>#3</sup> road	1621.8		
Bertha <sup>Rom. m.</sup>	1626.7		
Engle Bend	1633.7		
Charissa <sup>for Sta</sup>	1638.7		



lake shore where we picked up  
a few shells. *Plan. campanulata*  
were living in a small pool of  
along edge. We then drove to  
the head of the Mississippi (where  
it leaves Lake Itasca). Here it  
is a mere creek 6 to 8 ft. wide.  
We walked across it twice on borders.  
Along the shallow edge we picked up  
(mostly living) *Lymnaea stagnalis*, *Plan.*,  
*campanulata*, *Sphaerium subiectum*,  
etc.

There are five *Pinus resinosa* &  
*P. strobus* in the park, and the  
drive is splendid.

We returned to #71 & drove  
S. & turned in over S. end of lake,  
I collected shells on the beach, -  
most *Plan. campanulata* & *P. bicolor*.

We then drove south on  
road #71

Below Park Rapids the country is  
flatter & only distant groves of  
conifers are visible.

Some groves near road - S.  
Below Sefcha the thickets are mostly  
quaking asp in low places  
also some *Tamarix* & *Frax*  
*sp.*

In Leaf River, at 1609, 6, I  
collected a net of *Campeloma*  
in very shallow margin.

Very few (~~of any~~) native conifers  
S. of Wadena.

More below Bertha.

Below Long Prairie a fine level  
prairie

Near Little Lake a *Tamarix*  
swamp

at 1668, 2, on beach of  
Sank Lake I gathered a  
box of drifted stuff.



We drove to Sauk Centre & started on #71 for Williams, but about a mile out we had a puncture (I cut up the inner tube) and I hired a farm hand to change it for us (25 cts). We returned to Sauk Centre, bought a new inner tube and had it put in. We put up at the Carlson tourist's place (1.25)

The day has been mostly clear and pleasant, and well worth while

1704.4 - #20  
 23071 - 1709.8 - present  
 1846.2 cat #16  
 Sep. 8, 1936 - Tues

Left Sauk Centre at 8:30 A.M.

Sauk Centre	1674.1	Orleans
#52 + #71	1674.8	Spirit Lake.
Elrosa	1686.6	#9 + #
Belgrade	1695.5	Lakeside Lab.
Georgetown	1696.0	
New London	1708.9	
Spicer	1714.1	
Return	1714.3	
Williams RR	1724.3 1/2	
Williams	1726.0	
#212	1750.4	
Olivia (road)	1751.9	
Norfolk		
Morton	1767.9	
Ratwood Falls	1774.4	
Rowena		
#14	1798.1	
Samborn	1800.1	
#47	1807.8	
Windom	1824.3	
Bergen	1824.8	camp home
Jackson, Minn	1848.0	
State line.		



A beautiful clear day.  
All travelled over nearly level  
prairie.

Small groves & thickets below Belgrade  
somewhat rough. Still rougher &  
would be good #2-3.

We stopped at Green Lake and  
spiced and I picked up  
shells. *Unio* & *Anodonta*  
all eroded by water.  
A nice body of water  
with some higher wooded  
shores.

Clayey grass with dead tops - common  
Flatter open - prairie - S. of  
Wellman.

Drop into valley at 1767.5  
Minnesota River here small.

Bluffs more wooded on S. side.  
Somewhat cloudy later in day

at 185 ft - about ~~at~~  
~~Belgrade~~

Roughly - would at Jackson  
Below W. below Jackson

Jackson S. at 1854.6

Jackson W. 1858.2

Jackson S. 1860.2

#276 1862.5

Templar Park 1866.2

Jackson W. 2 Orleans 1867.1

R.R. Sta. ~~at~~ 1868.7

#9. off. det. 1868.8

#71 & #9 1869.6

at turn S - #22 - 1872.6 1/2

McKinley 1876.3

---

S. of Millen Bay - ~~Roughly~~ 32 1877.8

Jackson S. 1879.8

Jackson S. (#71) 1881.3

Milford - (avg. m.) 1882.6

Jackson W. on #1893.0

Hartley - 1909.8

Sauborn - 1919.0

Sheldon - 1929 - turn S



Below Jackson, Minn., we follow  
detour 3 mi. W., then S., and  
instead of going back to #71  
we followed Co. roads W. + S. by  
way of the state line road  
to Crandall's Lodge and on W.  
side of Spirit Lake, via Temple's  
Park, to the depot at Spirit  
Lake + S. to #9.

We followed #9 to head of  
H. Oborg's + then S. to Lakside  
Laboratory.

We noted the new building,  
the mess-hall (old barn) + cabins  
near McKinstry's house, and  
the lab. buildings.

The 1<sup>st</sup> lab. is marked Macbrite.  
The library + administration building  
on top of knoll where tank stood  
marked Shimok, and a lab. S.  
marked Panama. Two more

labs. are being put up and  
I suggested S. Calvin and Bodine  
for these. Mr. Smith will use  
F. J. Smith (Gr.) for the loadhouse.  
The old original cottage will be saved.  
A separate sewage system will be  
constructed for the cottage area  
and the old will be used  
for lab. area.

Separate well-water + lab. water  
systems will be used. The  
McKinstry well will be used.

Some trees will be planted  
and I suggested that small  
trees be planted to insure  
deep-seated roots.

