1922
Clinton of Pa. & Md. Pages 1-7
Ord. of Va. & Tenn 8-19

1923
Camb. Ozark, Can. + Ord. 10-25-41
of Va. + Tenn.

Rye Cove, Va p. 89
Austinville p. 93
Porterfield
w. of Rogersville p. 65

Va + Tenn
p. 43-87

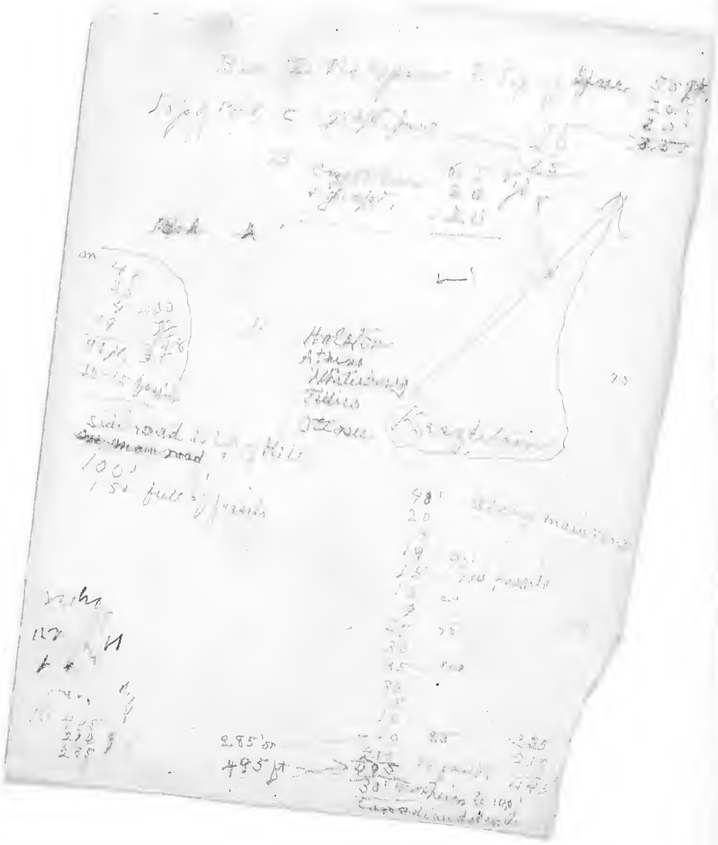
1930
Va.
p. 89-93

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Page

Rye Cove, Va., sequence Canadian to Trenton, r section at - 89.



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Road D Pleasant to top of Grade 50 ft.
26
20
30
Top of Road C Grade Grade 35
25
B Cuts to Grade 65
20
Grade 24

Road A

on
48
20
4 400
18
91 ft. 3 ft 8
20-15 feet

Boston
Athens
Whitesburg
Tilsico
Ozone
Knoxville

90

Side road to top of Hill
~~Common road~~
100'
150 feet of track

48 Very mountainous
20
4
18 [illegible]
15 100 feet
13 [illegible]
8
17 48
30
35 100
30
5
10
20 55 235
210
285 ft 210 15 feet 445
495 ft → 495
30' Maximum to 100'
Consideration of grade

2 miles
17 11
4
445
210
285

To black shale above Rutledge - p. 53-58
Very important. N.B. 33 - Unconformable Beekmantown and Conococheague.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

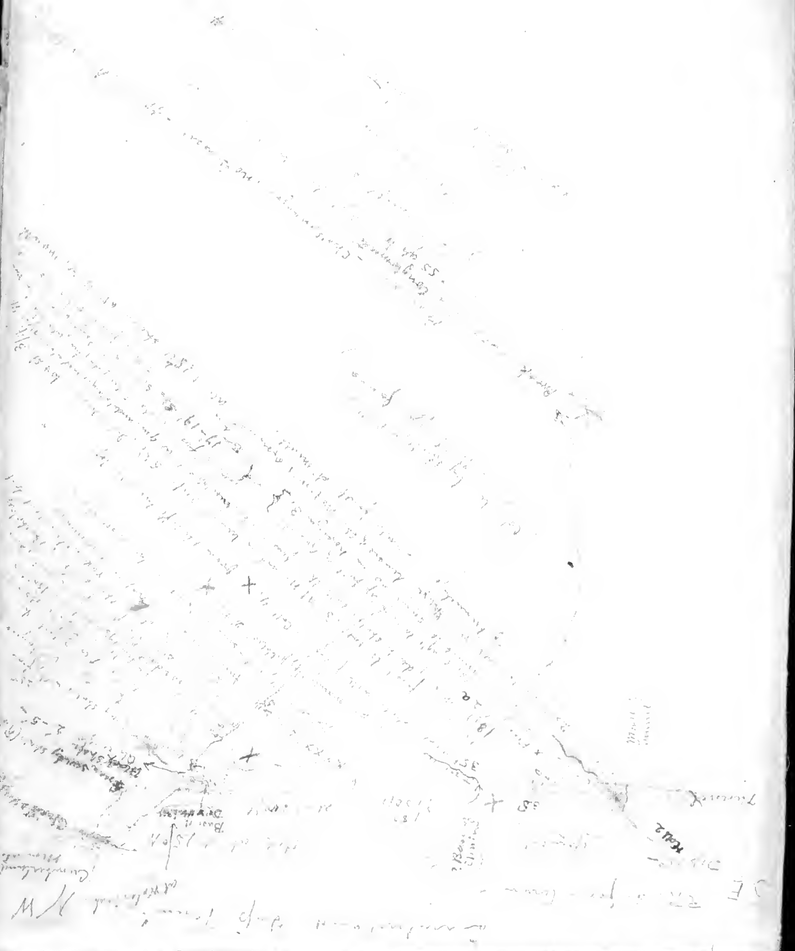
Calhoun, Tenn., Dietown, Tellico [illegible], [illegible] 84

Page

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Blacksburg - Lusby's Bluff - 3-4 mi. east of Blacksburg Va. p. 11

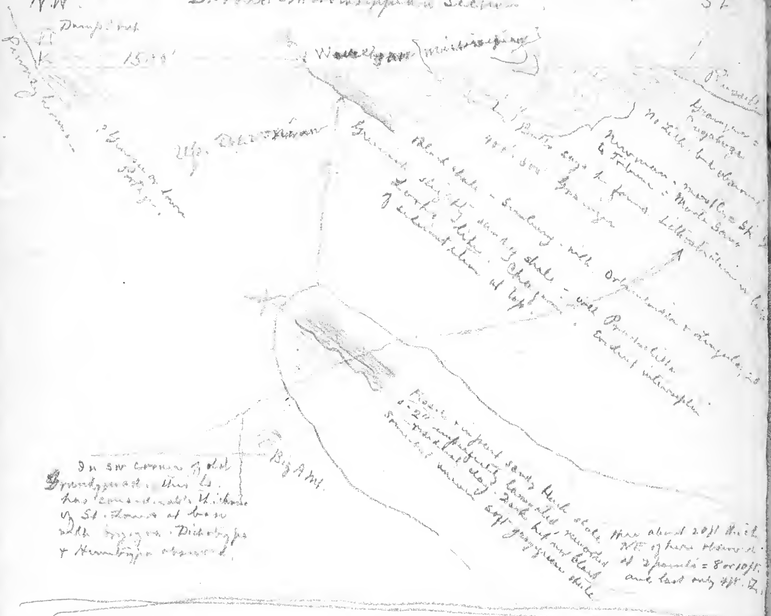
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



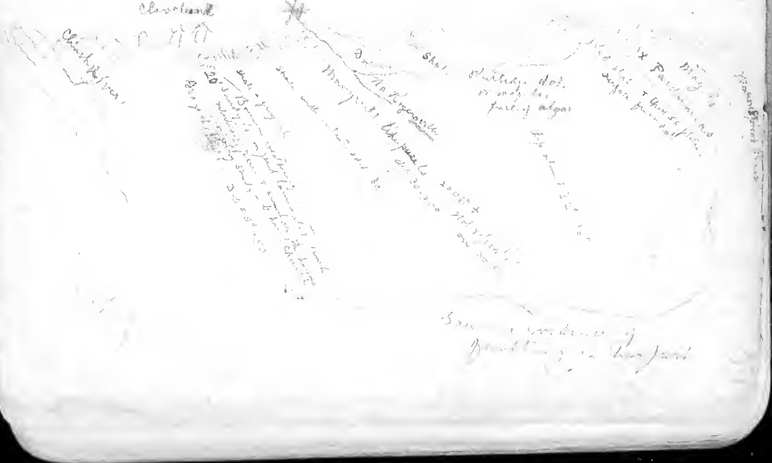
INDEX FOR NOTEBOOK 33 Page

Cleveland to Dunnage Sta. May 21. 1915

N.W. Devono-Mississippian section S.E.



N.W. Cleveland to May 22, 1915 - Cambrian section. S.E.



May 25, 1922.

½ - 1 m. S. of Newport, Pa.

Saw no Clinton on
anticline north of
New Bloomfield, nor
south of Duncannon.
Claypoole's map of Perry
Co. evidently incorrect.

Along gorge to Lewistown →

Lewistown

Middle Creek

See page 1829 section in N.B. 19, p. 1

May 21st

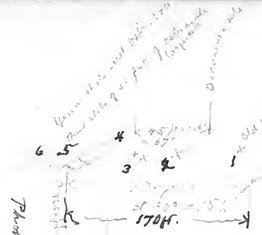
Lewistown, Pa.

Large collections made from the Lafayette & Shale and the Sandstone beds may correspond to the [illegible] and the Lafayette & Shale and [illegible] beds.

2

Wills Creek gorge,
Cumberland Md
May 27, 1922

Photographed



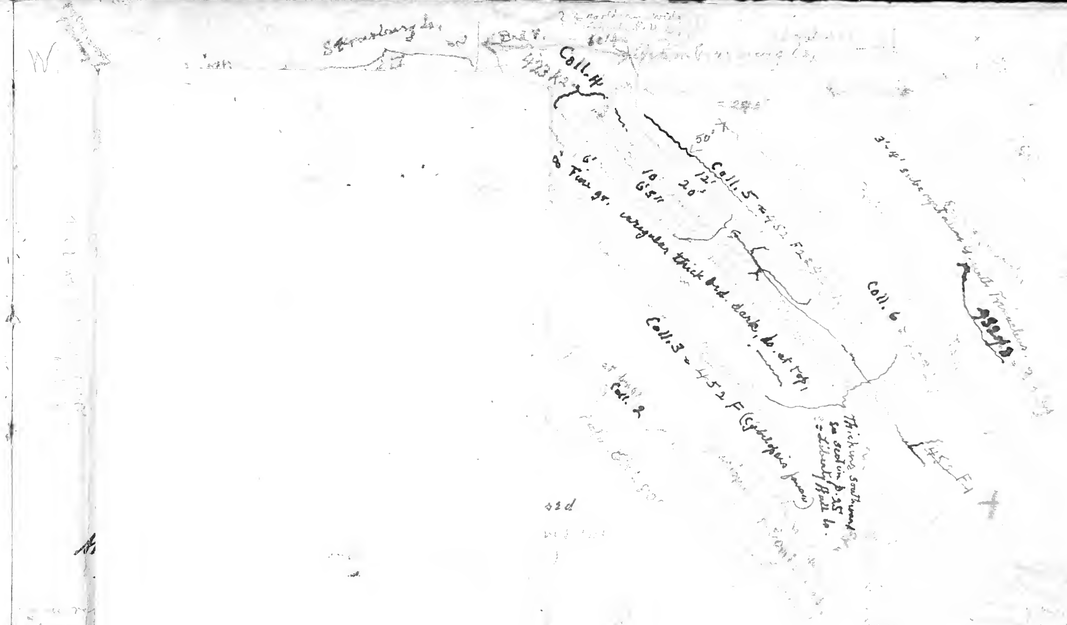
Photographed

Z. anticostiensis 1 = 98
Z. decora zone 2 142
Z. emaciata " 4 170-174
Zn. Lonsdale zone 5 178
Zn. latior Lonsdale zone 6 180-5

2

Strasburg
Virginia
Fall 1938

X														
X		6		12								36		42
1		7		13		19		25		31		37		43
2		8		14		20		26		32		38		44
3		9		15		21		27		33		39		45



9—161.

