

Swampy July 14-13

Swampy

Sagittaria latifolia

Salix cordata

Najas atrocinerea

" validus

Sium cicutaefolium

Asclepias incarnata

Grass virginiana

Ambrosia trifida

Helianthus grosseserratus

Verbena hastata

Stachys palustris

Ranunculus macounii

Galium tinctorum

Carex crinita

Lythrum alatum

Shadblow

Stem

Gentiana americana

Pentstemon

Zizia latifolia

Cyperus

Buttercup

Salix lasiolepis

Armana - July 9, 1910

alluvial prairie.

- | | |
|----------------------------------|-----------|
| Cirsium altissimum | lvs. |
| Asclepias sullivanti | fl. |
| Apocynum cannabinum | fl. |
| Zinnia canadensis | fl. |
| Asclepias tuberosa | fl. |
| Achillea millefolium | fl. |
| Rudbeckia hirta | fl. |
| Arnica montana | fl. |
| Hypericum ^{cistifolium} | fl. |
| Thalictrum flavum | lvs. |
| Lespedeza capitata | lvs. |
| Helianthus scaberrimus | lvs. |
| Dianthus flexuosus | fl. |
| Rosa pratincola | fl. |
| Galium humile | lvs. |
| Euphorbia corollata | fl. |
| Azusa americana | fl. & fr. |
| Lupinus perenne | fl. |
| Compositae sp. | fl. |
| Oxalis stricta | lvs. |

Lepidium asellum fr
Cassia chamaecrista fr
Erigeron ramosus fls
Colera spicata fr
Panicum sibiricum fr
Sonchus oleraceus fls
Baptisia leucata
Fragaria virginiana fr
Plantago Regei fls
Asclepias verticillata fls
Trifolium pratense fls
Lactuca canadensis fr
Ambrosia artemisiifolia fls
Eragrostis agrostoides fr
Desmodium illinoense fls
Anemone canadensis fr
Ruellia ciliosa fls
Silphium laciniatum fls
Trachypogon villosus fr
Equisetum arvense fr

Verbena hastata fls
Comandra mollis fr
Helianthus grosseserratus fls
Viola pedunculata fr
Pentstemon lewisii fr
Erigeron annuus fr
Lycium alatum fr
Ambrosia psilostachya fr
Petalostemum purpureum fr
Ceanothus americanus fls
Asclepias tuberosa fr
Brassica pennsylvanica fr
Coccyzus palustris fr
Parthenium integrifolium fls
Potentilla arguta fls
Pedicularis canadensis fr
Antennaria racemosa fr
Vitis vulpina fr
Artemisia ludoviciana fr
Andropogon scoparius fr

Petalostemum candidum Lws
Arenaria Florida fr.
Solidago rigida Lws
Helopsis scabra fr.
Silphium integrifolium Lws
Spinosa radice fr.
Stachys palustris fr.
Clematis flammula fr.
Opuntia purpurea fr.
Thymus brevis Lws
Poa pratensis fr.
Lithospermum cana Lws
Polygonum ramosissimum fr.
Physalis viscaria Lws
 75 *Asclepias syriaca* fr.
Polygala campestris fr.

Plate 33 & 34 - prairie
 N. of river.

Plate 304 - looking
 up river from
 bridge - Cambridge

Alluvial

Prun americana
 Ulmus "
 Gloriosa tricaulis 1
 Pyrus rostrata
 Populus deltoides
 Juglans nigra
 Cornus horneana 2
 Vitis vulpina "
 Quercus saccata
 Celtis occidentalis
 Platanus "
 Fraxinus lanata
 (Salix purpurea)
 " torreyana
 Corylus americana
 Rhus typhina
 Petalostemum
 Psoralea argemone
 Anemone patens
 Quercus macrocarpa

Quercus rubra
 " macrocarpa
 Menispermum canadense
 Salix amygdaloides
 " nigra
 Tilia americana
 Xanthoxylum
 Rubus occidentalis
 1

Upland woods

Populus grandidentata - Sam

Ostrya virginica - "

Quercus alba - "

" velutina -

Ulmus fulva

Tilia americana

Juglans cinerea

Ulmus americana

Asplenium canadense

Pyrus ioensis

Quercus rubra

" macrocarpa

Corylus americana

Rhus alicyonic

Crataegus mollis

Eupatorium inful fl.

Xanthoxylum

Populus tremuloides

Carya alba

Prunus virginiana

Prunus serotina
Croton tomentosus
Clusia rosea

Oak savings

Poa pratensis fr.
Panicum scrubum fr.
Lactuca canadensis lvs.
Ambrosia artemisiifolia lvs.
Potentilla canadensis fr.
Oxalis stricta fr.
Aster multiflorus fls.
Eriogonum canadense lvs.
Agrostis alba fr.
Verbena hastata lvs.
Plantago rugelii fr.
Verbena thurberi fls.
Trifolium repens fr.
Pycnanthemum canadense lvs.
Eriogonum ramosum fr.
Aster multiflorus fls.
Asclepias tuberosa fls.
Lepidium apetalum fr.
Anemone cylindrica fls.
Hepatica americana fls.