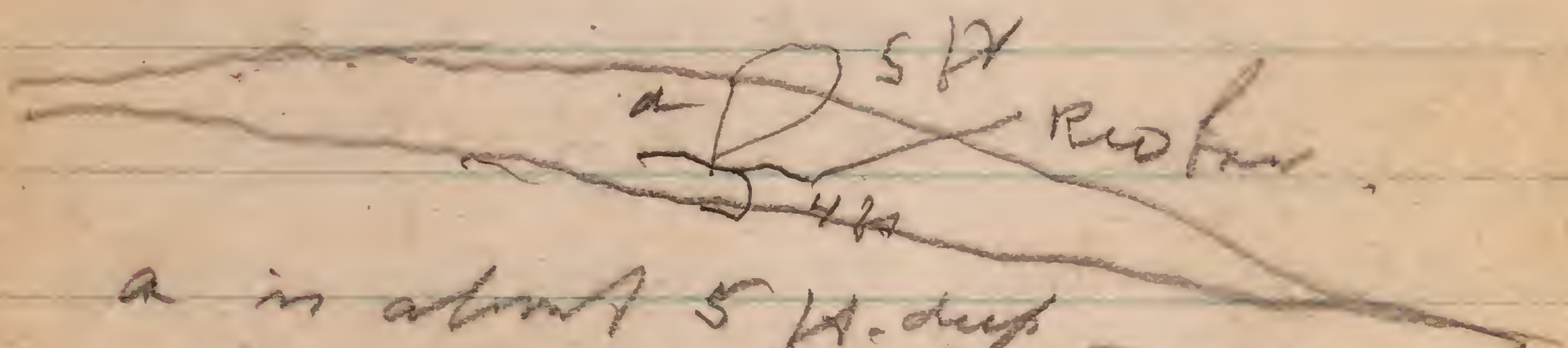
We drove to Milford for supper, +  
then to #18 + on to Sheldon,  
where we put up at 623-10<sup>th</sup> St., after  
finding hotel, etc. full.

Thunder storm in evening.



Sept. 9, 1936, Wed.  
 Left Sheldon at 7:52 AM.  
 a fine clear morning after rain of  
 last night.

1933 - Floyd River a creek.  
 We drove W. of Hudson (1st road)  
 past Hawarden road, to low bluff  
 N. side



a is about 5 ft. deep. - a  
 heavy yellowish clay with  
 many small nodules in shadow  
 distinct iron line & below it a  
 grey heavy layer - in shadow  
 Return to Hawarden road &  
 went north

(going in 1929)  
 Sheldon, (return to #18) 1932.1  
 Boyden (road) 1940.0  
 Hull 1946.7  
 (Parkins) #75 1948.9  
 Rock Valley 1956  
 Rock River 1958.7  
 Turn S. off #18 1963.4  
 Turn W. 1968.0  
 Big Sioux Riv. 1968.6  
 Hudson <sup>new depot</sup> 1969.3  
 " main st. 1969.4  
 Hawarden rd 1970.4  
 bluff W. (on return) 1971.3  
 Hawarden road (return) 1971.4  
 Turn W. 2<sup>nd</sup> road 1973  
 Turn S. on 7<sup>th</sup>  
 Hawarden 1975.4  
 Low bluff 1976.3  
 Low cut ex 1976.3  
 Return (=) to Hawarden rd 1977.2  
 RR 1978.6  
 Turn W. 1979.0  
 Bluff 1980.7  
 (back)  
 Turn cut 1981.1  
 Return (" ) 1981.6  
 Return to Hawarden Riv 1983.4  
 River Pt 20. drive 1983.6

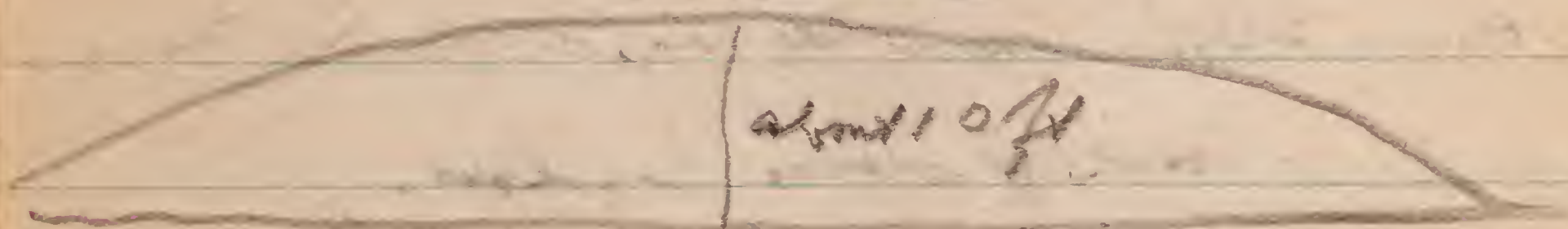
on #16  
 Hawarden <sup>#10 1/2</sup> 1987.6  
 Return to #12 1987.8  
 12 turn S 1988  
 Big Sioux R. 1988.7  
 Base of bluff 1989.8  
 small cut 1990.4  
 Large cut 1991.5  
 Turn S. (returning road) 1995.7  
 Turn E 2000.8  
 (Turn S) 2002.9  
 went on E.  
 at foot of bluff 2005.7  
 Turn S. on gravel 2006.1  
 Old Mill 2007.3  
 Big Sioux rd 2008.1  
 Chatsworth 2009.4  
 #12 Chatsworth 2009.6  
 Akron 2017.0  
 " (Return) 2017.2  
 Bridge 2017.3  
 Base of bluff 2019.9  
 Top of bluff 2020.2  
 Spink #77 2028.4  
 #77 #50 2033.5  
 Vermillion 2044.2  
 Turn S 2044.4  
 Back to #50 2045.3  
 #77 #50 2055.7  
 #77 turn S 2057.8  
 Turn S 2058.6