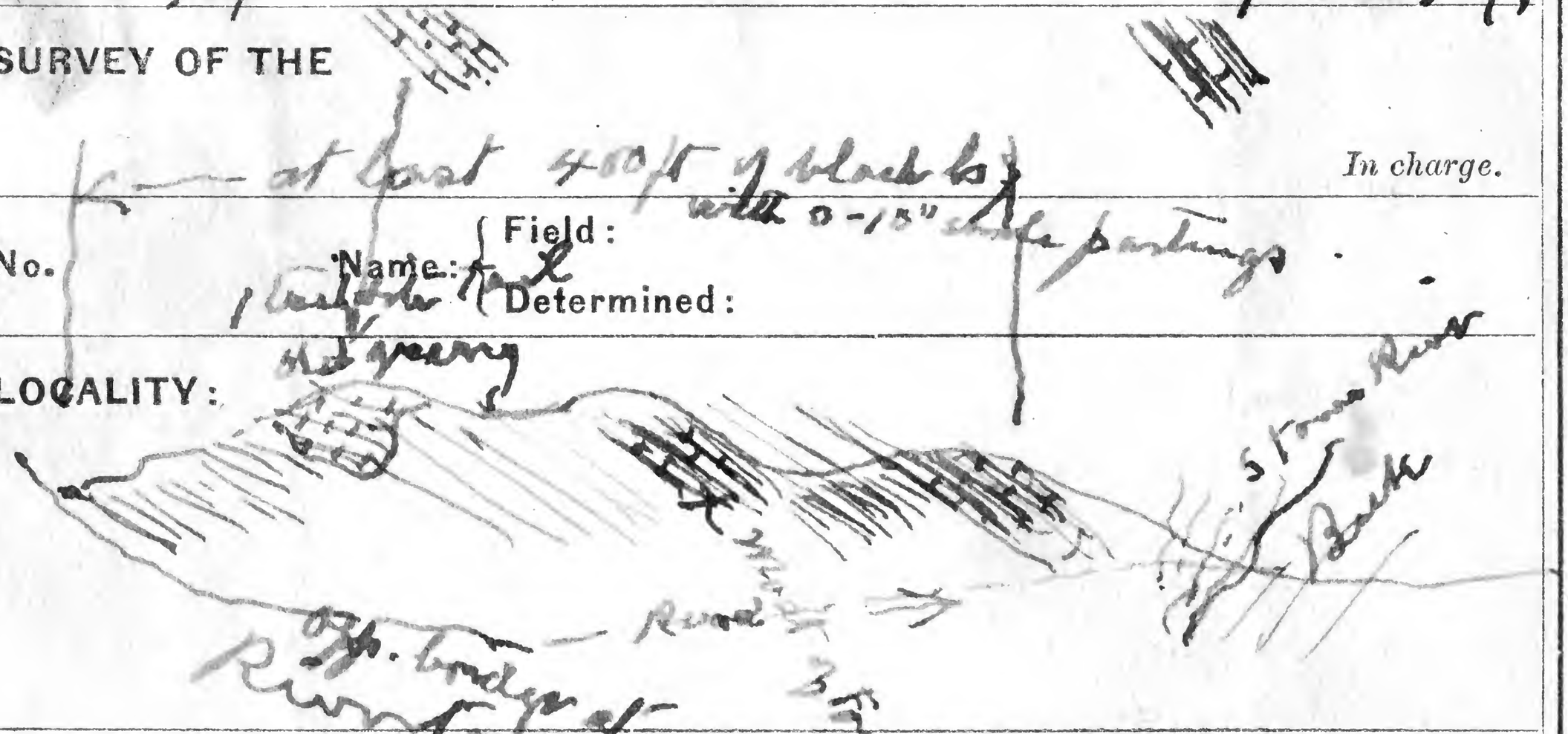
450 M UNITED STATES GEOLOGICAL SURVEY. 450 M.

SURVEY OF THE

In charge.

No. Name: Field: Determined:

LOCALITY:



Collector:	Date:	Memoranda:
	Note Book:	
	Page:	

6–1907

DEVELOPING AND PRINTING

25 cts. COMPLETE

ANY SIZE 6 OR 8 EXP. ROLL
AS LISTED
127 - 120 - 620 - 116 - 616
130 - 118 - 124 - 122 - 101

5x7 ENLARGEMENTS 25cts.

RE PRINTS:- 127 - 120 - 620 - 116 - 616 - 3 cts. each
130 - 118 - 124 - 101 - 122 - 5 cts. each

MINIMUM ORDER 15cts. ON EACH SIZE NEGATIVES

35 M M FILM (TO 36 EXP.) DEVELOPED, - 15cts.
STRIP PRINTS (4 FRAMES) EACH - - 5cts.
ENLARGED JUMBOS, EACH - - - - 5cts.

X		4		10		16		22		28		34		40	
X		5		11		17		23		29		35		41	
X		6		12		18		24		30		36		42	
1		7		13		19		25		31		37		43	
2		8		14		20		26		32		38		44	
3		9		15		21		27		33		39		45	

RITZ STUDIO

1112 G St. N. W. Washington, D. C.

BRANCHES

CENTURY CAMERA CENTER
16 W. Lexington St.
Baltimore, Md.

RITZ STUDIO
707 Boardwalk
Atlantic City

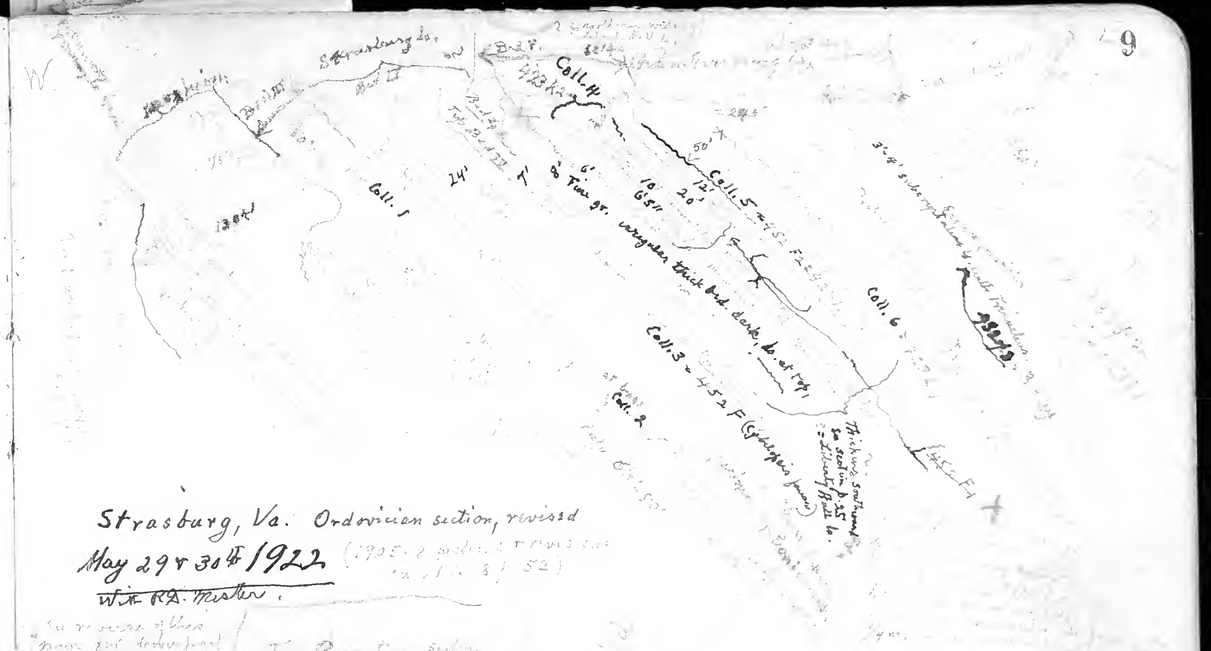
Strasburg
Virginia
Fall 1938

Oct. 1938.

778

2

Pearlington, Va.



Strasburg, Va. Ordovician section, revised
May 29 & 30th 1922.
(1905: 2 previous revisions
on p. 1 & p. 52)
with R.A. Nisbet.

(In reverse of this page, for temporary use of the author (Cat. abstracted) made in 1922.)

F. Rowton section
on left side

Section 1923.
May 17th

Continuation downward of Columbia Valley section
(For higher beds see reverse of this page)

Athens shale

Contact not seen

Argillaceous and siliceous originally limy now very soft shale-like material containing a large fauna. The fossils occur so beautifully and only slightly distorted (empty moulds)

Strodburg
~~Lenoir~~
~~Holston~~ ~~Mostly decomposed~~

F25 ×
F26 ×
F27 ×
F28 ×

25'± 50' to 100'

Mord. ~ 250 argillaceous and siliceous limpy limestone containing fossils essentially the same as those of F26.

? Lenoir

Contact not seen

Lenoir - Bed mentioned as present but notes give no details. Must be seen

F30.

F29

Mosheim

Unconformity

Mosheim limestone - 10'-25' - Fine grained dove limestone with crystalline specks and stringers. Fossils few - gastropods only. Kongl. at base.

6-4' chert

20'-22' Bluish, fine grained but mainly lighter colored ("cotton rock" by Ca)

chert 2'± fine grained dolomite

Dolomite - partly argillaceous and sandy. The sand showing especially in the chert much of which decomposes readily.

by Cambro

More information desired regarding the Holston, ? Lenoir and Mosheim

E.O.U.

May 20, 1923

1/2

Section NW slope Catawba Mt. & Valley

E. O. Ellwood
R. D. Mosler
1915 & 1919

Tuscarora (Clinton) quartzite - makes top of mountain.