Plantilla canescens

Rubellia hirta

Juncus tenuis fr.

Zizania virgata

Leptocarpus rubellus

Amphibolus polycephalus

Cenchrus americanus fr.

Rubus occidentalis fr.

Lobelia spicata fr.

Polygonum persicaria fr.

Halenia laevigata

~~*Urtica dioica*~~

alluvial trees

Blacks - July 23

1910

Acer negundo

Ulmus americana

Fraxinus lanceolata

Betula nigra

Vitis vulpina

Eurostyrium atriplicis

Crotaegus mollis

" *tomentosa*

Salix nigra

Ambrosia fruticosa

Acer saccharinum

Celtis occidentalis

Sclerocarya triacanth

Prunus alba (one)

Prunus torreyana (two)

Merispermum canadense

Cornus ashei (one)

Prunus americana

Rosa blanda

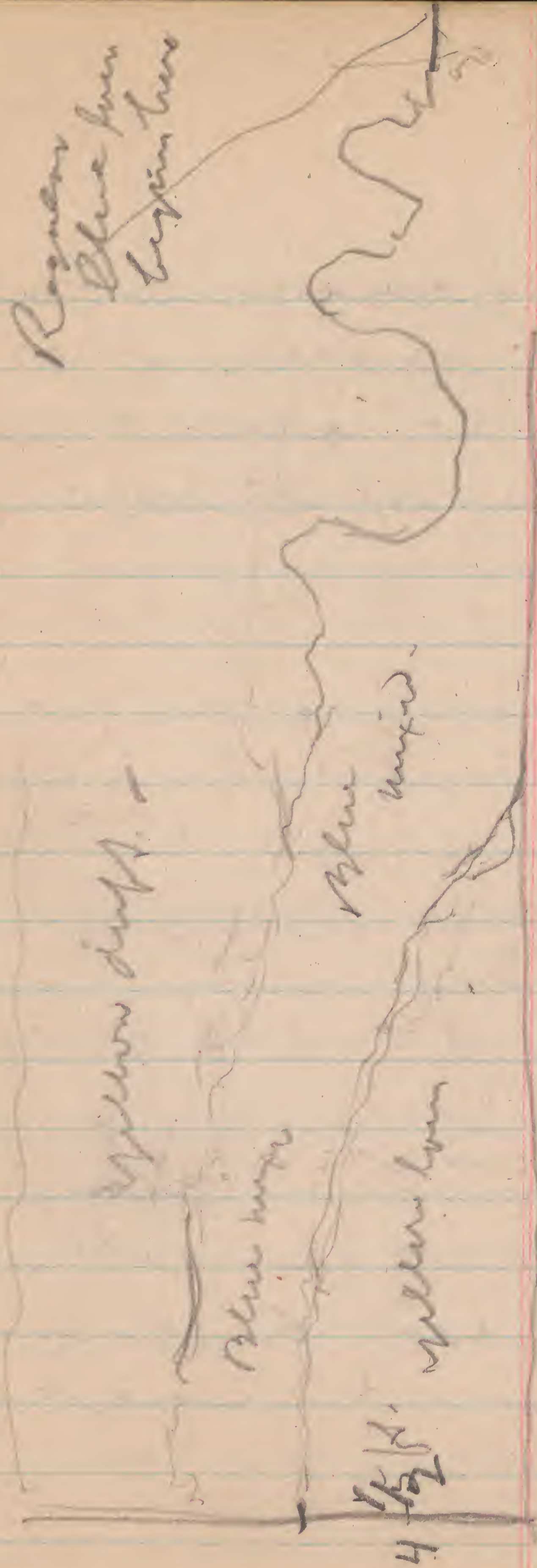
Salix amygdaloides

~~Salix longifolia~~
~~Carya amara~~
~~Salix cordata~~
~~Quercus macrocarpa~~
~~Prunella virginiana~~
~~Populus deltoides~~
~~Tilia americana~~
~~Juglans nigra~~
~~Sambucus racemosa~~
~~Amelanchier canadensis~~
~~Prunus americana~~

Des Moines, May 23/91

At NW side (N side)
the yellow loess ends
rather abruptly +
back (E.) of it
gray mixed alluvium
for about 35/A.
then about 50 +
feet of blue loess
below with some
marl shuff
above + then
yellow drift
sandy + pebbly
in places.