At 1976, 3 (.9 mi. W. of  
 Hawarden Run (1975, 4) there  
 is a cut about 10 ft. deep.  
 It is pebbly drift (with  
 small boulders) clear to top  
 on return this cut is 1976, 4

June W. to lower cut at 1981.1  
 (on 1981.6 on return from top of  
 hill)

N. side



This cut shows yellow loess  
 with more gray & iron streaks at  
 base. Clear to base. No shells,  
 numerous small nodules. (see sample)  
 Another cut at top of hill. Low  
 & overgrown

Drove to Hawarden then west,  
 at 1990, 4 there is a cut  
 about 6 ft deep. all yellow  
 loess with many small nodules,

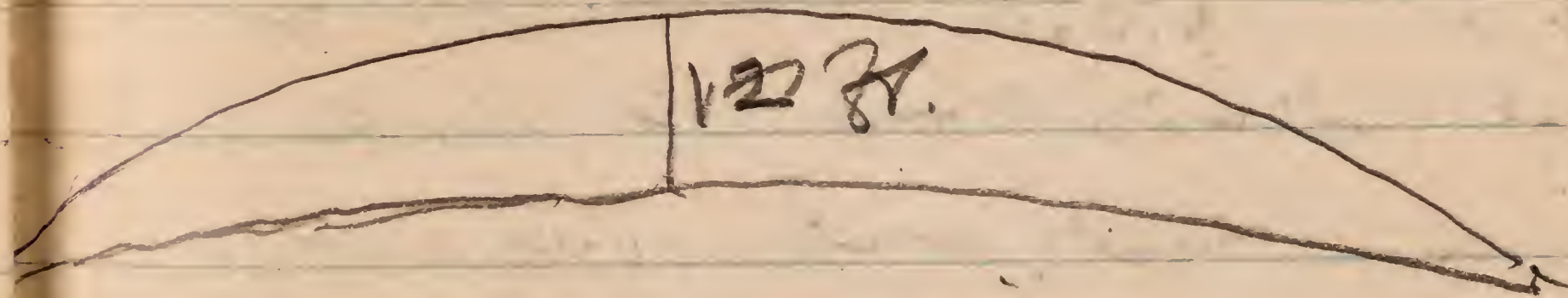
N. side about 6 ft  
 no shells

Bluffs are some higher as we  
 go S. towards the Missouri,  
 this is rough-rolling country.  
 At 1991, 5 a good cut at top  
 of one of the mounds.

It is about 300 ft long &  
 12 ft. deep & shows light yellow  
 "Missouri" loess all the way. The  
 upper 3 ft. have many small nodules,  
 few rounded ones below.

No shells.

N. side



At 1992.2 a similar cut, 7 ft.  
 deep. — no shells but many  
 nodules in upper 4 or 5 ft.

Other cuts follow,  
 Loess all the way to Alcester & Sully  
 same rolling country

