

#3

Czone Quad.
Kings Creek
Dam South
Ludwig Lake
Hagersville North
Chronister West
Heartbreaker
Dry Spadra Creek
Wolf Glen

March 7, 1959 - Merewether + Haley

Hickeytown benchmark - 337 ft.

| station | Time | description | Elevation |
|---------|-------|------------------------------|--|
| A | 11:55 | bank Big Piney | 338 ³⁰ ' |
| B | 12:51 | | 420' - 36' = 384 |
| C | 1:00 | | 528' - 39' = 489 |
| D | 1:08 | | 459' - 42' = 417 |
| E | 1:22 | | 478' - 50' = 428 |
| F | 1:28 | | 471' - 54' = 417 |
| G | 1:49 | | 708' - 66' = 642 |
| H | 2:03 | | 721' - 75' = 646 |
| I | 2:10 | | 736' - 75' = 661 |
| J | 2:25 | | 706' - 83' = 623 |
| K | 2:33 | | 621' - 90' = 531 |
| L | 2:41 | | 787' - 91' = 696 |
| M | 3:16 | bridge across Little Piney → | 362 369 379 <u>354</u> ^{corrected} |
| A | 3:36 | | 351' |
| N | 3:56 | | 443' - 3' = 440 |
| O | 4:04 | | 432' - 10' = 422 |
| P | 4:14 | | 545' - 10' = 535 |
| Q | 4:24 | | 460' - 13' = 447 |
| R | 4:42 | | 537' - 18' = 519 |
| S | 5:00 | | 678' - 24' = 654 |
| M | 5:10 | | 393 |

393
393
393
393

379
341 36
36

379
341 36
36

1079

A
Hickytown

5:28
5:36

377'
379'