Cross



Reservoir
Blue from
begins here

Yellow drift

Blue loam

Blue

Mixed

Yellow loam

1.5 ft

about 50 ft

The passage went
to building just
above gray layer
united (at W. end)

Drift & mixed
loam

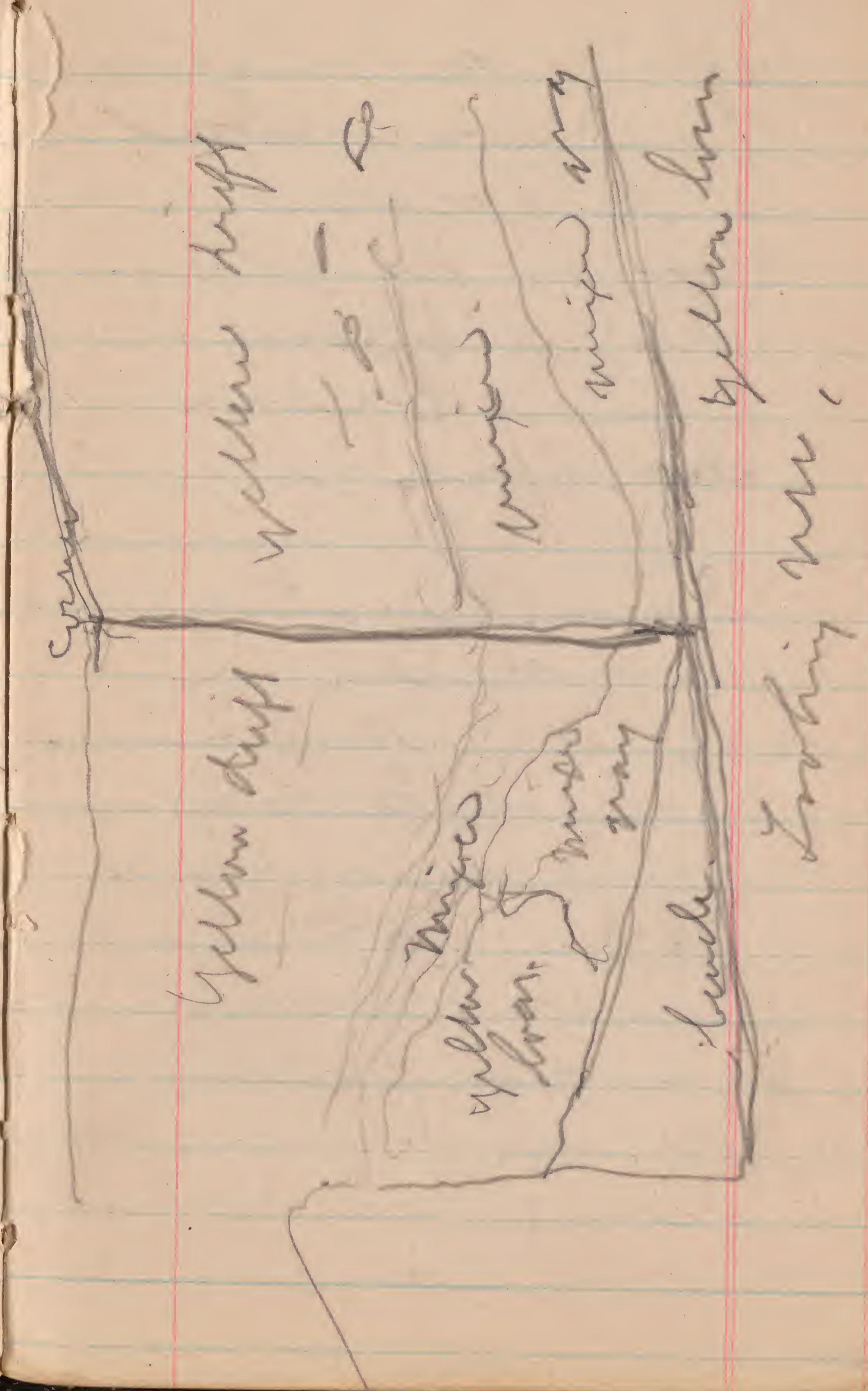
Mass of
yellow loam
Gray mixed
loam

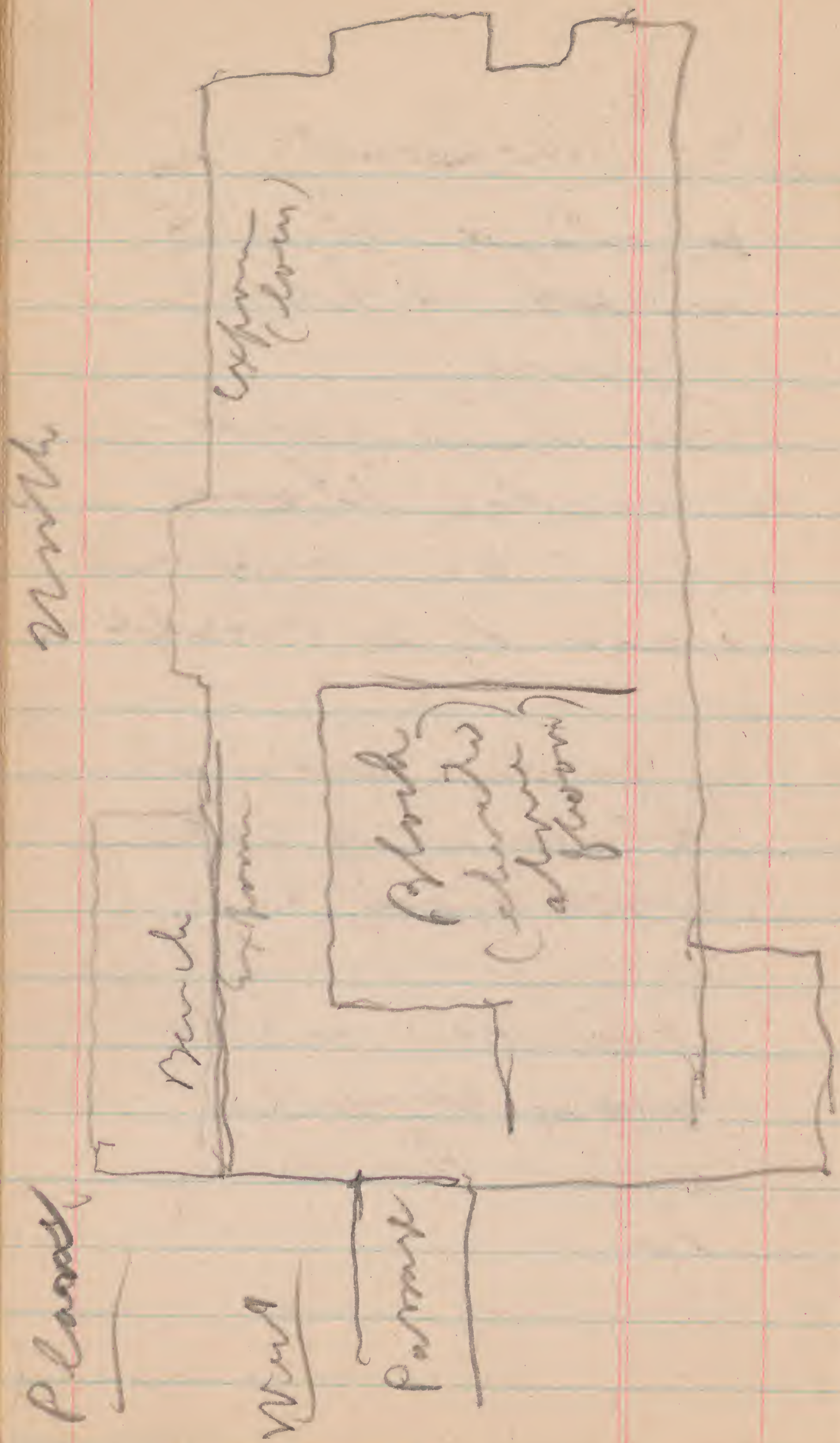
gray top
of yellow
loam

Evidently the yellow
loam was pushed
above that here -

At E. end - 4 side
 the cellar is about
 15 ft deep.
 Over 50 ft of blue
 loam is exposed
 toward E side
 (500 ft. long).

This is located
 S. of Walker street
 + just E. of 13th St. Court
 the passage between
 N. S. & heating plant
 at 13th St. Court
 all these notes
 are for heating
 plant (+
 today none
 for passage)





13th - St. Court is
 a street N. & S.
 street 1 block
 long.
 The high school
 & heating plant
 are on highest
 part of a well

In passage way it
 appears as if yellow
 brick man had
 been pushed forward
 & upward, with
 many mixed stuff
 over & back of
 it.

This location is
the highest point
for some distance
around.
13th St. Court is
1 block east of
E. 13th str.
The street on S.
side of H. School
(1 block south
of Walker St.)
is Maple str.

On the W. side of E.
6th str., & on the
S. side of Des Moines
str. W. of E. 6th
(this along the N. 1/4 of
same block) shows
a row cut - 8 ft
or more clearly
exposed. A red
ferretts show for
1-2 ft. & follows
slope of street up
toward north.
The lower part is
gray, with white
upper yellow, with
blue streaks below.
As far as I could
see the line is
not sharp.

Further up the
hill (with)
the city
appear & show
mostly yellow
loam, blue
streaked below.
N. of Des Moines
str. the cut
was deep -
probably 20 ft.,
but upper part
is now terraced.