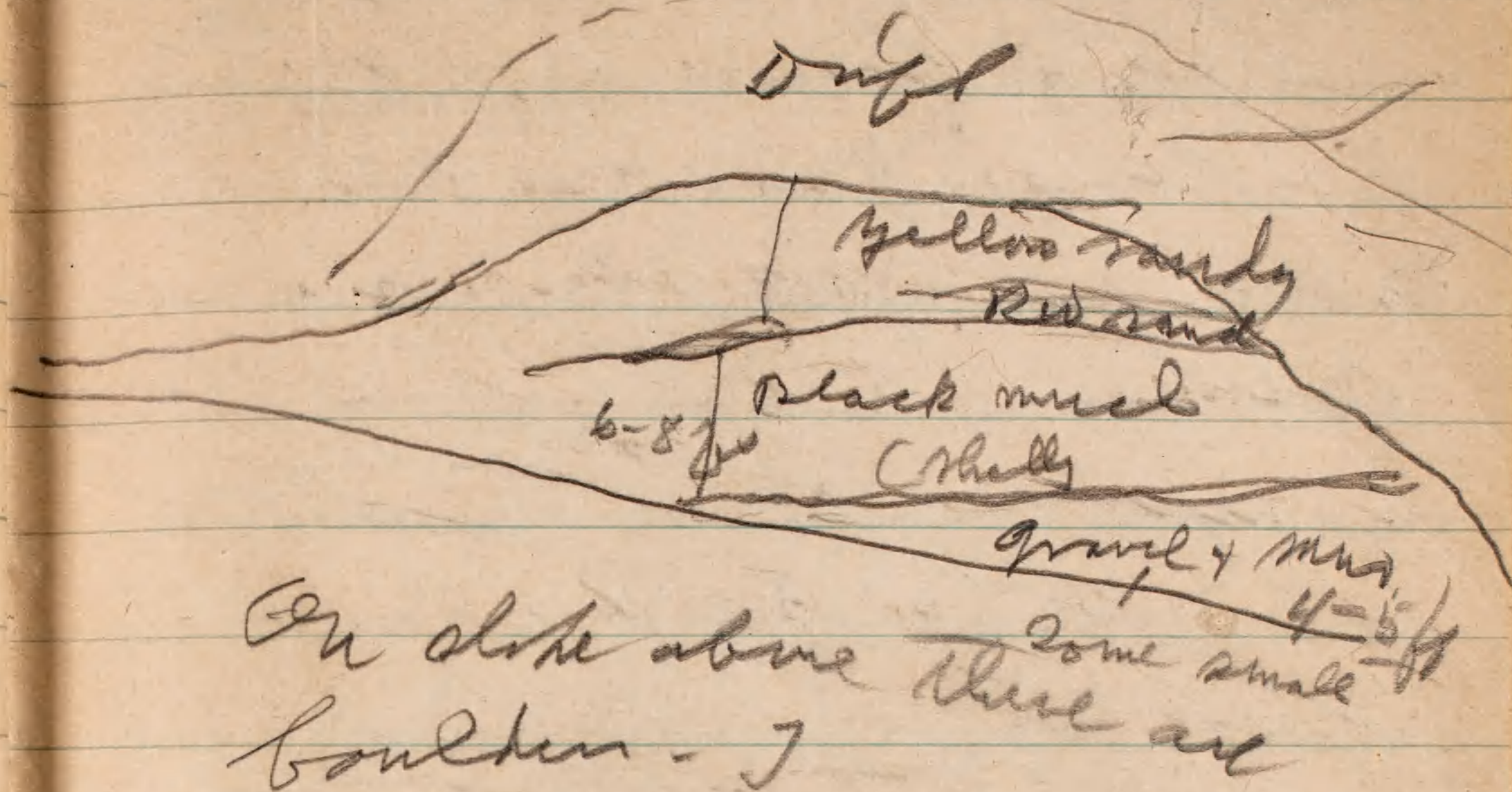


On bluff (last slope going E.) There  
is a long cut along road - 5  
to 6 ft. deep. It shows 1/2 to  
2 ft. of yellow loam with many  
nodules, & below it is  
gray with iron tubules.

No fossils. Foot of bluff  
We drove to side of Otis Hill  
The road starts up hill here  
(at 2007.3) and a high cut  
or bank on right, just N. of  
Mill site shows 4 or 5 ft.  
of sand and gravel at base,  
then about 6-8 ft. of a  
hard black mud with many  
shells (aquatic), much broken.  
Collected a small box

Above it about 8 ft. of red w  
yellow sand.

This is the end of a small  
ridge which runs at least

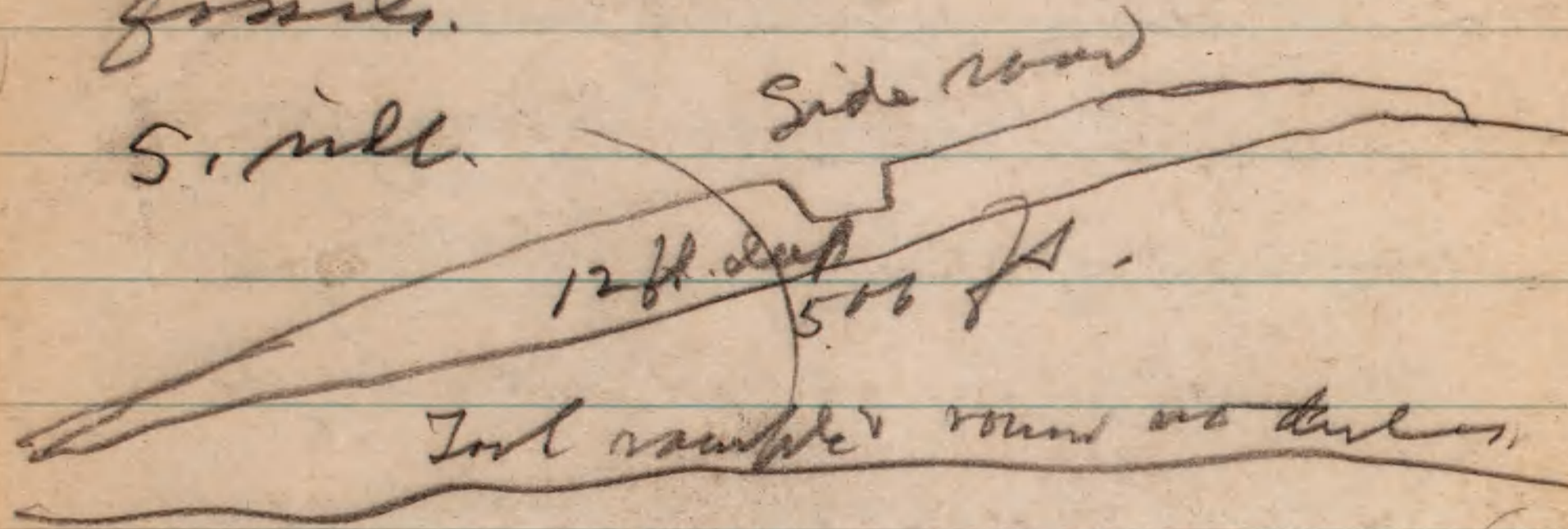


30 ft above top of cut (x  
still higher back)  
It shows pebbles & small  
boulders to top.  
Drift is above sandy layer  
We drove above, had luncheon,  
then drove toward Spink, 3.1  
At the first bluff (2019.9) there  
is a long cut running from near  
base to top of bluff. It is  
about 500 ft. long, & at  
least 13 ft. deep on the S. side,



which is better. There are many small nodules in upper 4 or 5 ft. & fewer rounded ones in lower part.

A uniform yellow loess, no fossils.



W. side of hill also shows 1000 cut - whole length

At 2022.4, at base of a long cut down a rather mild slope (down to west)

I found about 3 ft. of gray loess exposed. Abundant iron tubules - no fossils.

See sample

Other cuts along road west.

near A. Spink SW. of road,

much flatter. Also 2,

about 1/2 a mile, farther S, a mile. Bluffs on 1/2 mi. E. of turn in 77 + 50 at 2058.6

We drove to Vermillion, S. Dak. This is on a flat plain, like a terrace. The "bluffs" at Vermillion are 40 or 50 ft. high, - wide bottom all W. N. & E. is flat.

We drove back on #50 (+ 77) to Elk Point + to ferry toward Ponca. Then our hills to Ponca

Elk Point 2065.6

Turn S. to ferry

Ferry 2073.