Mon. or less prominent SS. red and light gray harder layers interbedded. Several layers fossiliferous particularly one about 4 ft. beneath chert. Basal McMillan.

Drab sandy shale, appearing massive in fresh exposure, and including some calcareous shale - both more or less rarely fossilif; particularly at base.

Fairview.

Drab shales, more or less sandy, with fairly hard sandstone ledges in lower fourth. All transverse weathered into shaly debris.

Slightly sandy drab fossilif. shale.

Edn. Thunbridge

2"-4" layers of shaly bluish limestone, interbedded with greenish gray shale and sandstone. Many layers fossilif. One with Prasopora 3 inches thick about 80 ft. above base. ~~From 190'~~ ~~that the [illegible] layer~~ Prasopora somewhat in lower part.

Upper Trenton

Prasopora zone

Upper Trenton

Odenadel

Shales and more or less nodular or irregularly bedded mostly thin limestones - highly fossilif. Megatrypa, a sheet and most characteristic fossils. Prasopora stimulatrix. Fossils particularly abundant at 35', 120', 170' and

Upper and lower thirds consist of dark bluish compact ls., middle third more nodular, all interbedded with gray shale. Collected fossils at 15' above base, also 85' and 145 ft. above base. Bryozoa in middle part.

Upper 50 ft. less massive SS. and softer, breaking down more readily - drab colors. Foss. zone 25 ft. beneath top.

Some thick beds argillaceous red SS.

95' beneath top bed of red sandy shale 3' 5"

Two beds red shale, lower 8", upper 12" with 8" SS. between

4" red shale with a few inches green shale above it

95' Hard drab & greenish, micaceous sandstone and some greenish drab shale, on whole appearing rather massive in fresh cut. 45' above base a bed with Lingula.

Dark blue compact ls.

Concealed

Hard compact bluish black or black even bedded impure ls (1"-6") interbedded with gray to bluish black thin shale partings. Sparingly fossilif. a few graptolites - Athens types.

Mainly gray to black shale with a few limestone layers in upper part. Fossils few. Apparently graded upward lithologically into the overlying living graces of the Athens.

Athens shale 1100'

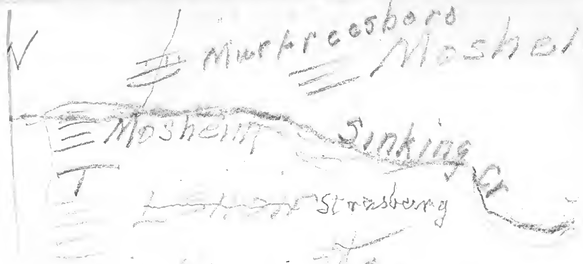
25' interbedded hard blue ls. & black shale

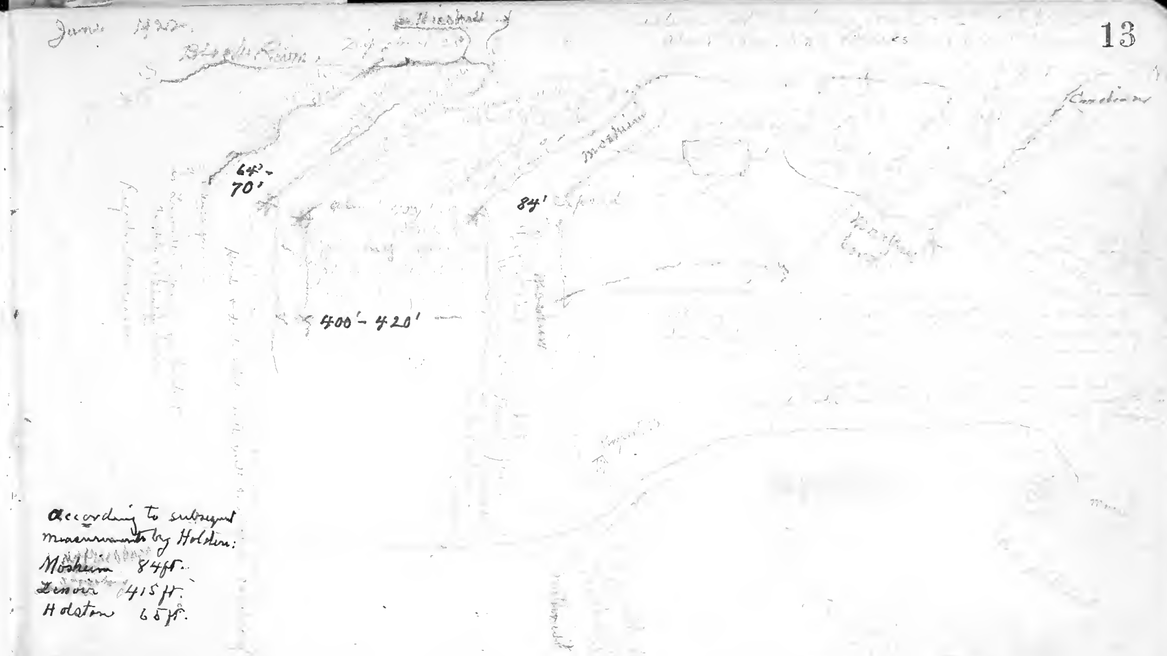
Gray to black fissile shale often filled with graptolites.

Cont'd on reverse.

Catawba Mt. & Valley

Cambrian





According to subsequent measurements by Holden:
Mosheim 84 ft.
Denver 415 ft.
Holston 65 ft.

N

Sinking

Strasberg

E

Comp. NP 33, p.13

64'-
70'

84'

400'-420'

According to subsequent measurements by Holden:
Mörheim 84 ft.
Lenoir 415 ft.
Holden 68 ft.

5

Most of the Whitehaven
[illegible] the [illegible]
to work. Whitehaven, [illegible]
producing the off. coal, is at or near the
of formation. The Whitehaven is a long thin [illegible]
shale. It should be noted that a [illegible] [illegible]
veins, in the shale, in the most southern of these bands.
These bands [illegible] the most [illegible] time [illegible] in the
[illegible] Bulle Lake - Morristown [illegible].
Apparently the Albany also thins [illegible] in going N. a cross
strike from Bulle Lake. That [illegible] is explained

Set 1. Cumberlands from Bull's Gap via Rogersville. - The Upper Ordo. Upper Trenton to Sandhills - but had to have known a section of rest of the distance across Chemung Ridge - Powell Mt. Bull's Gap [illegible]

Mulberry Gap section - 1922 - Ordovician
+ Powell Mt. (Clinton)"

See NB. 25, p40-42 for cardinal (more detailed notes)

1101

Code 3.

Uppers on Thomas's sandstone only!

1107

2

1922

Plot 3 views of Eff.

Tillers

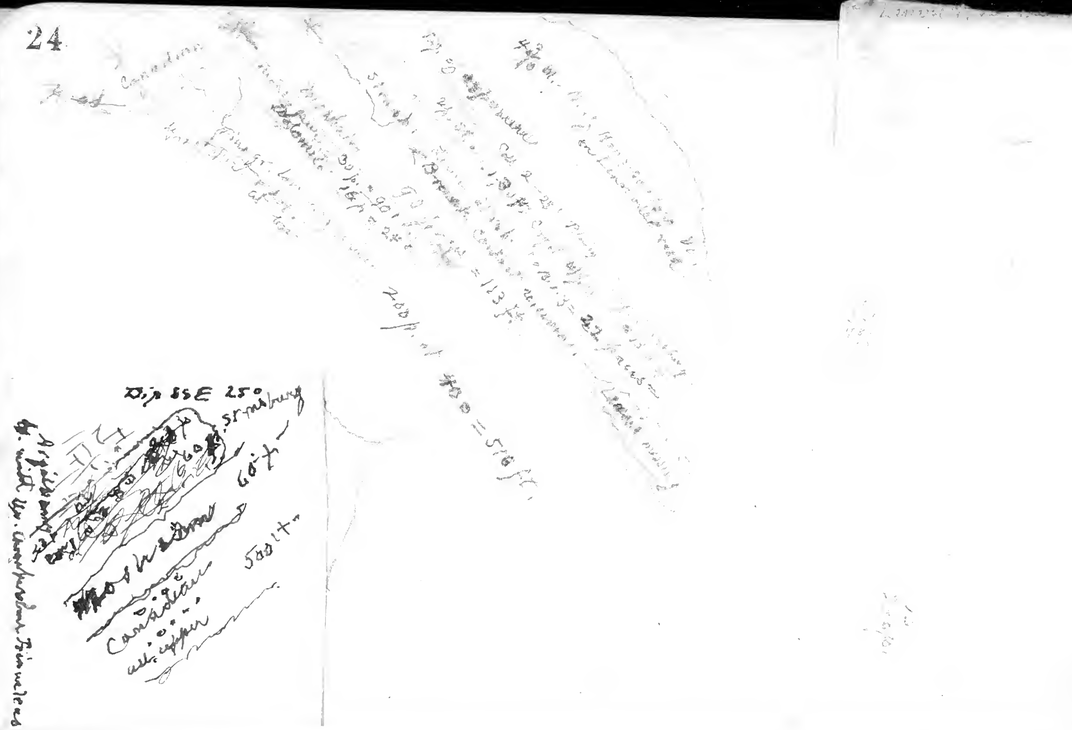
70

Herbert

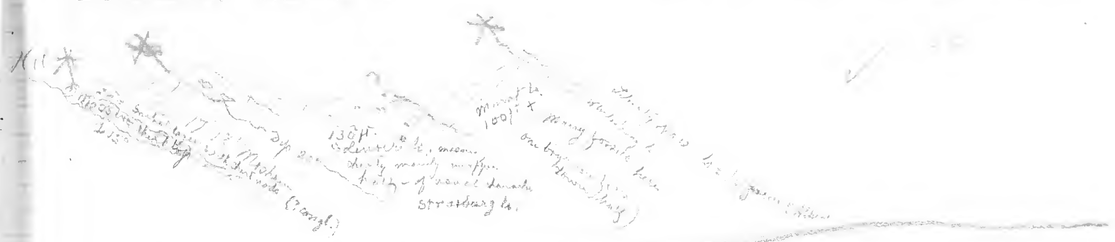
Strathbeg

Plot 142 - 4 Eff.