March 9, 1959

Merewether

Keith Mouser Drilling Co.
Shawnee, Oklahoma

March 10, 1959

E.A. Merewether

N 80 E

S 80 W

17 N

N 30 E

7 W

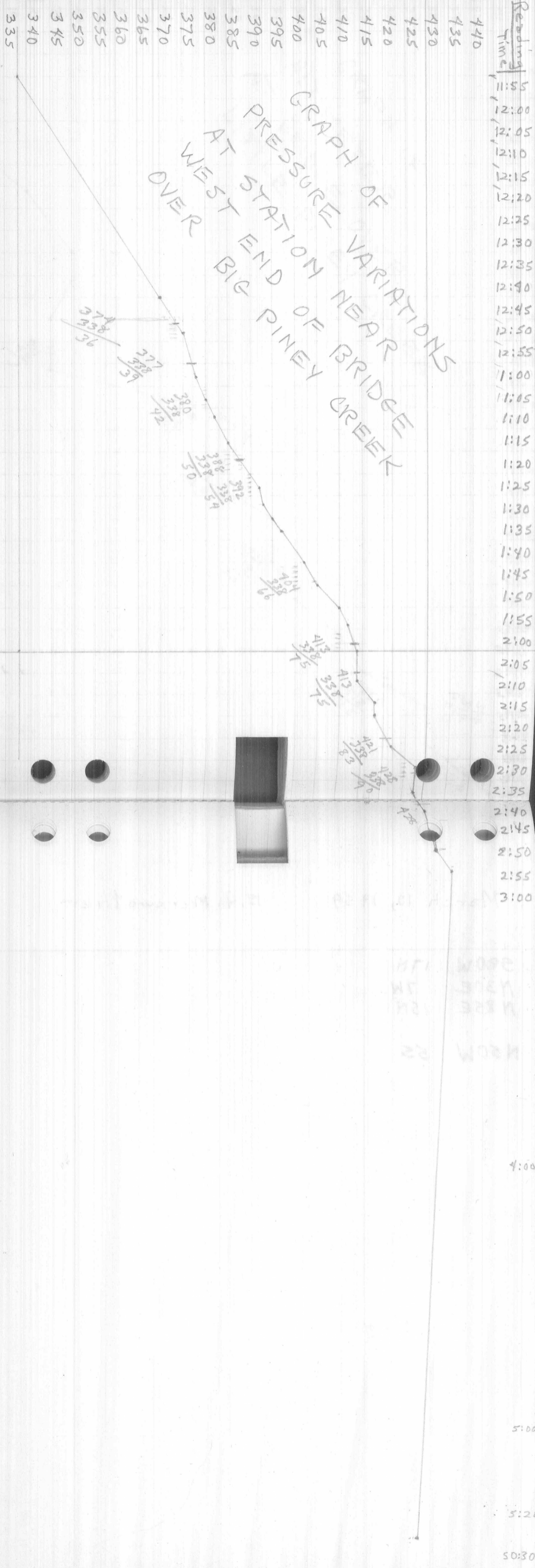
N 85 E

15 N

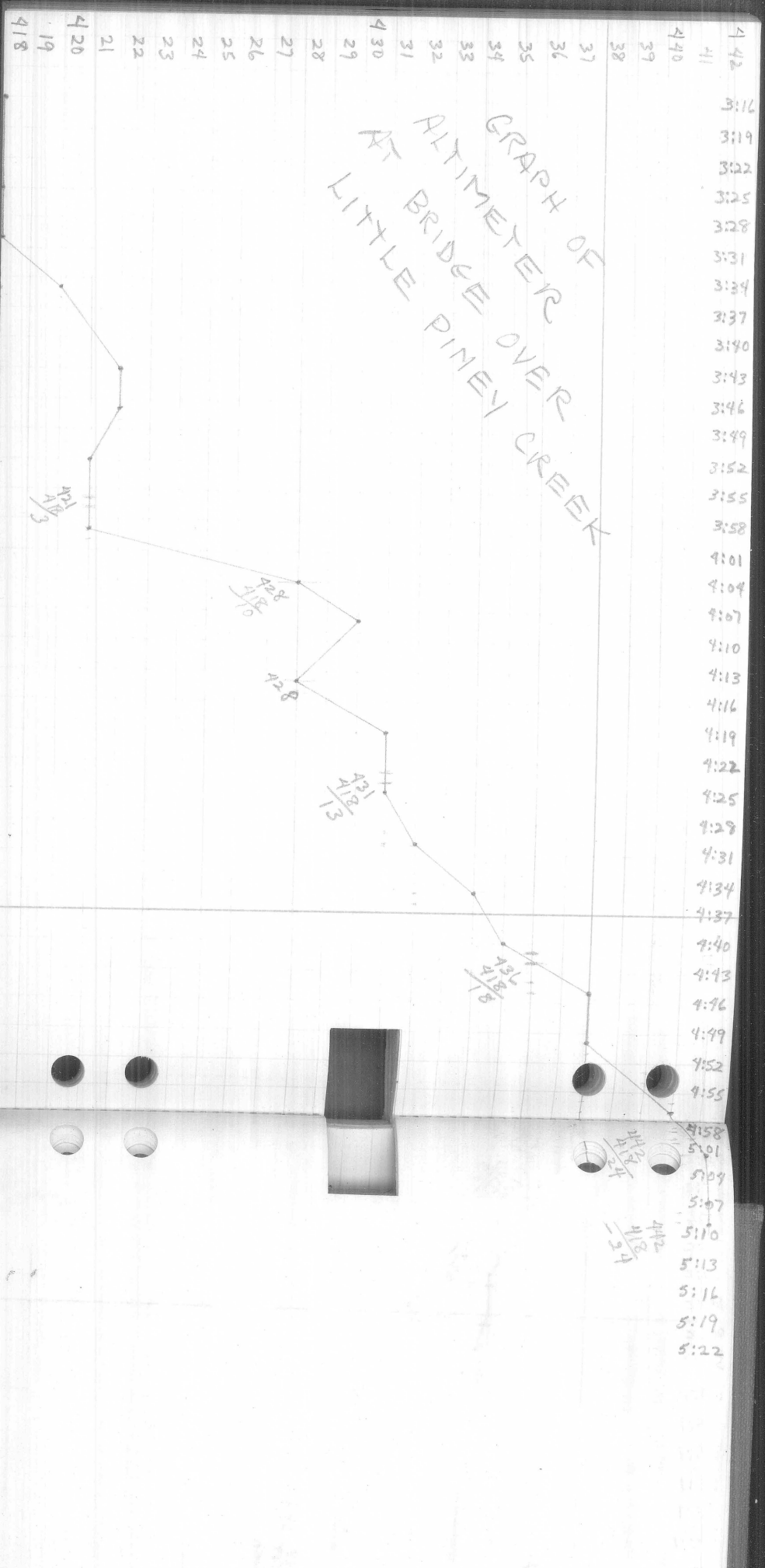
N 50 W

5 S

GRAPH OF PRESSURE VARIATIONS
 AT STATION END OF BRIDGE
 OVER WEST END OF BIG PINEY CREEK



GRAPH OF
 ALTIMETER OVER
 BRIDGE AT
 LITTLE PINEY CREEK



$$\frac{1623}{1561} \text{ ft. higher than } \frac{661}{62} \text{ ft.}$$

$$\begin{aligned} 1561 &\text{ for } 661 \\ 1623 &= 723 \end{aligned}$$

March 19, 1959

morematter

Moore #1 - Ark. - La. gas Co.

April 2, 1959 Merewether - see photos

B. Hicks #1 C-SW-NE Sec. #3 8N 22W

S. Wharton #1 C-NW-SE Sec. #35 9N 22W

April 3, 1959

S60W 58° SE

N40E 10NW

N85E 7N

* See note
at end of
section.

May 8, 1959

King's Creek Section

B. R. Haley - E. A. Merewether

- KC-1
18' 0" Sh., dk. gy., sl. slty. to slty., beds
from $\frac{1}{16}$ to $\frac{1}{4}$ ", scattered slts.
beds up to $\frac{1}{2}$ "
- KC-2
1' 11" Sandstone, m. gy., v. f. to f. gr., irreg
bdd., foreset bdd. to south, convol.
bdd., ss. rests on KC-1 with a
sharp channel type contact and
seems to be adding ss. members
to the base to the south.
- KC-3
27' 1" Ss., md. gy., v. f. gr., slty., irreg. bdd.,
bds 1"-24", foreset bdd. to the south
- KC-4
23' 3" Ss., as in KC-3
- 20' 0" Concealed - prob. ss. as below