W(S) side in 2073

Ponca 2076.1

" (fired) 2077.7

#20 2085.9

Jackson 2089.8

Do. Sioux 2098

Bridges 2099.5

2000.

#75 2192

#141 - 2102.3 - 2102.7

#141 - 2102.7

Hobby 2125.2

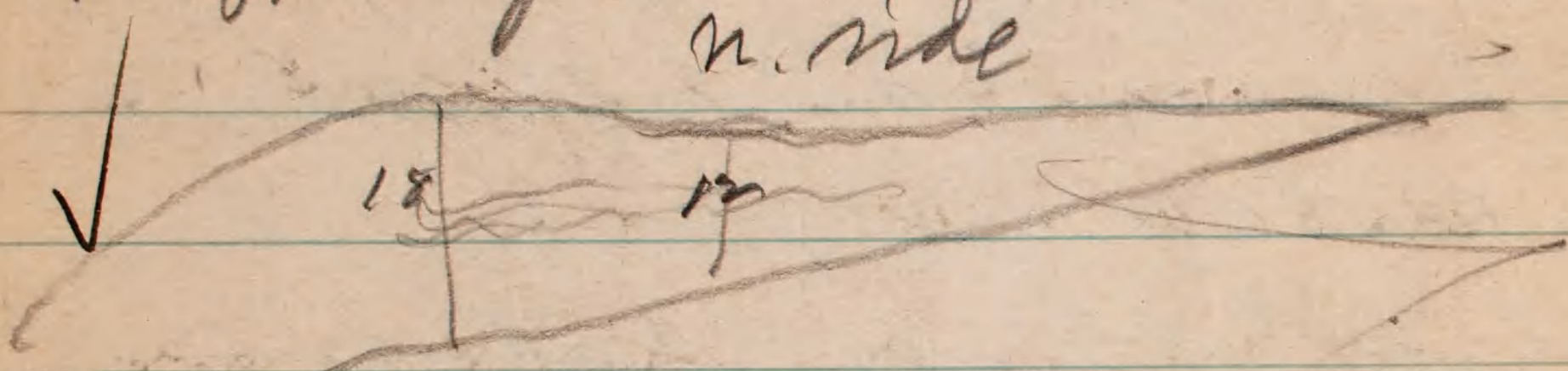
Smith 2125.2

Waggon 2125.2

Little 200 m #141 2135.7



Out of Ponceau, on #12  
at 2079.1, a big cut  
about 500 ft. long 12 -  
18 ft. deep - Yellow loam  
n. side



Shells above middle  
& mostly in lower part of  
upper level.

A sewer cut in on top of  
hill at 2079.3, 15-18 ft  
deep - saw no shells. Yellow

We drove on to Jackson,  
So. Sioux City & Sioux City  
We follow #20 & turned S.E. on  
#141 and drove to Mapleton  
We had supper & took a room at  
a private home. (H.O.).

The bluffs on the Nebraska  
side run from Dakota City to  
Jackson, Ponceau, and then up  
the river beyond Vermillion.  
Loess (rounded) topography everywhere  
between Ponceau and Jackson.

Same topography between Abson  
bluffs & about 1/2 mi. E. of Spink), -  
then flat W. & NW. 5.

The loess ridge runs SE. (on W. side)  
to about 1/2 way between Westfield, Ia. &  
Elk Point, S. Dak. Then down to  
narrow ridge.

No fossils in this part. It was  
evidently prairie, as now, and had no  
swails.

The Nebraska side had groves &  
abrupt bluffs, & fossils occur.

The bend in the Missouri River westward  
and the high bluffs on S. side account  
for failure to build up bluff on flat  
plain toward Vermillion.

2079.1  
2077.7  
1.4



2149.5  
2145.2  
4.3

2149.5  
2077.7  
1.8

Sep. 10, 1936, Thursday.

We left Mapleton at 7:23 AM.

Partly cloudy

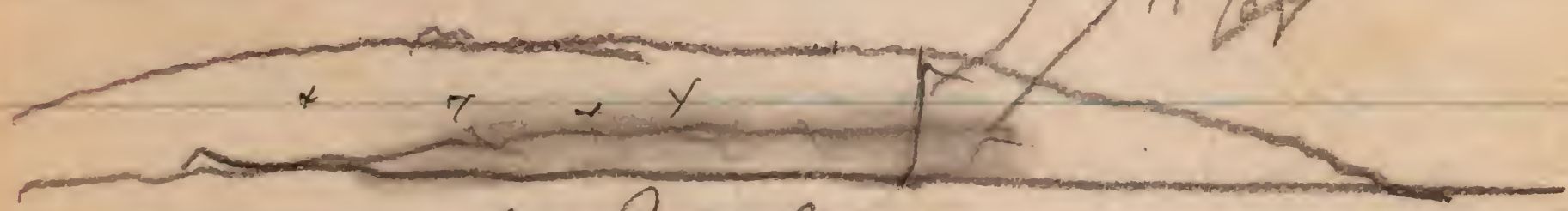
Same rolling topography as in S. E. So. Dakota

Two cuts show no fossils, but nodules, etc. as in S. Dak.

A cut at shows very few shells - mostly fragments

At 2049.5 - cut about 300 ft. long & 10 or 11 ft deep yellow loess with scattered small nodules & scant shells scattered all along, but always a little more abundant in spots

4.3 mi. S.E. of Mapleton



Shows vertical change

Took box from near middle, where shells are slightly more common.

Took sample, nodules & rest of shells.