On N. side Des Moines
W. of E. 6th str.
the ferrites shows
(pebbly) for 2 or 3
ft. On it rests
a brown gray

westward but running
chiefly yellow with
blue streaks (see
sample). The
shells were collected
2-4 ft. above
ferrites. (see box)
A very few large
mosses (roundish)
were. (see one)
At the top of the
bank (which is
lowest terrace)
there is a layer
with a few
pebbles, the top
there is black soil,
& broken pieces of
brick with it so
that it is

evidently hauled in,
 This is all below
 the side walk,
 Above the walk a
 yellow loam (see
 sample) now fairly
 rises 10 or 12 ft.

1st 6 ft. 8 ft. 1-3 ft.
 Overlaid line. Yellow loam
 Gray loam W. side
 This is 1/2 block on
 Sample 7 E. 6 the first S. of Des. Mon
 17th
 South of valley is small exposure
 which is above the west pass.

not very sharp.

yellow loess 1 ft.

4 ft. gray loess
brown tubules,
nodules, etc.

Ferritic

6-8 in.

Wash photos 15 & 16
23 & 24.

This blue loess is
continuation of
blue loess in valley.
It grows
thicker downward.

The ferrites contain
scattered pebbles.

and bank rises about
4 ft. higher.

I think the ferritic
loess on N. side of
Des Moines river
is all later than
post Kansan. None
of it is really
gray.

Within this bank
shows at least 4
or 5 ft. of reddish
brown drift with
few pebbles -
Wisconsin. It
is probable that
all the other top
terraces are capped
with this drift.

The yellow loam
in this section
is not as clean
as further
up the hill.

This drift is a
reddish joint
clay with blue
pebbles - See sample.
The drift at G end
seems to rest on
gray loess.
Probably 6 ft.
deep (the drift)

June 12, 1911
To Muscatine.
Drove along foot
of bluffs SW.
at (a) in N. part of
sec. 5, T. Miller's Trip
a road cut up hill
N. of RR shows
a mass of yellow
drift, with layers
& belts of gravel,
more or less
mixed. More
seen below.
All along the
bluffs, which
become rougher
there are bare
places showing
the reddish (or

yellow drift.
Much of the timber
is cleared & the
result is pitiful.
Springs appear
at base of bluffs
here & there.
Near center of
sec. 27 in Lewis
his Trip. I took
sample of Ill.
drift about
8 ft. above road.
Here, as elsewhere,
along the bluffs
it is reddish
yellow & looks
in part as if
water washed.
It has few

small boulders,
and with a very
granite mostly &
contains streaks
of pebbles, sand,
The road, just
above bottom is
sandy much of
the way & the
stream, coming
out of the hills
all carry sand.

The last cut (a
rock one) on the
Keweenaw N. & S.
just at bluffs is
probably 45 ft. deep.
The upper part is
reddish yellow
illuminated, irregular,
masses, etc.
Then a low joint
clay running out
west. o
At E. end about
20 ft. of sand
under yellow
joint clay.

more or less bands,
(with sand)
12 ft yellow drift.
Illinoian?

Chocolate heavy
8 ft clay.

Gray heavy clay
3-4 ft.

Very dark
silt clay
(red.??)
25 ft

RR.

This layer 6-8' is
almost shaly.