Tillers shown indicated


Dip 85E 25°
Strubing
60ft
Canadian
500ft
Canadian
Strubing
290ft
135ft
Canadian
Stonehenge
Conoch
378'
120p
286ft
Season - 1923.
May 15 to Sept. Machinery
with Reserve Book section.
May 16 at Strasburg - sub. 10

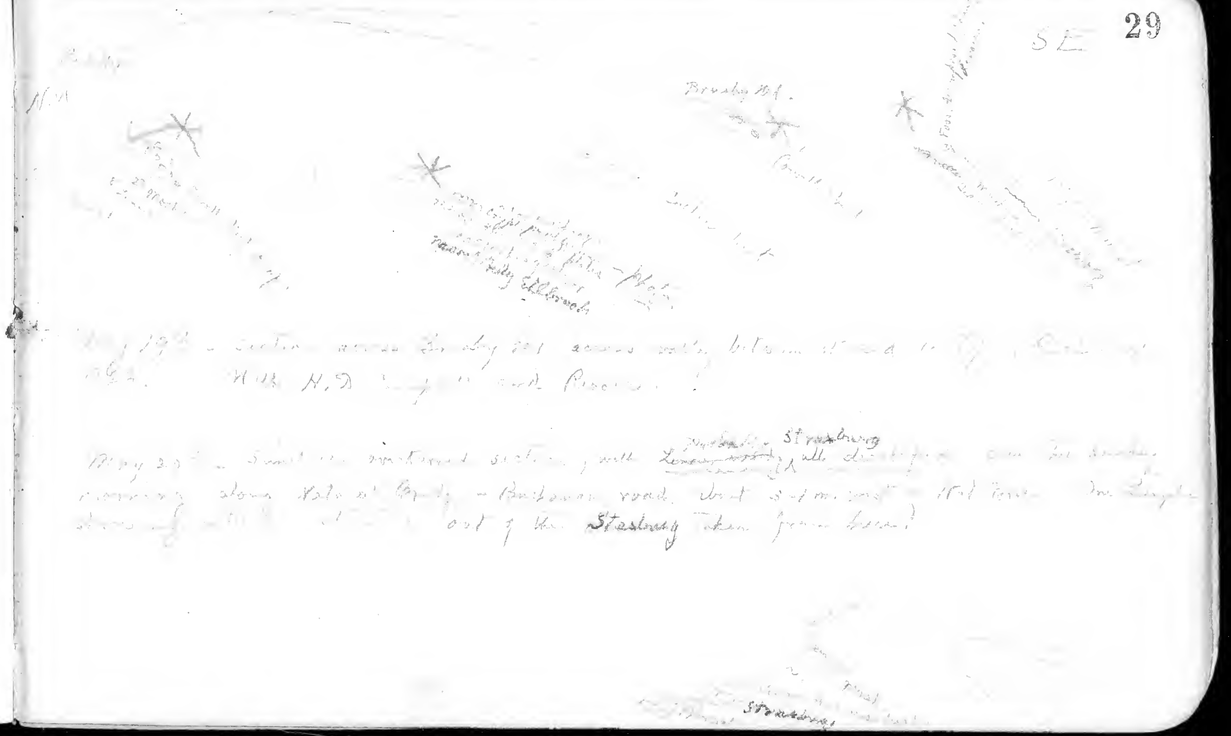
Section of Mount Ts.



Along Buffalo creek, where it crosses Trenton rock from Gelin

There is here at least 40 ft of Trenton Montmorency shale and under the Nodulites & other characteristic fossils all rather argill & shaly weathering. Some black beds in it at base of characteristic argill Tetradema, illatersonii. Above the Trenton crosses considerable thickness of Utica which lies on it exposed

Compare with East Lewiston section — 97 ft — so that section a thin wedge of gentle & southward wedge of Utica shale & weathering of Trenton showing beneath overthrust Canadian rock.


SE
Brushy Mt.
Strasburg

Sketch section thru the Brooks Gap in Little North Mt., near Broadway, Va. May 17th 1920.

Looking Easy.

N.W.

East Tennessee — 1923.

Section beginning 2 m. SE of Lake Ocoee & extending to middle of bridge made in the Hiwassee River on the east side of the Tennessee River on the SW side.

Distributing Exposure

East Tunnelling - 1923.

June 7, 1923.

Well Master's Exploration

Good water - Should be used.

— Dip 60° To 67°

1921 - NB. 32 p. 41.

2560'

4004

Sun Mater Coll. 448 X 3

448 X 2

448 X 1

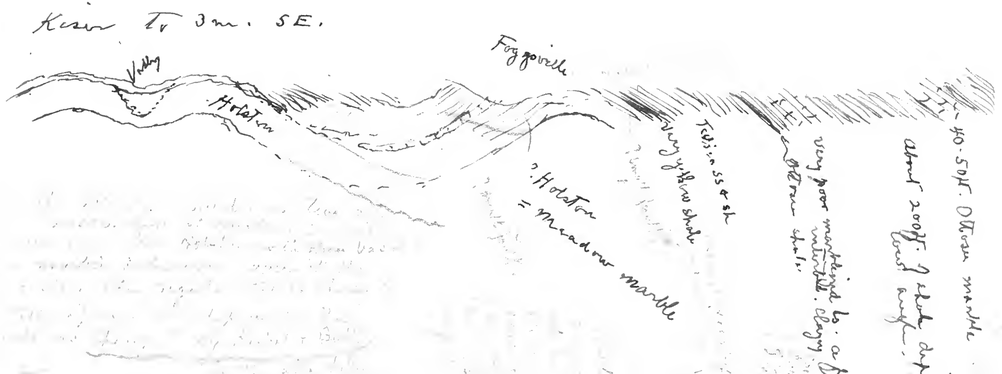
448 X

Suggests comparison with section at Marble Bluff 8 m west of London (See p. 41)

Great Timbau - 1923

June 8th 1923.
Region of Meadow. With Gordon & Mather.

East Tuscarora 1923.



"Marble Bluff" 8 m. NW of Lundsdown Tenn.
Sunday June 10, 1923, with Wader

Coll. 454 d

Dawnthrown block.

Canadian and lower dolomites in wide area

Canadian

60 ft. or more

Mashpin

Coll. 454 c

Coll. 447 g-y

Coll. 454 f

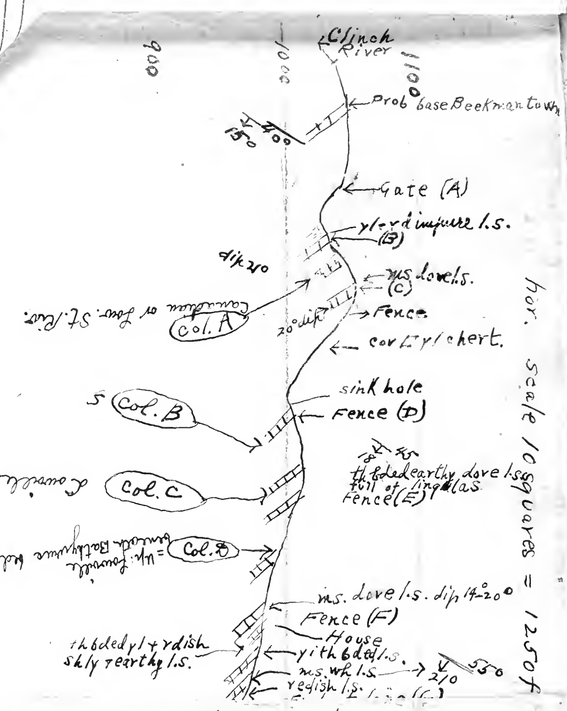
Coll. 454 e

Thrusting of Tellico Conglomerate

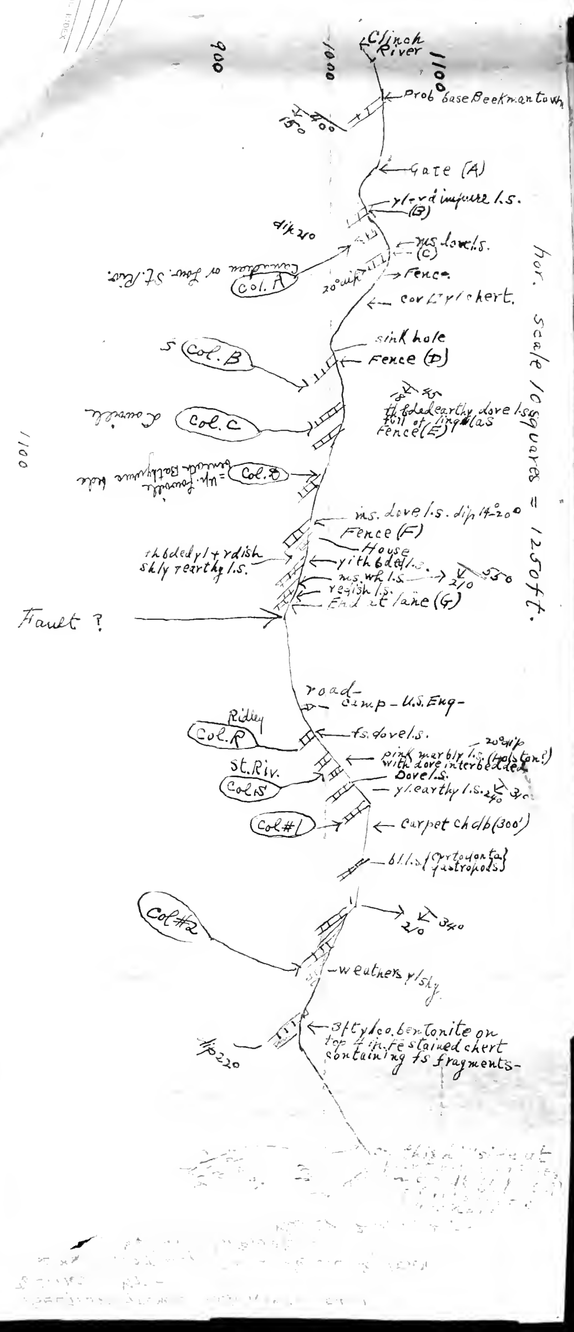
Hadston road & cliff rather gentle

Strike the latter mainly in lower or middle Ordovician section. Hadston and Lenoir in this section — so that Tellico rests on Mashpin. Confusion from sections (p. 38) Geol. S. of Knoxville.

For revised and more detailed sections in Loyalton area see pp. 53 - 58.



Section from Clinch River - east to Clinch Mt -
2 mi. N. of Loyston - Union Co, Tenn.
Wilbur A Nelson -
March 20, 1924 -


Clinch River
Prob base Beekmantown
Gate (A)
yl-rd impure l.s.
(B)
ms. dove l.s.
(C)
Fence
cor. yl. chert.
sink hole
Fence (D)
Fence (E)
ins. dove l.s. dip 14° 20°
Fence (F)
House
rd. wh. l.s.
Fault ?
End St. lane (G)
road
Ridley
Col. R
ts. dove l.s.
St. Riv.
Col. S
Dove l.s.
yl. earthy l.s.
Col. #1
carpet ch d/b (300')
Col. #2
weathers r/sly
3 ft yd co. bentonite on top. Fine stained chert containing ts fragments
hor. scale 10 squares = 1250 ft.

Collected with little success at Mine at end of about 3 m. N.E. of Middle Germany at which Mother 3 years ago found a Sample of Lead

6 | 5 Pure wm grain limestone, rough bedding surface + conglom bed
| 90± Magnesian limestone with much small chert + some large white chert.