Mapleton 2145.2  
cut at 2149.5  
etc 2157.5

Charter Oak 2160.5  
# 59 2174.6

Denison #30 2177.5  
Rail depot 2186.9

West Side 2192.7  
Arcadia <sup>RR Sta</sup> 2195.8

Carroll 2205.7  
Blidden 2213.0

Ralston  
Scranton 2225.9

Jefferson 2235.5  
Grand Jr. 2243.6 1/2

Beaver 2248.5  
Osden 2254.6

Des Moines Rd 2260  
Brook 2260 1/2  
Jordan 2269.5

Ontario #69 2278.7  
Ames

Nevada 2287.5  
Coles 2294.7

Cochran 2299.1

State Center 2303.1  
La Roche 2310.6

Marshalltown <sup>RR Sta</sup> 2318.1  
Grand Jr 2326.5

Montour 2332.2  
Jama #63 2339.7

old way E. 2341.0  
Gladstone 2344.3  
Chelsea <sup>1st road</sup> 2350.8

Belle Plaine #212 2357.8  
Iowa River 2360.6

are #21 2361.6  
Kosota <sup>1st road</sup> 2365.3  
Marengo #6 2374.0

So. Amana 2379.8  
C.M. & St. P. Ry 2382.7

#149-1st 2384.7  
Homestead <sup>RR Sta</sup> 2385.3

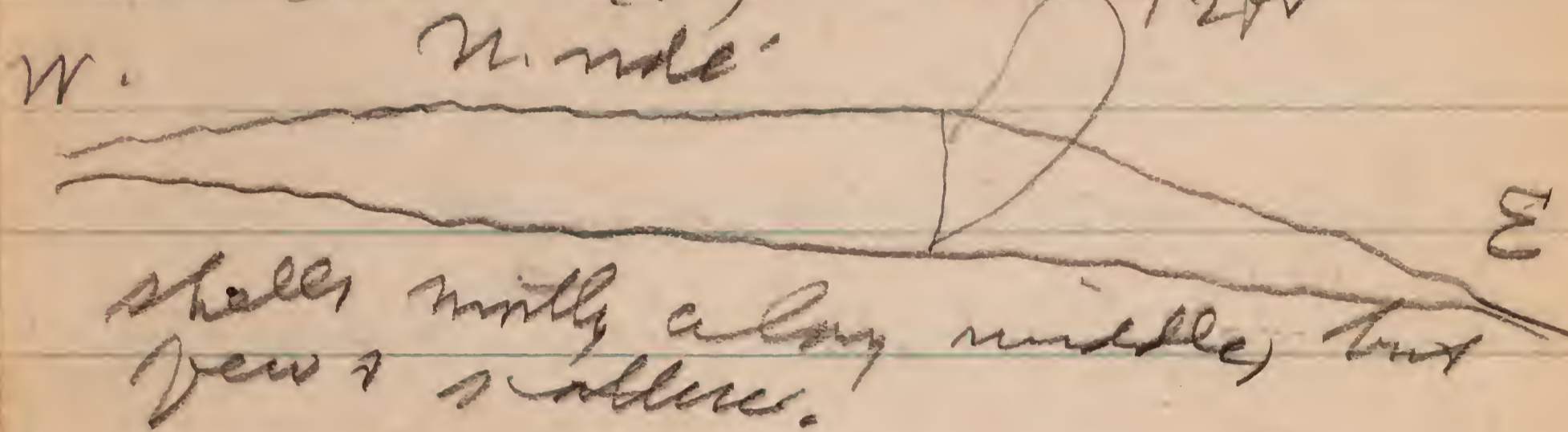
Osborn road 2nd 2391.8  
Liffin 2397.4  
Oakdale road 2401.1

Corralville 2403.3  
Iowa City, bridge 2405.1

" " home 2406.5



Similar cut at 2150. - ~~around 1.6~~  
 across top  
 of ridge - about 500 ft long - 10 to 12  
 ft deep. S. side shows no shells,  
 scattered shells on N. side & round  
 nodules. Show vertical cleavage. Yellow  
 brown (no shells) 4.8 mi. S.E. of  
maple  
12 ft



at 2150.6 on #141 - a long cut  
 (over 1000 ft), and 18 ft deep,  
 cut across ridge - similar to  
 this - nodules, cleavage, etc., but  
 I could not find even a fragment  
 of a shell.

at 2151.9 - a long cut, over 400 ft,  
 on rather gentle slope down to south  
 (this is just after road turn S.)  
 The E. side is better - much