- 247' 0" Concealed - 16° avg. dip - 500 ft.
to top of little ridge, top of
second ss.
- KC-5
23' 3" Slts., dk. gy., irreg. bdd., bds. $\frac{1}{16}$ -6"
with most being $\frac{1}{8}$ "- $\frac{1}{4}$ ", thin dk. gy.
sh. laminae here + there, top 6"
is a lt. to md. gy., v. f. gr. ss.

KC-6

KC-6
3' 9"

Ss., red.-br. iron stained bedding from 1"-24" base of unit is, marked by an unconform which transgresses at least 5 ft. of the underlying slts, to the west; unconform. is marked by pebbles, streaks, blobs of ironstone.

KC-7
19' 7"

Ss., f. gr., occasional md. gr. sand, badly iron stained, fore set bedded to the south; bedding indef. but in excess of 4'.

KC-8
32' 2"

Ss., f. gr., bedding 2-6' thick, some fore set bedding to the south, $\frac{1}{2}$ " sh. laminae at 10' 10"; elephant hide weathering surface

KC-9
26' 9"

Ss., as before, abund. md. gr., scat. c. gr.

KC-10
23' 10"

Ss., red.-br., f. gr., bedding in excess of 2', appears to have been limy; ironstone bands up to $\frac{1}{2}$ " generally parallel to bedding; some fore set bedding to the south;

KC-11 22' 1" ss, f. gr., bedding 2"-20", coalified
plant frags. in lowest 4';

13' 0" covered

KC-12 11' 0" ss, lg. gy, v. f. gr., v. silty, bedding
irreg.; from 2-6" beds; ripple
marked; hard;

Top of unit - First Atoka
Sandstone

May 11, 1959

King's Creek Section (cont.)