Pebbles & small boulders
& in places sand

W

Reilly & Lohr like
stratified water joints

yellow joint clay

Blue (dark)
joint clay

E

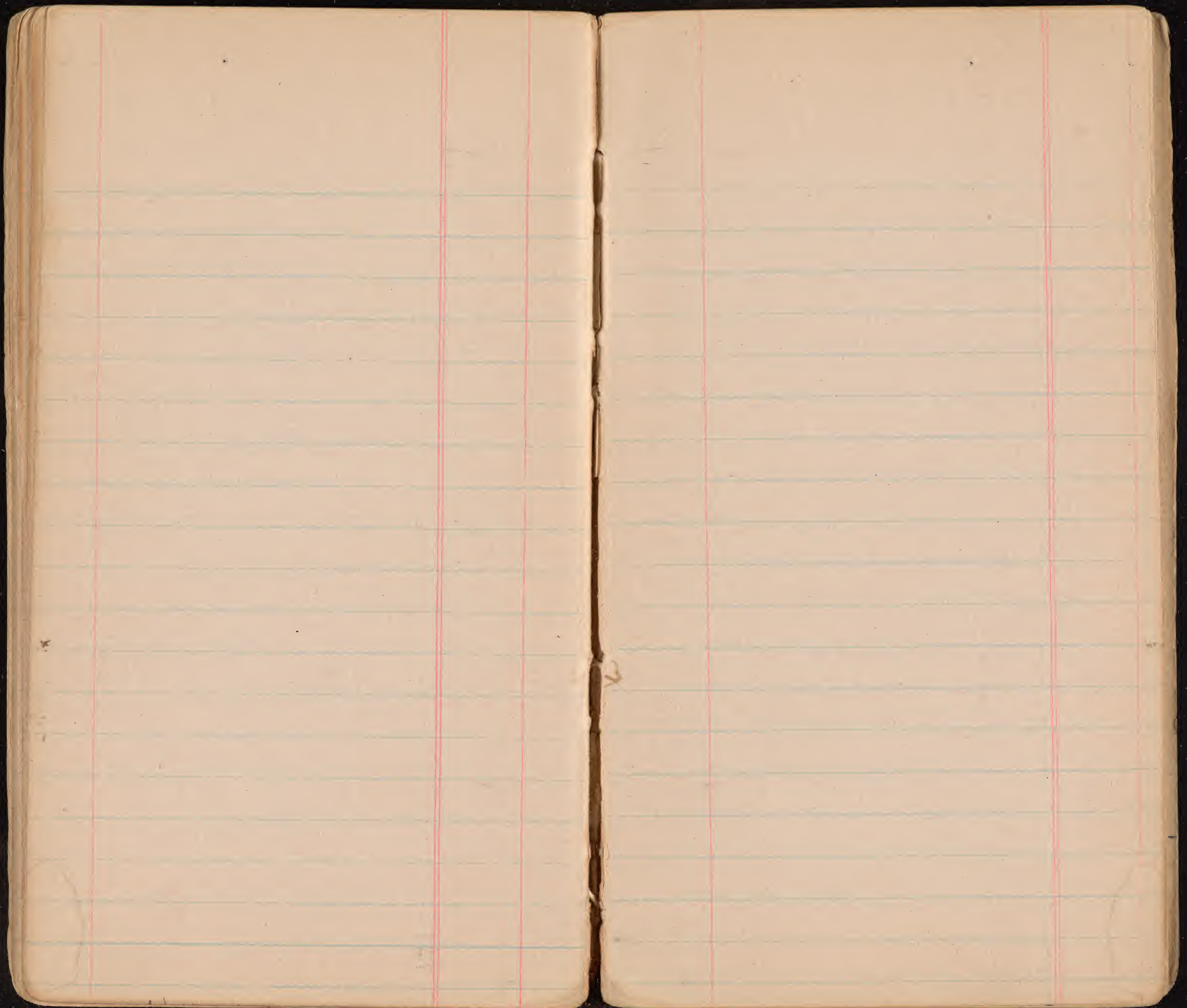
220 yms
20 ft

PK

W. side cut

Obs. A. side a
completely log
(2 ft.?) shows
about 5 ft.
above PK.
Above sand?
Below sand. +

The section over
ramp cut is
45 ft. deep.
The ramp blue joint
clay forms a
sort of mound.
Shows no sand on
blue clay.



Prairie - S.E. -

June 19, 1911

Aster multiflorus - bud
Rosa woodsii? fr + fl
Achillea millefolium fl.
Verbena stricta fl
Lactuca canadensis - bud
Euphorbia wollei fl.
Monarda scabra - bud
Equisetum arvense - bud
" arvense - bud
Solidago nemoralis - bud
Oenothera biennis - bud
Ceanothus americanus fl.
Potentilla arguta - bud
Solidago canadensis - bud
" missouriensis - bud
Helianthus quercifolius - bud
Erigeron annuus fl.
Liatris pycnostachya - bud

Coreopsis palmata fl + bud
Aster laevis - bud
Lepachys pinnata fl.
Rudbeckia hirta fl.
Branchea pallida fl.
Petaloostemum candidum fl.
" purpureum fl.
Erigeron yuccifolius - bud
Cirsium hillii fl.
Ammophila canadensis fl.
Bouteloua curtipendula fl.
Panicum scribneri - bud
Andropogon furcatus - bud
Cirsium altissimum - bud
Rhus glabra - bud
Achyrocline satureioides - bud
Aster artemisioides fl.
Siphium integrifolium - bud
Andropogon scoparium - bud
Oxalis stricta fl.

Cirsium discolor lvs
Antennaria racemosa lvs
Aspernanthus ^{mutabilis} fls
Lebelia spicata fls
Lactuca scariola lvs
Stachys palustris fls
Parthenium integrifolium fls
Danthonia sibirica fls
Carex festucacea fr
Danthonia compta fr
Asclepias sullivani fls
Baptisia leucophylla fr
Rudbeckia subumbellata lvs
Thymus - (steris) fr
Silphium laciniatum fr
Cassia lutea fls
Oenothera - (partita) fr
Helianthus scaberrimus lvs
Elymus canadensis fr
Erigeron sibiricus fls
Asclepias syriaca fr
Rumex crispus lvs

Phlox pilosa fr
Viola pedatifida lvs
Ammannia ciliolata fls-fr
Senecio flutuosus lvs
Gentiana andersonii lvs
Veronica virginica lvs
Asclepias tuberosa fls
Conium maculatum lvs
Salix humilis fr
Rhynchospora angustifolia fr
Hemlockia hispida fr
Acrostichum longifolium fr
Lepidoptera ciliolata lvs
Pedicularis canadensis fr
Ampelisca barbata lvs
Ambrosia psilostachya lvs
Stipa spartea fr
Asplenium angustatum fr
Lepidium apetalum fr
Senecio ^{interstitium} (small)