2150.0  
 2145.2  
 4.8

Culture Foreman

J. D. Schorr. A.P. #8 Hawarden  
 (Lake View Camp) V.C.C.

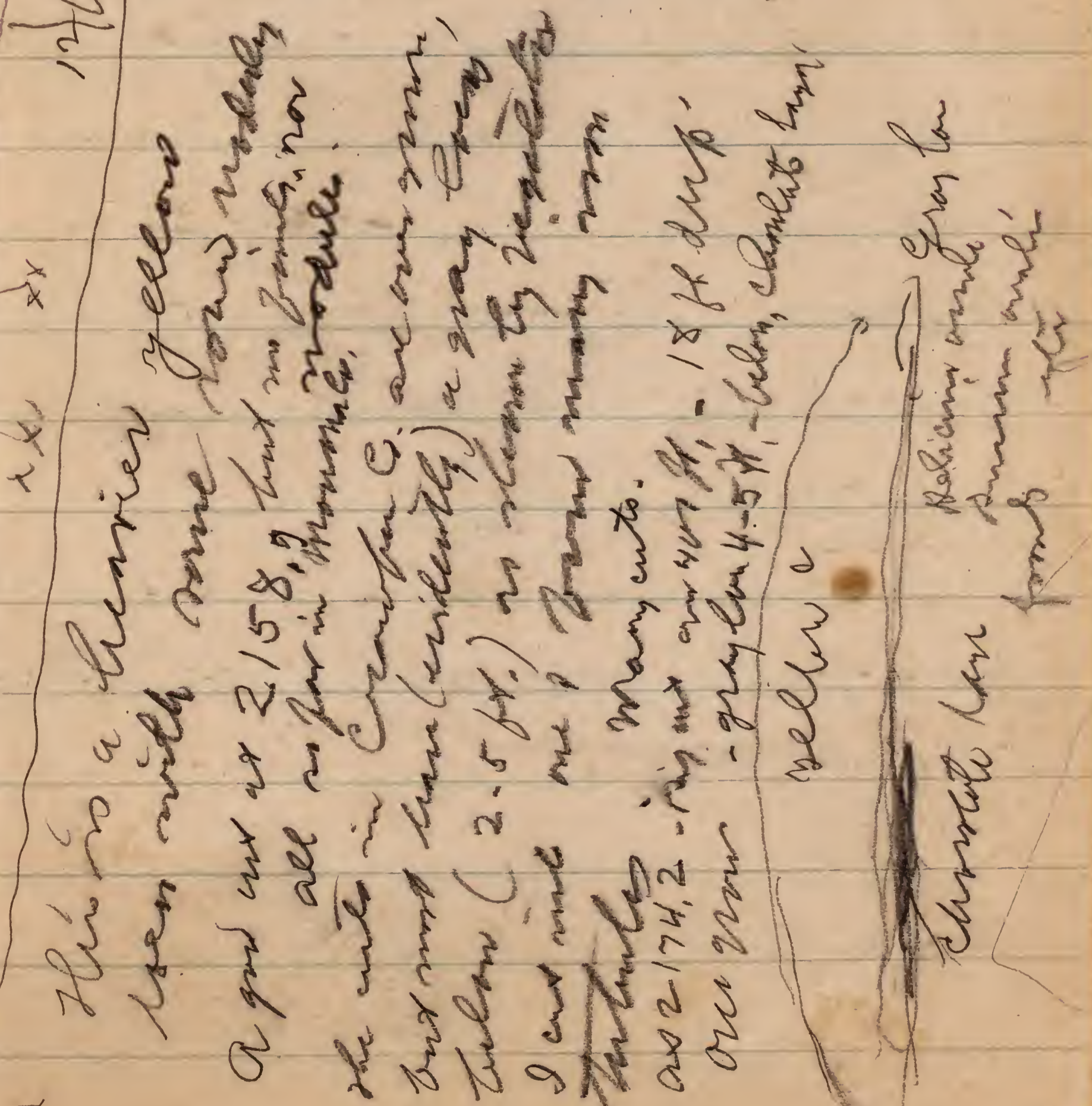
Harry Hansen - same  
 engineer in charge of side camp

Hamilton - (Hamilton)

Lieut. R. O. Haas

Hawarden, Ia - (for a mo.)

Need found (Haw)



This is a heavier yellow  
 seen with some round nodules  
 A good cut at 2158.9 but no fossils, nor  
 all as far in ~~mountain~~ <sup>moderate</sup>  
 the cuts in Cranston Co. are on zone  
 but not here (evidently) a gray clay  
 below (2.5 ft.) as shown by vegetation  
 I cut into one of them many iron  
 particles many cuts.  
 at 2174.2 - big cut over 400 ft. - 18 ft deep -  
 over zone - gray clay 4-5 ft. - below, somewhat brown  
 yellow  
 Chocolate base  
 Below is made of gray clay  
 brown and  
 found after



299,4

Miss Agnes Hansen, 817, 1<sup>st</sup> St., S.W.  
Rochester, Minn.

Mr. L. B. Wells

Wagon, Ill. -

Miss Edwina Heckwolf - (Wife)

6944 Oleatha Ave. St. Louis, Mo.

Mr. A. N. Carter

various alphas  
5. E. Fairchild

Fremont, Iowa.

Rose

Fall skin, red-faced, 45 yrs. old. Not  
clean-cut - Dark goggles on forehead.

Carter

Dark, smooth, bold, no mustaches 35 yrs. old



299

Miss Agnes H. NE - open 345

Rose SE. corner 265

Mr. L. B. S.W. open 295

Wagon NW corner 265

Miss Edwina Beckwith

6944 Oleatha Ave. St. Louis, Mo

Mr. A. N. Carter <sup>across alley</sup> S. E. Fairch'

Fremont, Iowa.