B.R. Haley - E.A. Merewether

37' 4" Covered

KC-13
13' 8"

Interb, dk. gy. sh, dk. gy. slty. sh,
md. gy. slts., — slts. is irreg.
bdd., bds up to $\frac{1}{4}$ " sh. beds
up to $\frac{1}{8}$ " prob. $\frac{1}{3}$ of unit is
each type rock.

KC-11
6' 0"

Sh, dk. gy. to gy. bl., not
sampled

KC-12
37' 0"

Covered, but prob. dk. gy. to gy. bl.
sh.

KC-14
1' 6"

Slts., md. gy., v. f. ^{gr.} sandy, irreg. bdd.
with bds up to 2" thick.

KC-15
29' 5"

Sh, dk. gy. bedding from $\frac{1}{16}$ - $\frac{1}{2}$ " has
6" bed of ss. 33" from base,
ss. is md. gy., v. f. to f. gr.

57' 6"

Sh, dk. gy., as in KC-15

KC-16
29' 10"

slts., md. gy., irreg. bdd. bds up to
 $\frac{1}{4}$ " has a few dk. gy. sh. partings
up to $\frac{1}{16}$ ", bottom 5' poorly exposed

KC-17
8' 0" sh., dk. gy., bddg. $\frac{1}{16}$ " - $\frac{1}{4}$ ", contact between this & overlying unit is sharp, a channel type contact - overlying unit is the lower hartstorne sandstone

KC-18
31' 8" ss., v.f. gr., lt. gy., bddg. varies from $\frac{1}{2}$ " - 24", foreset bdd., irreg. bdd., quite a few channels; some is convolute bdd. & some is massive.

KC-19
13' 9" sh., dk. gy., bddg. $\frac{1}{8}$ " - $\frac{1}{4}$ ", few stringers md. gy., silt. up to $\frac{1}{4}$ "

KC-20
15' 6" ss., lt. gy., v.f. gr., silt., bddg. 2-10", foreset to the South

KC-21
9' 0" Interbed. sh., silt. sh., + v. silt. v.f. gr. ss., sh. in beds $\frac{1}{16}$ " - $\frac{1}{4}$ ", ss. in beds $\frac{1}{4}$ " - 1" ss. increases from 30% at base to 80% at the top

KC-22
4' 3" ss., v.f. gr., almost silt. size, irreg. bdd., bds from 1-3", prob. make good building stone, lt. gy.

18' 1" Covered - upper part is in floor of strip pit - md. gy., silt., v.f. gr. ss., tree trunk impressions $\frac{1}{6}$ " long $\frac{1}{4}$ " wide (diam)

can not identify genus or species

KC-23
8" claystone, md. to dk. gy., has abund.
~~to~~ coalified plant frags., mostly
stems, few coalified tree trunk
impressions

1' 1" Coal - channel sample collected
for spore count

KC-24
18' 0" Interbd. slts, + sh. slts. is
lt. gy., in bds up to $\frac{1}{4}$ ". sh, dk.
gy., in beds up to $\frac{1}{4}$ ", has fern
pinnules of pectopteris +
neuropteris, also has calamite
leaf impressions; weathered
surface of slts. is red.-br.
This zone is everywhere found
above the Hts. coal in the
Clarksville area.

— End of section —

Section is Misnamed suggest Spadra
Creek Section as a name.

Located in Sec 36; 11N, 24W; Sec 31, 11N, 23W,
and Sec 6, 10N, 23W
from 2nd Atoka ss through lower
Hartsborne Coal bed.

Dam South Section

May 12, 1959

B. R. Haley - E. A. Merewether

Measured in Sec 16, T. 10N., R. 23W

24' 3"

Covered, but prob. dk. gy. sh.