? Folding

Old quarry
12 Semi pure fine gr. limest, some chert
20 Fine grain dove, laminated limest (chert with flat fast (Oplil) from above)
5 Light colored magn. ls
20 Fine gr. thinly lam pure ls
13 Pure wm grain dove limest
50 Magnes. + impure ls. Thick white chert at base
70± Dolomite + magnesian limest. Massive white chert at base
280± massive dolomite

Section near Saltville Va.
May 21, 1924, not made

Strike 220°-230°

Strike 230°

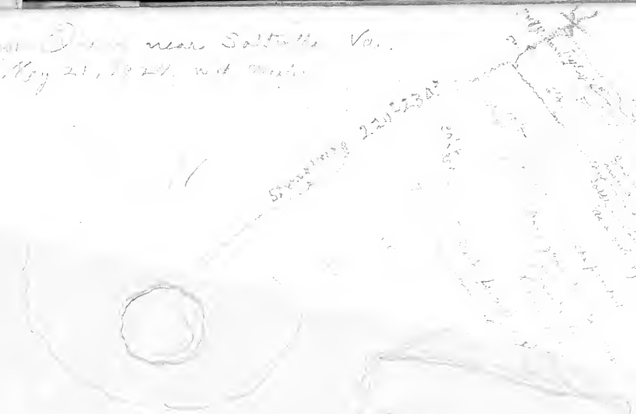
Strike 230°

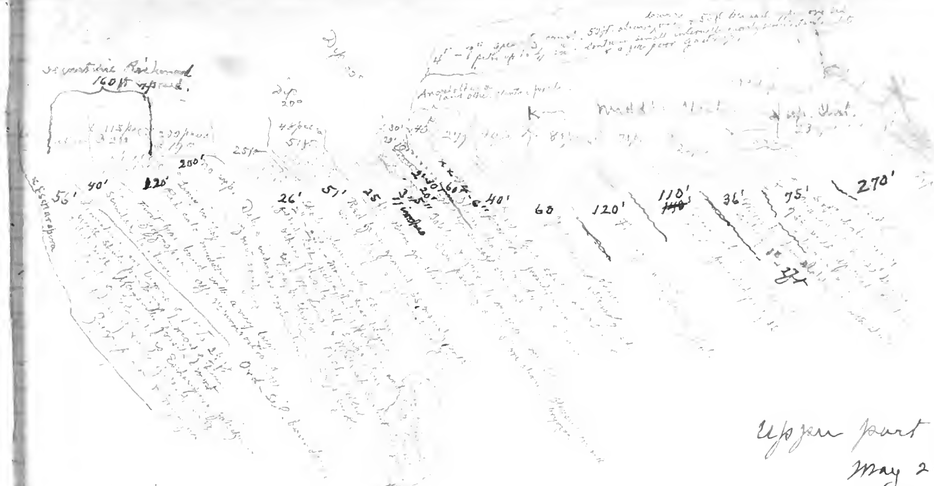
Strike 230°

18-15'

Meteor near Suffolk Va.
May 21, 1924, 8.15 P.M.

Starting 220°-230°





Clinton 921 ft.
up Madison 300 ft. +-
Sugratshe 160 ft +

Upper part of Loyston section
May 24, 1924
see lower parts pp. 55 + 56.

Section Neathison Alkali quarry

1 1/2 miles South-southeast of Saltville
In Rich Valley.
By G. W. Stose

Dark gray shale, weathg light. Few graps.
Irregular contact. Deep depressions

28 Coarse granular gray massive limest. Few fossils 27B
quarry rock
← Impure black banding, weathg shaly.

13 Less pure granular gray limestone with some black argil. bands

10 Dark limestone banded with dark slickensided argillaceous layers, weathg shaly

20 Light-gray crystalline limestone with Bryoz. 27A
Chief quarry rock.

12 Similar granular crystalline limestone
Surface covered with cephl. 1' long, 1-2" wide, 1/2-3/4" between curved septa. Cyphl. 3/4" diam. One coiled, 3-4" diam

135± Less pure fine grained limest

70± Weathg impure limestone, some granular at top with cephal, etc. 27C

— — — ? Top of Buk.?

185± Magnesian fine grained limest, weathg buff

— Thick bed white chert

135± Similar Magnesian limestone

— Thick white chert.

8 Impure limestone & fine magnesian limest (Fos - 27)

20 Fine even grain dove limestone. Upper beds fossiliferous & contain fine conglom. Few impure beds

4 Fine grain dolomite with ~~thin~~ chert

11 Fine grain dove limest, hackly fracture

31 Very massive pure drab even grain limest. Few beds of oolitic conglom in lower ~~beds~~ part

Near quarry

Quarry

Quarry

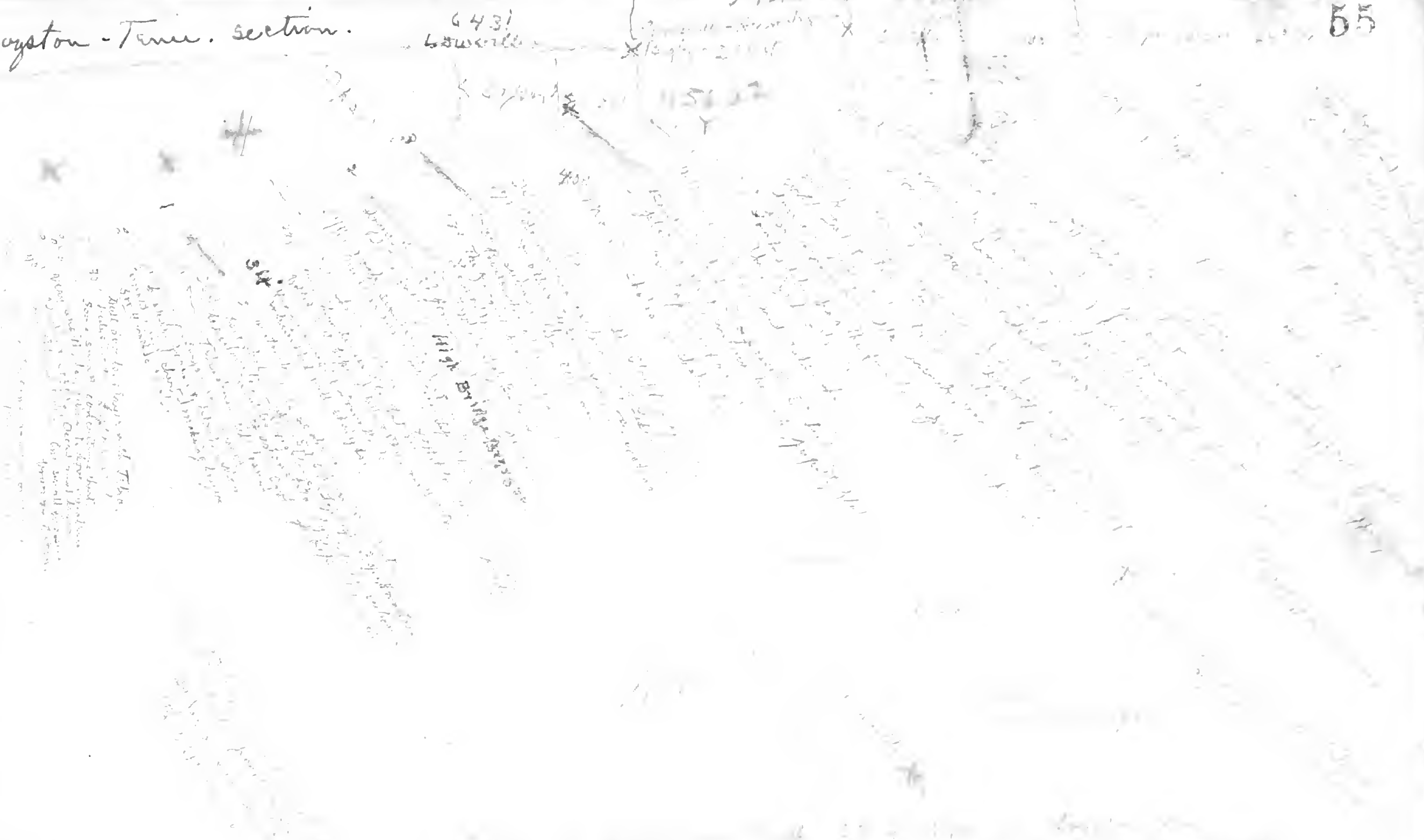
Arthur Cole to his sister

Pen.

Stories Fictions
Old & New Guernsey

(649)

Loyston - Tenn. section.

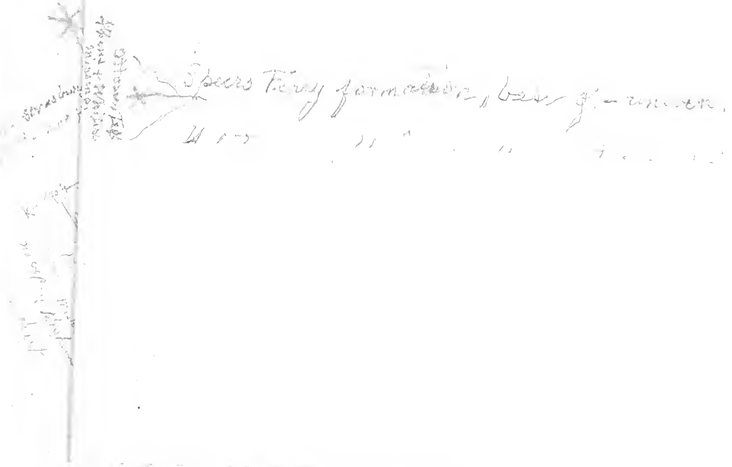


[illegible]

Section on Longstown pike, east foot of Flint Ridge, 100 yds west of R. S. Stanley's house. Morgantown Road.

May 25, 1924

(Sunday)


Spears Ferry formation, base g. - unknown.

Power feet from Tebb

Chazy formation

Spears Ferry formation, base not known.

Holston marble, a small amount of chert near upper 1 foot, the remainder more or less massive grayish crystalline fossiliferous limestone 63 ft.