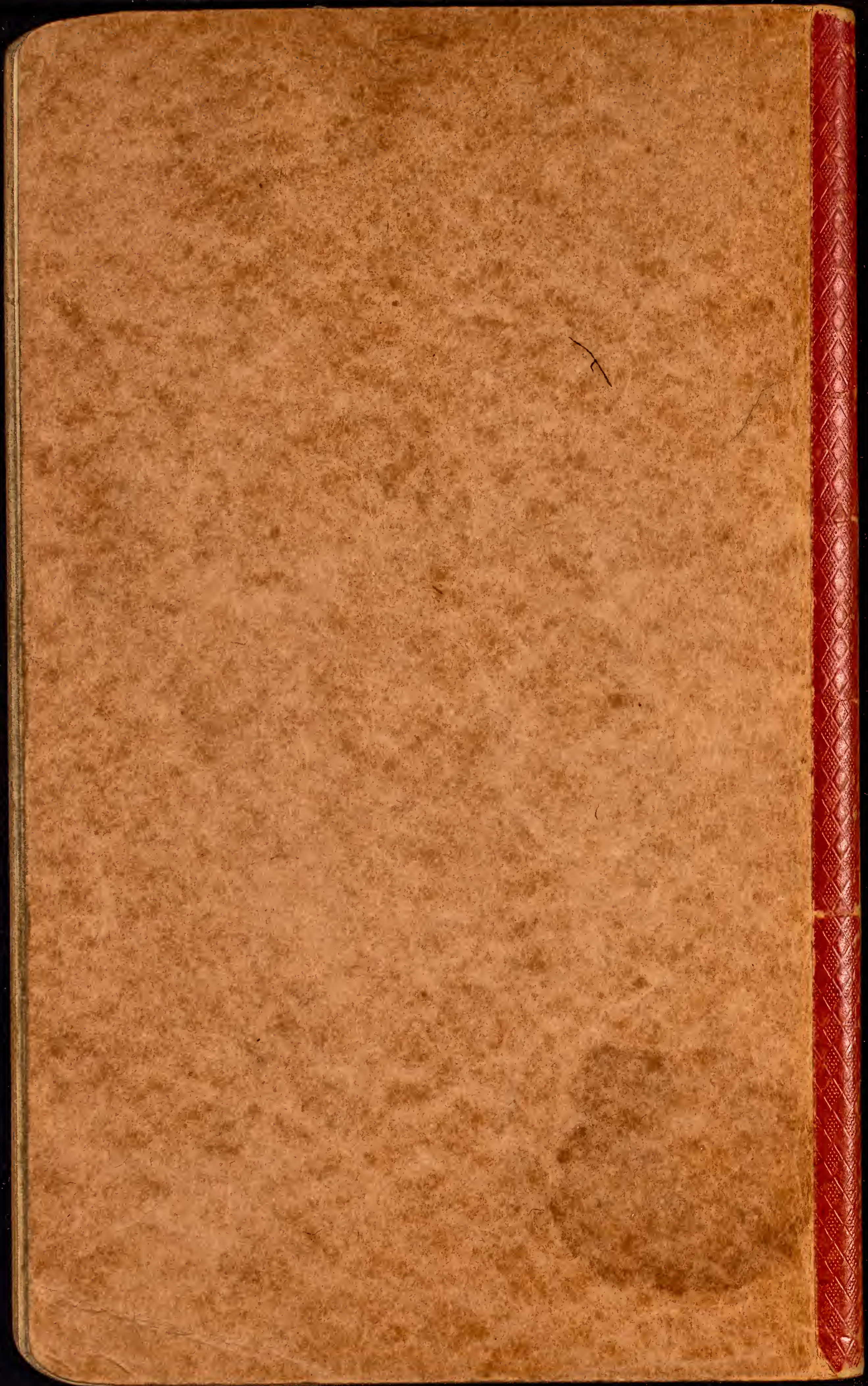
Rose

Full skin, red-faced, 45 yrs. old. No  
clean-cut - Dark goggles on forehead.

Carter

Dark, smooth, bold, no mustache 35 yrs







Direct  
 Iowa City to  
 Lyle 188  
 Minneapolis 111  
 Bemidji 224  
523

Iowa City to  
 St. Paul 297  
 Rock Creek 61  
 Brainard 110  
 Bemidji 98  
566  
523

Tue. Monday Lion,  
 Monday P.M. - Georgia  
 Tuesday - Rock Creek (172)  
 + Wed - Brainard (110)  
 Th. Fri. - Dewey's  
 +  
 Friday (what) - Spirit Lake  
 Sat. (or Sun) Lab. + So Dak.  
 Sun (or Mon) - Home

Return  
 Bemidji to  
 Spirit Lake 347 -  
 To Canton turn 110 }  
 Sioux City 71 } 374  
 Iowa City 293 }

Further 43

130  
 61  
191  
 110

Tue Tues - To Rock Creek  
 Wed. - To Bemidji  
 Th. + Fri. - Dewey's  
 + Sat. - Spirit Lake  
 Sun. - So, Dak.  
 Mon. - Home

Iowa City to  
 Cedar Rapids 27  
 Osage 137  
 Lyle 22 186  
 To Minneapolis 111 - 297  
 To Bemidji via Brainard 224  
Total 521 mi

Sioux City To  
 Denison 74  
 Carroll 21  
 Jefferson 30  
 Ames 41  
 Marshalltown 38  
 Tama 23  
 Belle Plaine 18  
 Marengo 17  
 Iowa City 31  
293

Iowa City to  
 Ames 127  
 Garner 75  
 Spencer 84  
 Spirit Lake 21  
307

Iowa City to  
 Lyle 188  
 St. Paul 111  
 Rock River 61  
 Brainard 110  
 Bemidji 98  
Total 568  
521  
 Further 47

Iowa City to  
 Marengo 31  
 Belle Plaine 17  
 Tama 18  
 Marshalltown 23  
 Ames 38  
 Jefferson 41  
 Carroll 30  
 Denison 21  
 Sioux City 74 - 293

Iowa City to  
 Co. Bluffs 276  
 3  
 Gualala  
 Lincoln 70  
 Fairmont 59  
 Belleville, Kas 62  
470  
 To Phillipston, Kas 94

Bemidji to  
 Dank Center 149  
 Hillmar 53  
 Windom 95  
 Spirit Lake, Ia. 50  
347

Windom 100  
 Jackson 23  
 41  
164

Spirit Lake to  
 Canton Turn 110  
 Sioux City 71  
 Iowa City 293  
474  
 293  
42  
 251

ad 421 - Zamarah  
 Zamarah  
 Bend  
 just time (H)

5 2/3  
 3 2/3  
 416.9  
 7.145  
 420.4 - Cameron  
 Lydick Lake

Yankston to Belleville, Kas. 246 mi.  
 Co. Bluffs to Denison 138 mi.