DS-1
48' 3"

Ss., H. gy., v. f. gr., becomes v. f. gr. towards the top, convolute bdd., some foreset bedding to North, may be all one bed, fairly clean, upper 4' is irreg. bdd. with bdg. from 4-6"

23' 0"

Covered

DS-2
11' 6"

Interbed. dk. gy. sh. & md. gy. slts., sltst. is irreg. bdd., bds up to 1", may be v. ^{gr}sandy in part; sh. is $\frac{1}{16}$ to $\frac{1}{4}$ " bdd., has a few ironstone concre. up to 1" diam.

DS-3
3' 5"

Ss., md. gy., v. f. gr., v. slty., irreg. bdd., bds from 1-3", ripple marked, ironstone concre. up to $\frac{1}{2}$ "

DS-4
23' 0"

Sh., dk. gy., bdg. from $\frac{1}{16}$ - $\frac{1}{8}$ ", few ironstone concre. up to $\frac{1}{2}$ "

DS-5
20' 8"

Sltst., md. gy., irreg. bdd., bds from $\frac{1}{8}$ -2", major. being $\frac{1}{4}$ "; v. f. sandy in part, thin laminae of slty. sh. scattered, thicker & thicker. Few 1" bds of sh in upper 5'

DS-6
11' 4"

Ss, md. gy., v. f. to f. gr., irreg. bdd. w.
bds. from 1"-12"; ripple marked;
well cemented;

31' 0"

Concealed

DS-7
17' 3"

Ss, H. gy., f. gr., irreg. bdd., bds. from
1"-6"; widely scattered md. gr.
gt3;

100' 9"

~~120' 9"~~

Covered, bottom 20' is prob. ss. as
in DS-7 upper 20' is prob.
ss. Top of covered interval is
top of 2nd Atoka ss.

See note
under
DS-8
↓

DS-8
20' 0"

Ss, H. gy., f. gr., bedding irreg. &
from 4"-12". DS-8 was
collected from exposure near
dam. — pertains to the upper
20 ft of the preceding covered
interval.

END OF SECTION

Ludwig Lake Section

B.R. Haley - E.A. Mercwether
May 12, 1959

Measured along Ark. Hwy 21 in Sec 10, T. 10N., R. 23W.

20' 7"

Covered - base of covered interval is top of the Zinda Atoka sandstone

LL-1
4' 8"

Sltst., irreg. bdd., md. gy., bds $\frac{1}{8}$ - $\frac{1}{2}$ " sh. partings up to $\frac{1}{4}$ "

LL-2
57' 6"

DK gy. to gy. bl. sh., bedding $\frac{1}{8}$ - $\frac{1}{4}$ " ironstone concr. 3" thick + 1' long,

LL-3
69' 0"

Sh., as LL-2, poorly exposed, badly weathered. An 8" ironstone band at 40' 3"

51' 9"

sh., dk. gy., as in LL-2, poorly exposed not sampled

LL-4
28' 9"

Sh, dk. gy., bedding from $\frac{1}{2}$ - $\frac{1}{4}$ " has beds of sltst. from $\frac{1}{8}$ - $\frac{1}{4}$ ", prob. 80% sh.

LL-5
48' 0"

Sh., dk. gy. - gy. bl., bedding $\frac{1}{8}$ - $\frac{1}{4}$ ", A 1' sltg. zone at 34' 6"

LL-6
5' 3"

Sltst., olive-gy., v. f. gr. sandy, ironstone concr. 4" thick + 1" in diam.

LL-7
28' 9" sh., dk. gy. to gy.-bl., bedding $\frac{1}{16}$ - $\frac{1}{4}$ ",
this unit is measured across a
slump zone but interval is good.

LL-8
55' 11" sh., dk. gy., as in LL-7, ironstone
concre. + a few stky. layers in
upper 20 ft.

LL-9
17' 6" ss., yell.-br., bdly weathered, f. to md.
gr., rests upon underlying sh.
with a channel type contact.
To the east of here it has a
coal bed beneath it, no coal is
present here. All one bed.