Strasburg limestone, with thirty beds and at intervals more or less shaly beds most of which are fossiliferous. — — — — — 285-348

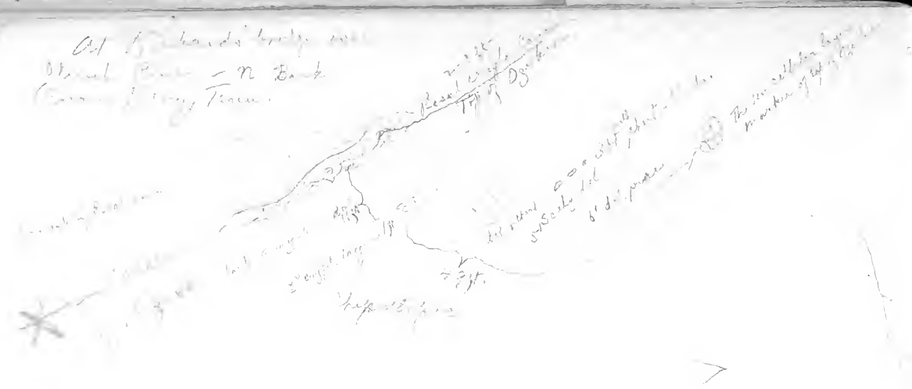
Lower

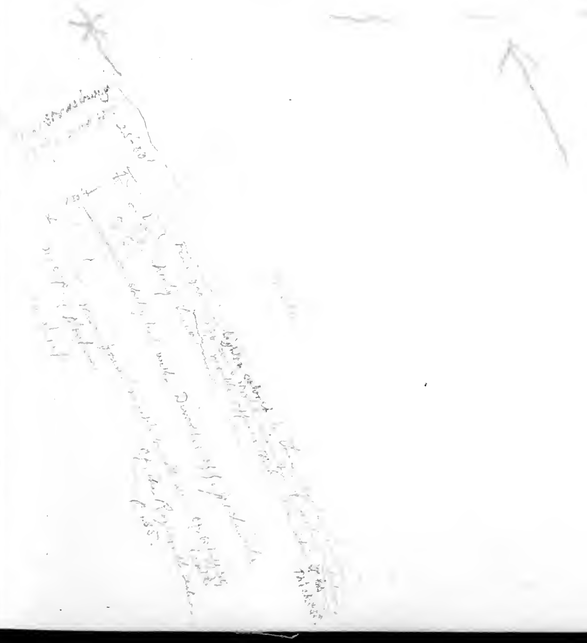
Moshannon limestone — — — — — 30'-100'

(The lesser thickness occurs at the culvert on the main road the greater one half mile on old road going northeast work to top of hill.)

Canadian

Transcribed to Bulletin Rivers Survey





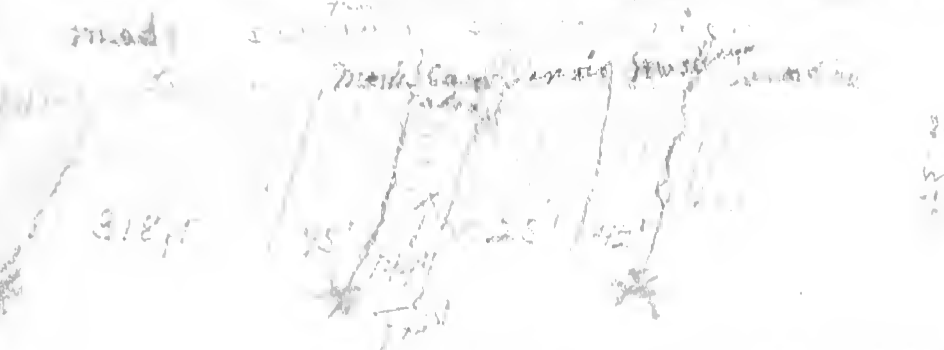
May 20 1924

[illegible] Bluff [illegible] Pine [illegible] and [illegible], [illegible] and [illegible] the [illegible] surface, and in great [illegible].

At Holtzclaw church [illegible] Knoxville [illegible]

mud

one spread 1 ft.



[illegible] Mosheim.

At Arcadia school observed typical Lowville chert with Tetradium, Gypsidula 2 ft, [illegible] of Moccasin, [illegible] the [illegible] near the top of [illegible] Mosheim [illegible] [illegible] are [illegible], [illegible]

[illegible] in [illegible]

[illegible] (Mosheim)

Bluff [illegible]

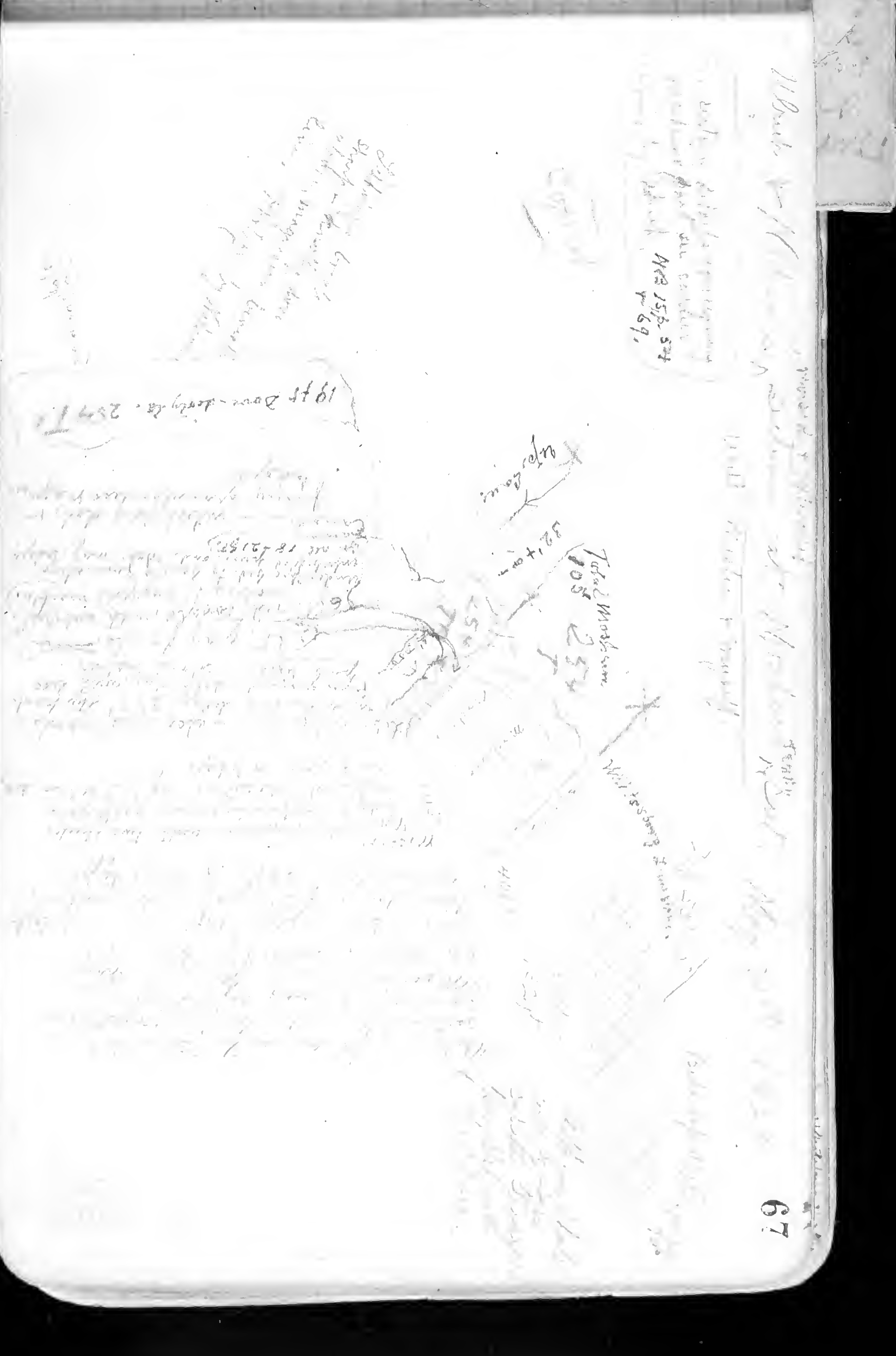
1½ m. SW of Piney Flats made section top of [illegible] to base of [illegible] and [illegible] Canadian [illegible] about [illegible] by [illegible] and [illegible] [illegible] [illegible] regarded as [illegible] SW of Piney Flats [illegible].

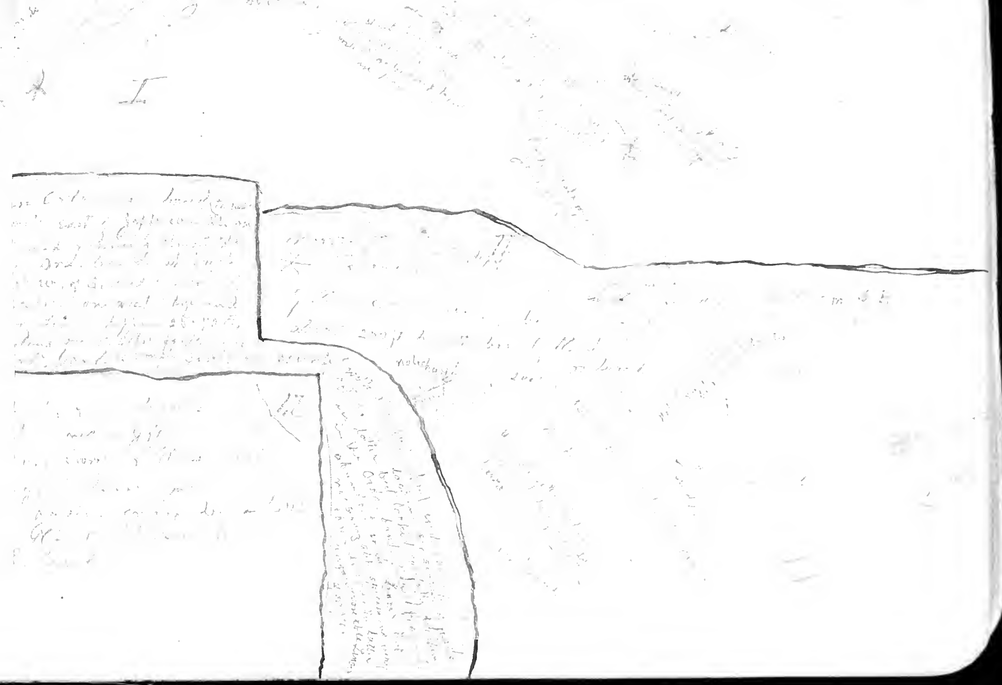
Reached Johnson City at 7 P.M.