~~Asphodelus caryophyllus L.
Andropogon pulchellus Jacq.
Stachytarpheta parviflora DC.
Stachytarpheta villosa Jacq.
Polypogon monspeliensis L.
Cassia chamaecrista L.
87 Asclepias verticillata L.
Poa pratensis L.
Pentstemon canadensis L.
90 Euphorbia perfoliata L.~~

Mountain words

July 1 - 1911

Prunus americana fr.
Corylus americana fr.
Cornus paniculata fr.
Populus tremuloides fr.
Prudera quinquefolia fr.
Quercus macrocarpa fr.
 " *rubra* fr.
Celtis occidentalis fr.
Caulophyllum thalictroides fr.
Osmorhiza longistylis fr.
Galium triflorum fr.
Sambucus racemosa fr.
Dioscorea villosa fr.
Carya alba fr.
Circaea lutetiana fr.
Eupatorium aquatoides fr.
Cerastium mucronatum fr.
Prunus virginiana fr.
serotina fr.

Juniperus alba fr.
Asplenium filix-foemina fr.
Viola pubescens fr.
Anemone thalictroides fr.
Polygonum commutatum fr.
Phytolacca spicata fr.
Agrostis fr.
Saxifraga montana fr.
 (*Pilea pumila*) fr.
Vitis vulpina fr.
Rubus occidentalis fr.
Enonymum atrorubrum fr.
Eupatorium purpureum fr.
Podophyllum peltatum fr.
Amphicarpum monanthum fr.
Lactuca virginica fr.
Galium ~~erectum~~ canadense fr.
Sambucus canadensis fr.
Sutclaya herbacea fr.
Desmodium acuminatum fr.

Adiantum pedatum fr
Menispermum canadense fr
Crataegus binnata fr
Panicum (latifolium) fr
Pyrus ioensis fr
Arisaema triphyllum fr
Rubus allegheniensis fr
Populus grandidentata fr
Botrychium virginicum fr
Carya amara fr
Rhamnus lanceolata fr
Cirsium altissimum fr
Cryptotaenia canadensis fr
Fragaria virginiana fr
Actaea rubra fr
Silene stellata fr
Urtica fulva fr
Bromus fr
Carex fr
Erigeron annuus fr

Hystrix hystrix fr
Quercus alba fr
Pteris aquilina fr
Elymus striatus (small) fr
Urtica dioica fr
Osunda claytonia fr
Achillea millefolium fr
Silene americana fr
Sanguinaria canadensis fr
Cyperus puberulus fr
Hedera acutiloba fr
Geranium maculatum fr
Polypodium virginicum fr
Habenaria bracteata fr
Fumaria cuneata fr
Clatrus scandens fr
Trientalis (purple) fr
Quercus velutina fr
Solidago odora fr
Rosa blanda fr

Dill Hill. July 7/1911.

Ruellia ciliosa
Kuhnia eupatorioides v. long
Andropogon furcatus
Poa spicata
Achillea millefolium
Anemone artemisiifolia
" trifida
Pyroanthum nuticum
Bonteloma curtispinus
Asclepias speciosa
Pycnanthemum argenteum
Spartanum stricta
Rhus glabra
Hedysoma prolegades
Cirsium discolor
Monarda mollis
Andropogon scoparius
Amorpha canescens
Kochia cristata

Eriogonum pauciflorum
Rosa woodsii (?)
Cirsium hillii
Lolichia spicata
Lespedeza capitata
Euphorbia corollata
Physalis pruinosa
Euphorbia prostrata
Helianthemum angustifolium
Acerula virginiana
Verbena hastata
Panicum scribnerianum
Lactuca ludoviciana
Anemone cylindrica
Rudbeckia hirta
Physalis pubescens
Asperula albiflora
Oralis stricta
Cirsium altissimum
Ornithoglossum virginicum

Hemphysalis hispida

Iowa City

July 7, 1911

Black Bottoms + Park
alluvial

~~Ulmus americana~~

~~Betula nigra~~

~~Vitis riparia~~

~~Fraxinus lanceolata~~

~~Acer saccharum~~

~~Rosa blanda~~

~~Rhus nigropurpurea~~

~~Crataegus punctata~~

" mollis

~~Asimina speciosa~~

~~Rhus toxicodendron~~

~~Eucalyptus atropurpurea~~

~~Celtis occidentalis~~

~~Populus nigra~~

~~Gleditsia triacanthos~~

~~Cornus ~~stolonifera~~~~

~~Quercus alba~~

~~Prunus americana~~

(broad leaf)
 Cornus (sericeus)
 Amelanchier fruticosa
 Salix longifolia
 Carya amara
 Salix cordata
 Quercus macrocarpa
 Smilax hispida
 Prunus serotina
 Populus deltoides
 Tilia americana
 Cornus paniculata
 Sambucus canadensis
 Ulmus fulva
 Juglans nigra
 Salix amygdaloides
 Rubus occidentalis
 " villosus
 Menispermum canadense
 Salix nigra
 Quercus rubra