LL-10
20' 6" ss., as in LL-9, ironstone bands
up to $\frac{1}{2}$ " at all angles to
bedding. All one bed.

LL-11
34' 6" ss., br. gy., f. to md. gr. ironst.
bands up to $\frac{1}{2}$ " at all angles to
bedding, some are concentric
as if in concretions, widely
scattered lenses of bl. sh.
 $\frac{1}{2}$ " thick + 5" long. Some
convolute bedding. Top of unit is
top of 1st Atoka ss. Upper 10'
poorly exposed

END OF SECTION

Not sampled

Hogansville - North

135 ft. from top of 2nd
Atoka ss. to our start.

May 12, 1959

B. R. Haley - E. A. Merewether

Measured in Sec. 16, T. 10 N., R. 22 W

26' 3"

Sh., dk. gy., bedding from $\frac{1}{8}$ - $\frac{1}{4}$ "

4' 8"

Ss., lt. br.-gy., f. to md. gr., carbon.
plant frags. & sh. pebbles up to
 $\frac{1}{4}$ "

5' 9"

Sh., dk. gy.-gy. bl., bedding $\frac{1}{16}$ - $\frac{1}{4}$ "

1' 0"

Ss., lt. to md. gy., f. to md. gr., has
a pod of coal 3" thick &
3' long, non-descript. bedding.

2' 9"

Sh., dk. gy.-gy. bl., bedding $\frac{1}{16}$ - $\frac{1}{8}$ "
contact of sh. & overlying ss. is
sharp & channel type.

17' 3"

Ss., lt. gy., f. to m. gr., irreg. bdd.,
beds 2-10", foreset bdd. to
both North & South, has
streaks, flecks, & chunks of
coal in lower 2'

46' 10"

Ss., as in previously described
unit, but poorly exposed

32' 0"

Consolidated, prob. ss.

Top of section

Chronister West Section

May 12, 1959

B.R. Haley - E.A. Merewether

Measured in Sec 19, T. 10N., R. 22W.

Claystone, dk. gy., nondescript
bedding.

1' 0"

1' 2"

Coal

6"

Covered, prob. dk. gy. sh.

CW-1

Ss., md. gy., v. slty., v. f. gr.

1' 0"

17' 3"

Covered

CW-2

Sh., dk. gy. to gy. bl., bding 1/8"

34' 6"

CW-3

Ss., md. gy., f. gr., bedding from 2' to
6"

11' 6"

34' 6"

Covered, prob. dk. gy. sh.

8' 0"

Poorly exposed, v. f. to f. gr. ss.,
not sampled, top of ss. is
top of 2nd Atoka ss.

END OF SECTION

Heartbreaker Section

May 13, 1959

B. R. Haley - E. A. Merewether

Measured in Seqs. 22 & 23, T. 11N., R. 22W.

HB-1
4' 0"

Ss., lt. gy., v. f. gr. almost silt. size, has ironst. concret. up to 1" in diam., concret. ore pebble-like, almost like str. pebbles and might be phosph., bedding irreg., beds from 1-5", ripple marked & cross bedded.

HB-2

Silts., md. gy., bedding irreg., beds $\frac{1}{16}$ - $\frac{1}{2}$ ", ~~1"~~ silts. zone is channeled by overlying ss., ss. removes more than 9 ft. of this silts.

3' 11" - 13' 3"
(channeled)

HB-3

9' 1"
(away from channel)

Ss., dk. gy., v. f. gr., almost silt. size, v. silty, bedding irreg., ranges from 2" - 4", 15 ft. of it in thickest part of the channel. Contact between HB-2 + HB-3 is gradational away from the channel. HB-3 grades into a siltst. at the top.

38' 3"

Covered

HB-4
4' 4"

Ss., br.-gy., f. gr., bddg. 2" - 24"; abund. md. & c. gr. gtz. in lower 2 ft.