67

Ulrich & Holm [illegible] at Mosheim [illegible] May 20 1924

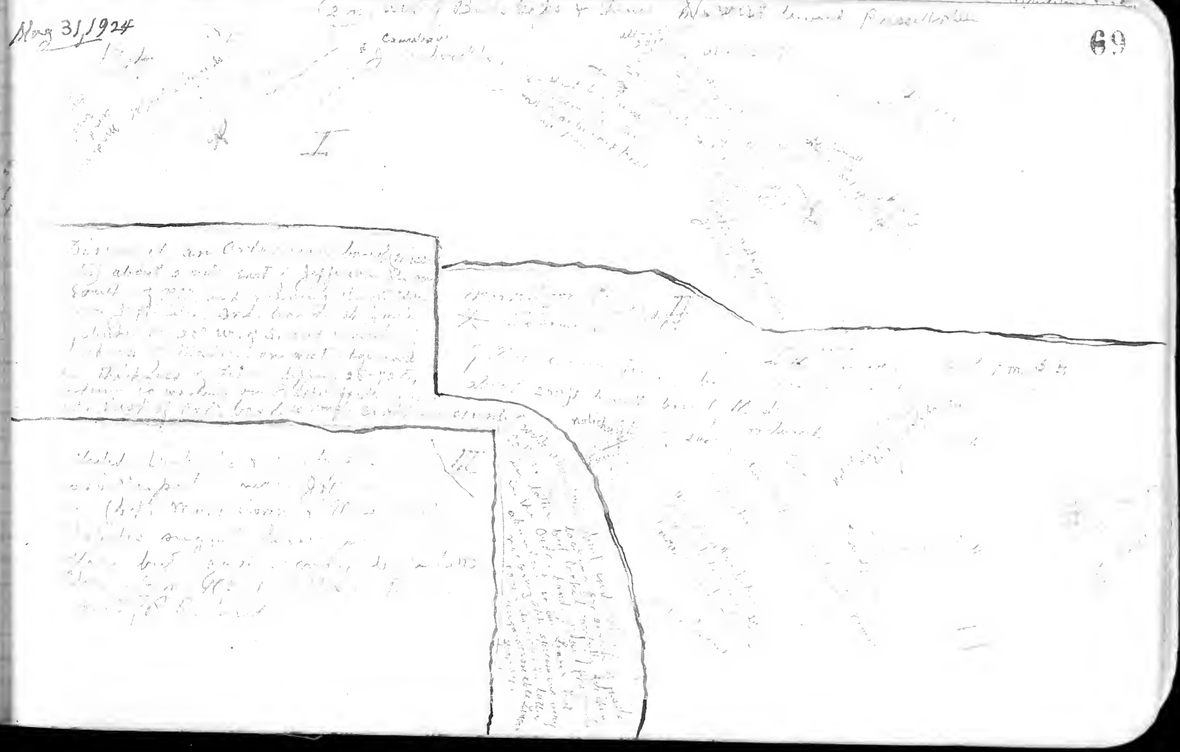
[illegible] NB 15 p. 57 + 69.



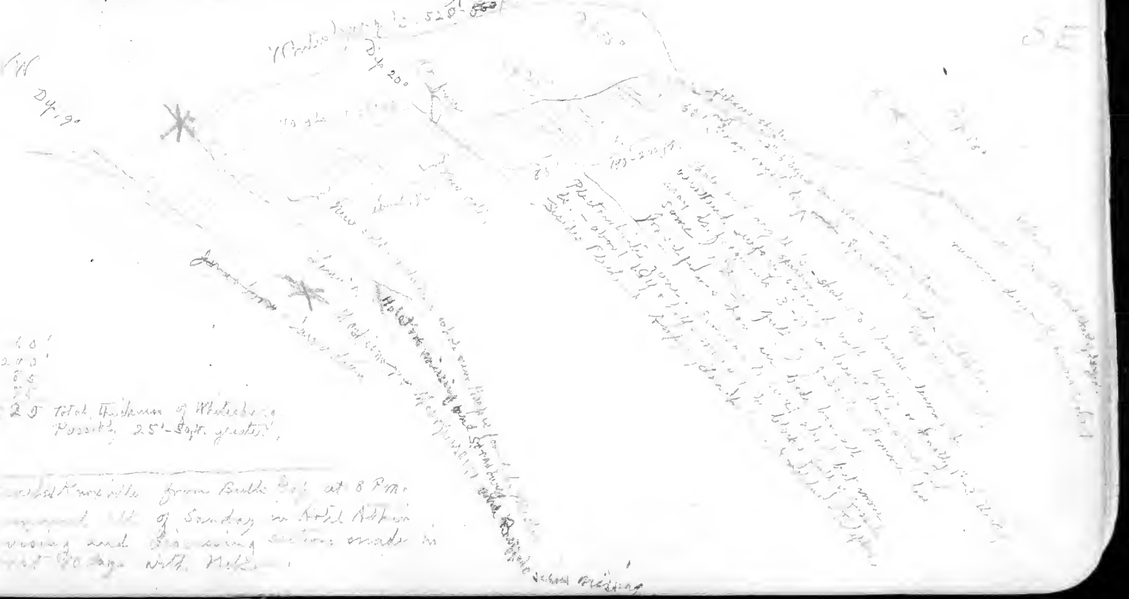


[illegible]

May 31, 1924

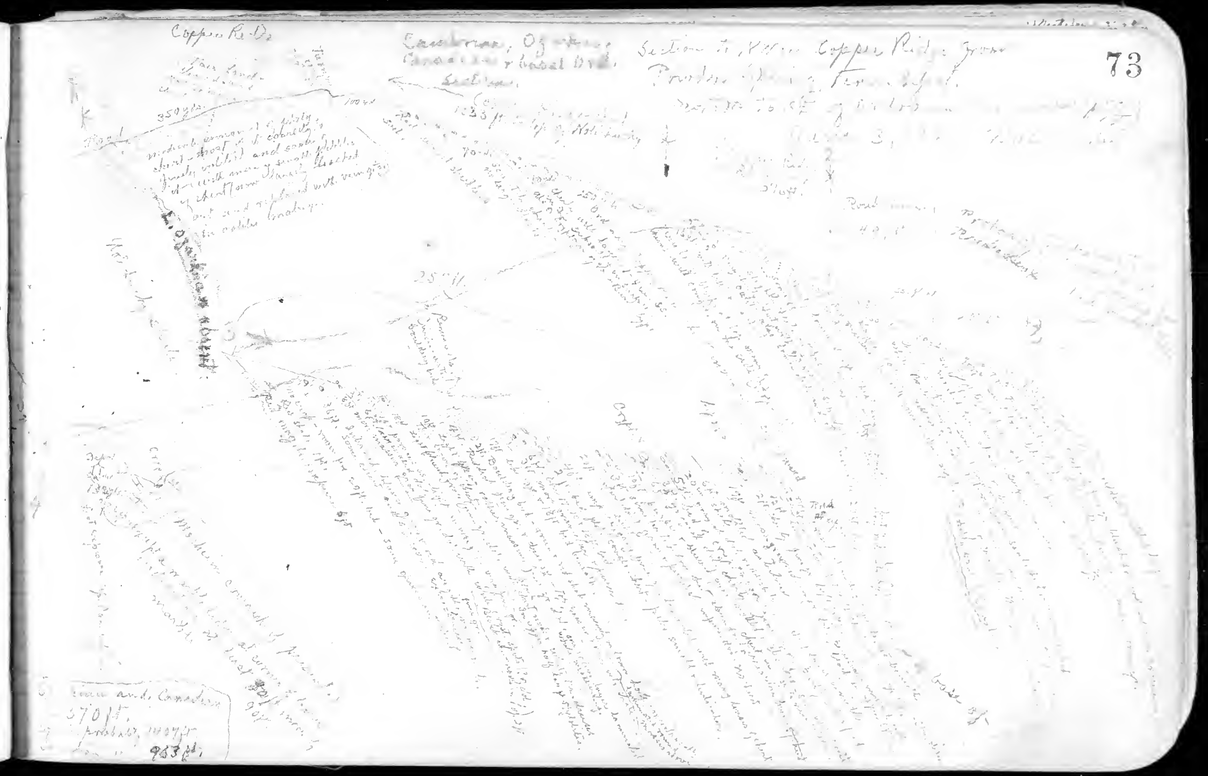


May 31, 1927. W.N. ... sections of the ... of the Wheeler Group ... beginning 1¾ m. SW of Bulls Gap Tenn. ... Hunter ... taken ... manely Vacuum ... and shales from ... south side of road to base of ... shale ... about ... yards down to the shales ...



Total thickness of Wheeler Possibly 25'-30 ft. greater.

Left Knoxville from Bulls Gap at 8 P.M. ... of Sunday in Field Report ... and ... sections made in ... with Nelson.


Copper Ridge
Cambrian, Ordovician, Canadian & basal Ord. Section.
Section ... Copper Ridge ...
350 yds.
100 ...
Road
1233 ft.
... with many small ... chert ...
Canadian
570 ft.
probably ... ft.
963 ft.
25°

Section marks belt SE from Pontiac depot
to cross belt & trade depot with Lullwell, Walden & Thompson
line [illegible]

Wantling or at Lullwell, Walden & Thompson

Shinnecock & L. Isl. R.R. & Westcream absurd

Spruce Pump 633

Thompson Valley 301

Holsten

Section at
Maloneyville, Tenn.
June 4th 1924
with Meek

Dip 250

Column

Footpiece of vert. fossil with Leptaenisca fauna.

Maloneyville, Tenn. Meek & Foerste

δ Sly Lowe zone nearbed	700
Tellico formation	25
~~Rhinestreet + Wholesbrow Knob~~	
Holston marble	116
~~Strasburg Lenoir~~ limestone	26
Washburn limestone	42
~~Upper Conasauga~~	169
Middle Conasauga, Rome (= Lower Conasauga) thickness	?

X Small Coll. by Meek

X Small Coll. by Mesler

Dip 66°

X Small Coll.

Section of Monterey Mtg. Line, 1 mi. E. of Mesler

A bonging series of more or less marginal to marginal marine 5% to 40% marg. carb. The purest are dove in color & fracture, others are more argill. & reddish to purple, others "cotton rock" whereas some thick layers are grag & medium coarse - Other varieties are mentioned

Loose piece of chert found with Leptaenaspira fauna.

NNW

S.M.S.E. Knowles
Sketch of and near
Hot Springs
Tasmania
June 5th 1924.

Holotype

Strawberry formation

Lower

Section at top of Spur
Horizon 90°
Strawberry

18 ft. Chunky h (Strawberry)
8 ft. lr. Dragon.
above 50 ft Shale like mudstone often conglomerate
pebbles in particular.