Plantain occidentale

Upland, Free Park
 Crataegus tormentosa
 Prunus serotina
 Corylus americana
 Quercus reticulata
 (Betula nigra)
 Quercus rubra
 " velutina
 " alba
 Crataegus mollis
 Vitis vulpina
 Q. macrocarpa
 Ulmus americana
 Populus tremuloides
 Carya amara
 Quercus robur
 Carya alba
 Acer saccharinum

Bayfield, Ia

July 8, 1911,

Prime - Cornfield sandy - at station

Potentilla monspeliensis

Oxybaphus occidentalis

Arnica montana

Lepidium sibiricum

Ambrosia artemisiifolia

Cirsium allanii

Desmodium illinoense

Oxalis stricta

Euphorbia corollata

Poa horrida fls

Physalis peruviana

Asclepias tuberosa ^{amplexifolia} fls

Equisetum laevigatum

Asclepias verticillata

Aster multiflorus var.

Eryngium yuccifolium

Cerastium arvense

Helianthus annuus fls

Petalostemum candidum fls

Cyperus sp. fls

Poa horrida fls

Andropogon furcatus fls

Ceanothus americanus fls

Rubus cuneifolius fls

Pentstemon ^{sp.} digitalis fls

Convolvulus sepium fls

Rudbeckia hirta fls

Verbena stricta fls

Verbena hastata fls

Euphorbia pedicellata fls

Lespedeza capitata fls

Cyrtus americanus fls

Rumex crispus fls

Lactuca canadensis fls

Brassica palustris fls

Oenothera biennis fls

Chenopodium leptophyllum fls

Oxalis stricta fr
 Anemone canadensis fr
 Pyramanthus virginicus
 Salix humilis fr
 Helianthus scaberrimus fr
 Solidago canadensis
 Eryngium yuccifolium fr
 Monarda mollis fr
 Monarda reflexa fr
 Desmodium canadense fr
 Zizia aurea fr
 Asperula officinalis fr
 Prunella virginica fr
 " sinuata fr
 Ranunculus abortivus fr
 Scrophularia lepida fr
 Silphium laciniatum fr
^{fr} Polonium graveolens fr
^{fr} Urtica verticillata fr
 Scirpus acutus fr
 Lactuca pulchella fr
 " ludoviciana fr
 Prunella virginica fr

Plant
 Stem
 Root
 Bark
 Wood
 Fruit

Pteris palmata
 Petalostemum angustatum
 Anemone canadensis
 Ranunculus abortivus fr
 (Strophostyles angustata fr)
 Stipa spartea fr
 (Euphorbia maculata fr)
 Asplenium adnigrum fr
 (Euphorbia corollata fr)
 (Erigeron pectinatus fr)
 Lactuca scariola fr
 Thalictrum ^{fr} flavum fr
 (Centaurea fr)
 Anemone canadensis fr
 Ruellia brittanica fr
 Speulcium perfoliatum fr
 Hedera helix fr
 Verbena officinalis fr
 Carex ^{fr} (sp) fr
 Artemisia canadensis fr
 Cirsium discolor fr
 Lactuca scariola fr
 Prunella vulgaris fr

Lycopodium complanatum
Epilobium coloratum
Lychnis viscaria
Eupatorium perfoliatum
Cornus sericea
Zosterium cylindricum
Sagittaria arifolia
 May 1911
Asclepias tuberosa
Helianthus annuus
Zizia aurea
Galium aparine
Arnica montana
Scirpus atrovirens
Pyrola asarifolia
Cicuta maculata
Salix purpurea
Aspidium Thelypteris
Eupatorium purpureum
Onoclea sensibilis
Verbena hastata
 (Spartina Michauxii) - fl.
Sagittaria perfoliata
Sagittaria arifolia
Sagittaria latifolia
Sagittaria arifolia
Sagittaria arifolia

Same - May 1911
July 8 - 1911

Cerastium arvense
Fragaria virginiana
Croton canadensis
Verbena stricta
Opuntia humifusa
Paspalum distachyon
Chenopodium filicinum
Phytolacca arundinacea
Cirsium polygamum
Martiana cynosuroides
Composita americana
Sagittaria perfoliata
Sagittaria arifolia
Polypodium virginicum
Asplenium platyneuron
Prunella vulgaris
Eledochia scutellaria
Lilium canadense
Podostemum acuminatum
Cephalanthus occidentalis

10
G. A. Merrill
Eden Rapids
In