6' 0"

Covered

- HB-5 s/s., md. gy., irreg. bdd., bds. 1"-4"
5' 5"
- HB-6 s/s., lt. to md. gy., some well cemented
bds., bds. from $\frac{1}{2}$ -3", irreg. bdd.
5' 9"
Covered
- HB-7 Sh., dk. gy., bdg. $\frac{1}{16}$ - $\frac{1}{8}$ " a few ironst.
bds. up to 2", poorly exposed
46' 0"
34' 6"
Covered,
- HB-8 Ss., md. gy., f. to md. gr., some c. gr.,
1 bed,
2' 4"
28' 9"
Covered,
- HB-9 s/s., md. gy., irreg. bdd., bds 2-8"
2' 7"
34' 6"
Covered
- HB-10 s/s., md. gy., irreg. bdd., bds 2-14"
~~25' 4"~~
31' 1"
- HB-11 s/sst., as before
34' 6"

- HB-12
1' 0" Ss.; md. gy., md. gr., abund. c. grs.,
- HB-13
31' 3" sh., dk. gy., bds. $\frac{1}{8}$ - $\frac{1}{16}$ ", has 2' silt. zone $\frac{1}{2}$ ' from base, siltst. is v. f. gr. sandy, poorly exposed
- HB-14
12' 6" siltst., md. gy., irreg. bdd, bdy $\frac{1}{2}$ - $\frac{1}{4}$ " becomes lt. gy. + v. f. gr. sandy at the top.
- 11' 6" sh., dk. gy., poorly exposed, not sampled
- 27' 5" Covered
- HB-15
1' 4" siltst., dk. gy., all one bed
- 17' 3" Covered, top of interval is old road bed (lower road)
- 65' 0" Upper road, lower 40 ft. ^{of unit} may be bl. sh. - Covered
- 110' 0" Concealed,
- HB-16
56' 7" siltst., md. gy., irreg. bdd., bds 1-6,"

HB-17 siltst., as before
46' 0"

HB-18 siltst., as before
51' 9"

19' 9" Covered, but prob. siltst.

HB-19 siltst., lt. gy., fairly clean, bds from
46' 0" 2-40", may be v.f. gr. sandy,

HB-20 ss., yell.-br., v.f. gr., all one bed,
34' 6"

H.B.-21 ss., yell.-br., v.f. to f. gr., bdg. in
46' 0" excess of 3 ft.

HB.-22 siltst., br.-gy., irreg. bdd, bds,
14' 0" from 2-10"

HB-23 ss., yell.-br., v.f. - f. gr., all one
40' 3" bed,

HB-24 ss., yell.-br., f. gr., scatt. md. to
8' 0" C. gtz., grades into HB-23,
HB-23 & HB-24 are all one
bed,

37' 10" Covered, may have red.-br. md. gr.,
ss. at base. sample with HB-25

HB-25 ss, v.f. gr., yell-brn, almost slt.
3' 0" size, one bed.

— End of Section —

Dry Spadra Creek Section

Measured in Secs. 24 & 25, T. 11 N., R. 24 W.

May 14, 1959

B. R. Haley — E. A. Merewether

- Low Gap Well is 10' lower than base of DS-1
- DSG-1
16' 6"
Interbd. dk. gy. sltst. & dk. gy. sh.
sltst. is irreg. bdd., bds 1-4"; sh.
is in zones from 1-6", bds $\frac{1}{16}$ ";
about 60% sltst.;
- 11' 6" Covered
- DSG 2
11' 6"
Interbd., dk. gy. sh. & dk. gy. sltst.,
sltst. in bds. from $\frac{1}{2}$ -1", sh. in
zones from $\frac{1}{2}$ "-8"; prob. 50%
sh. Upper 5' poorly exposed
- DSG 3
21' 8"
Sh, dk. gy. to gy. bl., bdding. $\frac{1}{8}$ - $\frac{1}{4}$ "
has few bds. of dk. gy. well cemented
sltst. in the lower 3', sltst. is from
1-3" thick.
- DSG 4
4' 11"
sh, dk. gy. to gy. bl., stringers of sltst.
from 1-3" thick, sltst. dk. gy. &
well cemented, in one place 3
of the sltst. layers have lenses
in them, lenses increase in
thickness from 1"-6", lenses
are 4' wide, lenses extend down
into and up into the surrounding
sh.; sh. in bds $\frac{1}{16}$ - $\frac{1}{4}$ "; unit is
prob. 90% sh.