Lower in
top of field

Friendsville Tenn.
June 6th 1924
Hoyt Moore

Probably up Tellico

Strasburg

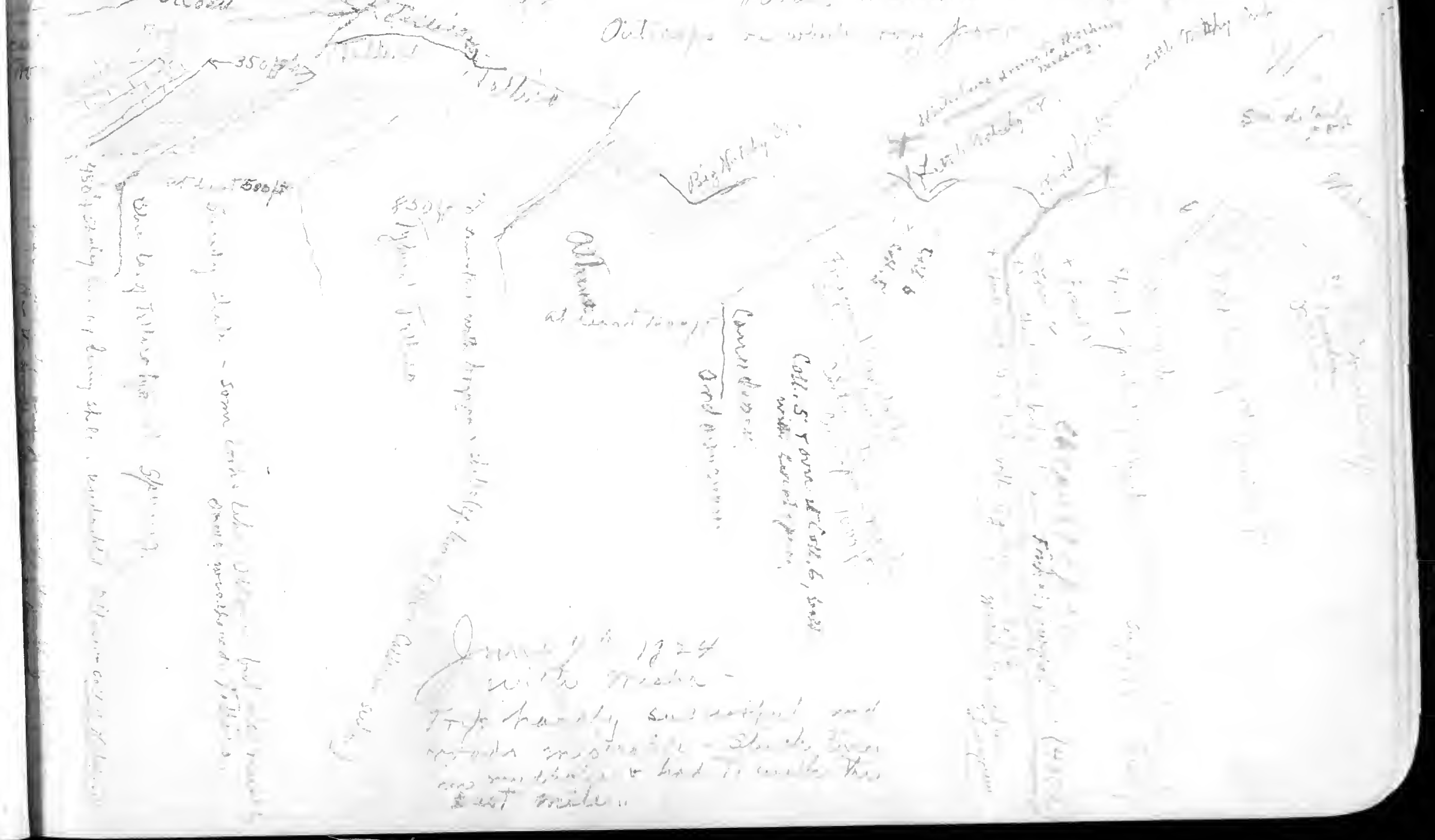
Lenoir

Tellico

Nash. road

Tellico Parker (1957) note to Friendsville section see NB. 24, p. 59

Sketch section
Road, [illegible] – Provo, [illegible]
Outcrops on whole way from [illegible]



June 9th 1924
with Meske –
Trip hardly successful and roads impassable – Stuck twice ... & had to walk the last mile.

Charleston, Tenn.

East of Tennessee

with Rocks.

Sandstone Arches over
Window Creek on Tuckaleechee Branch
3 m. N.E. of Walden.
Hard Sandstone out of the Tellico.
N.B. 22, p. 6.

Tellico

Mesozoic detrital deposit on top of Lower Silurian
Walden Ridge (Lower Carboniferous) east near B.
Cadhouse Gap, Hiw. B. with Lenger. Hiw.
Lower N.B. 22, p. 33.

Recent Dyke in trap
Pumiceous general appearance
Frosted Quartz in trap.

Roan Mt. about 100 ft.

Recent forest of Dyke in the trap bed
2½ m. East of Mathiasville, Tenn. March 19
with Wade.

E

E

Fish pond

Mathiasville

Lake

an drawing NW from Madsomville to Sweetwater and then to Minnys farm NE of Sweetwater.

Identified Athens 3 mi. NW of Madsomville on NW edge of valley before reaching Tellico range of hills.

Next again identified and extended from the lower Ottosee in the synclinal between the two ranges of Tellico hills. The main extension of Ottosee band. Set across lower road towards Dancing Creek from the point 3 miles NE at which Keiths mill (Loudon Sheet) terminates the Ottosee. In general the results of previous years work with Butts in this faulted area were sustained.

After lunch in Sweetwater and delay by hard rain proceeded 3-4 mi. NE to the Bill Minny farm (now owned by other parties). Here looked particularly into the lower shales of the Ottosee and their relations to the underlying marble that affords the manganiferous iron ores of the Sweetwater region and which formerly and still, to the Tellico. The Ottosee shale was laid on the eroded uneven surface though it also appears clear that a large part of the unevenness of the underlying surface has resulted from the superposition of undergoing of solution of the limestone and sinking of the shale into the solution channels or depressions.

Detailed ... of section was made from 2 to 3 years ... layers in the soft yellow shale which underlies the lower 50 ft. of the Ottosee shown the conglomerate band limestone. Here which also some fossils were again obtained. The most interesting occurrence in the shale 25-30 ft. above base of Ottosee was a thin embedded layer ... resembling in its general characters a vein of Dalton ...

After supper took Murphy's ... on road to Black Fork Ave, ... Home ... 8 P.M.

Austinville, Va.

Notes Butts, Tuckerman, Brown, Clarke, &c

Sequence of Cambrian Beds

Orots, Up. Cambrian based on 8 Shaly - Brown limestone, Edgewise
with sequence in Wales. Conrad.

7 300'+ ? Rutledge Bed.

Conrad

6 Ss. sometimes brecciated as in vicinity of Tailings pond. Trilobites Dikelocephalus - Olenellus and Stenotheca, with numerous other trilobites of Middle Cambrian types.

Conrad

5

Bed of X 4 Dwelling in dendroid ss. on road above Tailings pond.

3 Bed with numerous brachiopods

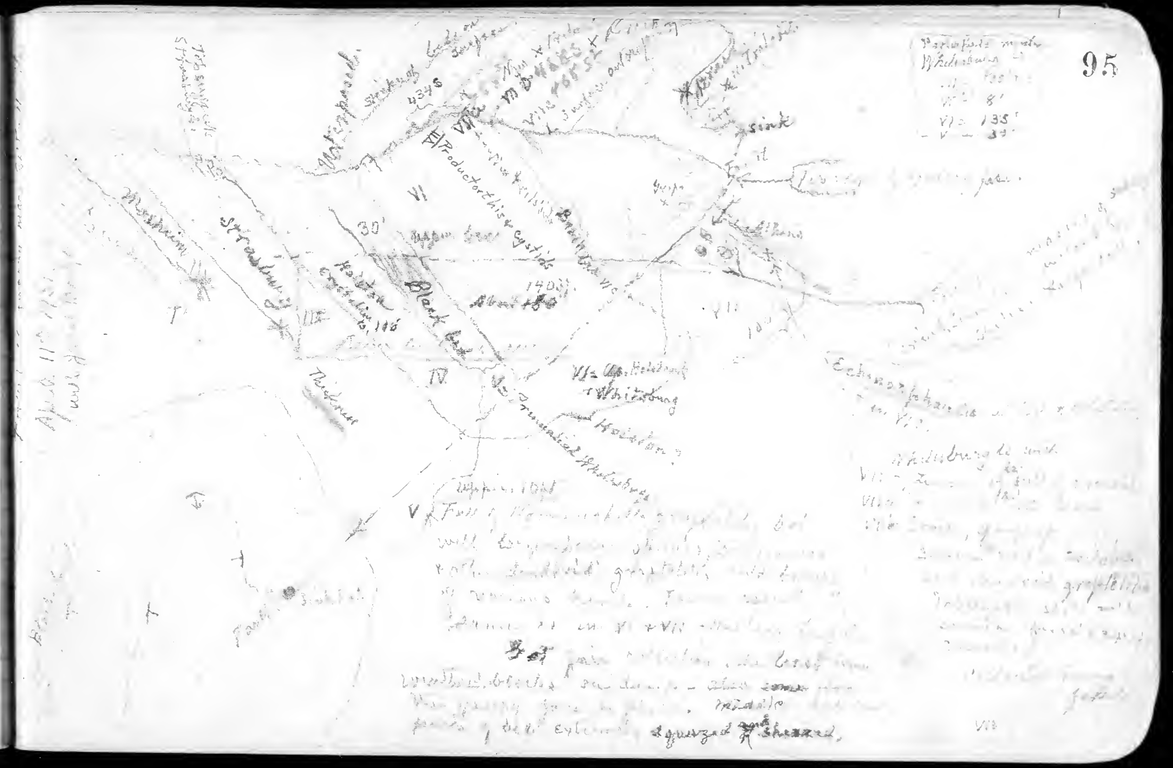
Trilobites found

Tailings Pond.

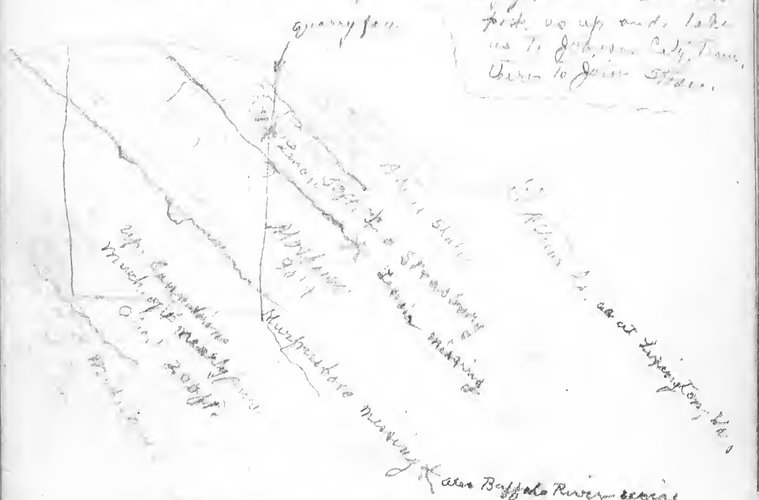
2

1 " Shaly L. ox railroad cut.

The numbers on Rt. indicate supposed sequence of lithologic units. Zones 3 and 3 are in vicinity, 1 is lowest and 8 highest of Cambrian zones.


Black Lake
Sink
Whitsburg
Holdeman
Grundtal Whitsburg
Holdeman
Strasburg
Mennheim
Upper 1004
Sawyzed Sheared

In the quarry at Marion, Va., Sunday, April 12th/31 with Jonah Bridge. Waiting for Butts & Brock to pick us up and take us to Johnson City, Tenn. there to join Stose.



See other sections at Marion, Va. in NB. 24, p. 57 & NB. 26, p. 13.

Marble specimens that may be valued in 1888

Approximate thickness of rocks in

500 and 100 ft. horizontal at

dips 0° - 70°

At 70°	dips	500 ft.	=	470 ft.	100 ft.	=	94 ft.
" 65	---	"	--	452	---		90
" 60	---	"	--	432	---		86
" 55	---	"	--	410	---		82
" 50	---	"	--	384	---		77
" 45	---	"	--	354	---		71
" 40	---	"	--	320	---		64
" 35	---	"	--	286	---		57
" 30	---	"	--	250	---		50
" 25	---	"	--	212	---		42
" 20	---	"	--	172	---		34
" 15	---	"	--	130	---		26
" 10	---	"	--	86	---		17