DSG-5
23' 0" siltst., md. to dk. gy., irreg. to reg.
bdd., bds from 2-10", well cemented

DSG-6
17' 3" siltst., as DS-5

Jumped to the 2nd draw to the
North - measuring from top of DS-6 unit.

34' 6" Covered

DSG-7
28' 9" Sh., dk. gy. to gy. bl., bddg. $\frac{1}{8}$ - $\frac{1}{4}$ "
few stringers of dk. gy. siltst. up to
2", prob. 20% siltst.

DSG-8
40' 3" Sh. + siltst., as in DS-7, poorly
exposed

DSG-9
21' 9" Siltst., md. to dk. gy., irreg. bdd., bds
up to 10", some ironst. bands
at all angles to bedding, $\frac{1}{4}$ " thick,
some ironst. bands are concentric.

25' 6" Covered, may be siltst. as in
DS-9

DSG-10
23' 0" siltst., md. gy., irreg. bdd., bds. ^{from} 1"-10"

- DSG-11
2' 0" ss., v.f. to f.gr., yell.-br.,
- 75' 0" Covered - lower 15 ft. may be ss.
- DSG-12
3' 0" siltst., md. gy., irreg. bdd., bds. up to 4"
- 215' 0" Covered - 5 ft. expos. of siltst. 45 ft above the base, not sampled, whole interval is prob. siltst.
- DSG-13
18' 6" siltst., md. gy., irreg. bdd., bds 2-6"
- 65' 0" Covered, prob. siltst. as in DS-13
- DSG-14
14' 10" siltst., lt. yell. br., bds. 2-24"; almost v.f. gr. ss.;
- DSG-15
34' 6" ss., lt. yell. br., v.f. gr., irreg. bdd., bds. from 4-24", last 12' poorly exposed
- DSG-16
17' 3" ss., yell. br., v.f. to f.gr., all one bed
- DSG-17
23' 0" ss., yell. br., f.gr., scatt. md. gr., some cross-bedding,

DSG-18 ss., as in DS-17
17' 3"

DSG-19 ss., yell.-br., v.f. gr., prob. all one
11' 6" bed.

DSG-20 ss., yell.-br., f. to md. gr., scatt.
8' 0" c. gr.,

DSG-21
46' 0" ss., poorly exposed, v. f. gr.,

DSG-22 ss., lt. gy., v.f. to f. gr., all one
10' 0" bed.

END OF SECTION

Wolf Glen Section

May 14, 1959

B.R. Haley - E.A. Merewether

Measured in Sec 21, T.10N., R.23W.

WG-1
23' 0"

Ss. lt. gy., v. f. gr., v. slty., irreg. bdd., bds. from $\frac{1}{2}$ " - 8", foreset bdd, cross bdd, weathers honey combed; base of unit is near base of Hartsh.; lenticular in part. All aforementioned bedding characteristics are shown best by weathering; less weathered bds. are irreg. bdd. with bds. from 1-14". Some bds. are as much as 4' thick in upper part of unit

WG-2
17' 3"

Ss., lt. gy., v. f. gr., irreg. bdd., bds. from 2" - 3', cross bdd., foreset bdd. & lenticular, ironst. concre. $\frac{1}{8}$ by $\frac{1}{2}$ "

WG-3
20' 3"

Ss., as in WG-2,

WG-4
10' 0"

Ss. lt. to md. gy., v. f. gr., v. slty., bddg. irreg., bds from 1-4", ~~the~~ zones of sltst. from $\frac{1}{2}$ " - 4", sltst. generally in bds. $\frac{1}{4}$ " thick, ss. ripple marked. - Top of Hartshorne ss. - might make bldg. stone. END OF SECTION