

Notes by Glick ①

Sept. 26, 1957
Melvern, Ark

Notes from W. Danilchik

1. NW corner sec 20, 55 18W
Shale under power line may
be:

Stanley
Johns Valley
AtoKa

2. Farm House

NE 1/4 sec 13, T35, 19W

Come in from north

Check contact of Stanley-Jackfork
in De Lisle Creek

11:05

Along road south of Antich
School, sec 7, 55, 18W

0.6 mi E south of sch.

Stanley shale is verticle
Sandstone beds in shale
contain some coarse grains

11:30

NE corner sec 18, T55, R18W

Jackfork/Stanley contact 25

Mapped by W. Danilchik 15'

fairly clear. Stanley is
poorly exposed North of here.

Jackfork is nearly half

Shale but ss grain size is to med

Contact + beds overturned. $85^{\circ}N$

Sept 27, 1957

10:15 am

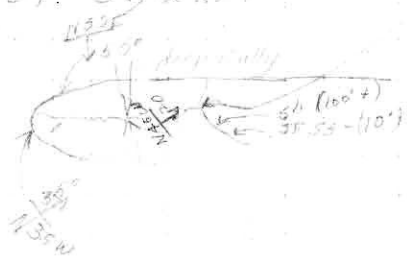
0.5 mile N.W. of U bend in sec 19, T 55, R 14W. Thick bed. shale and sand trap out.

10:30 am

N. JOE - vertical crossed stream (to the west) 0.6 miles from U

1:00 pm

Beyond west edge of Malvern quad. Western tip of syncline and of syncline



note stream runs N45E to here and then turns S45E.

No fault could be followed all the way around the end of the syncline, but one part shows a very abrupt change of dip at about the axis of the syncline.

Notes by Glick.
Working alone.

October 1, 1957

Jackfork Section in DeLisle Creek
Valley, Malvern quadrangle, Ark

Measurements started on line N 85° E & N 85° E
Sec 18, T. 5 S, R. 18 W. at approximate
base of Jackfork - top of Stanley
(Section starts 1065' top of 15' W of NE corner
of sec 18, 15 S, R 18 W)

Contact in road to east established
at curve corner to SW in
about middle of last part of
the road in sec 18.

Contact projected westward on
line N 80° W from contact in
road to southward following
tributary that joins DeLisle
Creek in sharp bend NW 1/4 sec 18

First line of section along
East side of old road on
east side of tributary.

All measurements, even thickness, good to line.
Line 1
Level S 29° E 300' - Back strike N 80° W
Overturned Dip N 85°

Includes PJ-1, 2, & 3 - float
Each is 100' along line
S 29° E. Each from East
side of tributary valley and
samples collected from float

Oct 1

PJ-3
100'
S 29° E
= 77'

Float - Sandstone - PJ-3 (1) is similar to PJ-1 & 2.
PJ-3 - (253) are more likely to be in place - Almost no outcrop PJ-3 (253) contains shale chips to 1/4" and coarse sand grains. Mica 35, w/c-grs. Trace w/c-grs. Shale chips

Line 2 Level

Line 1 & Line 2 join - no off set
S 23° E 200 feet - Rock strike N80W
Overturned dip 185°

PJ-4
100'
S 23° E
= 84'

Float - Sandstone
PJ-4 (142) vf - m-gr w/ c-grs. (2) contains abundant f-m mica, clay grains and shale (?) chips
PJ-4 (3) vf - f-gr
Mica 55, w/c-grs. vf f-gr w/ med. grs. in med. size. trace dk. grs. shale chips, mica
w/c-grs

PJ-5
100'
S 23° E
= 84'

Float - Sandstone
(142) vf - m-gr w/c-grs,
(3) vf - f-gr
Trace mica

Note

Tributary junction w/ Do Lisle Creek
20' Southward of line 2 & 100' w.

③

Oct. 1

Line 2 & Line 3 join - no off set

Line 3
Level

S 15° W 100' Riv. N. 73 W
Overturned. Dip 80° W

PJ 6

100'

S 15° W

98'

Slide valley at base of PJ 6
is a cut (more or less) with
Dr. Lake Creek when it swings
westward at junction of
tributary. Est. width of cut
at least 10' or more as other
soft material. Depth could be
25'

Some material on south side
of slide valley. More of west in place
in PT. 6 (11).

1) Foot - Sandstone

2) rt. of ss. Contains
white quartz. May be
related to str. in valley (323)

3) S. a. ss. poorly exposed

7

Oct 1.

PJ-7
100'
S 15°W
= 98'

Outcrop - Sandstone. 2' thick
Just contains some small beds that
cross out locally. = over 3' thick at
base at well. Also, beds to 10"

Oct 2

Line 4
(Not level)

S 15°W 300' Back to 100'
Overturned dip 80° N

PJ-8
50'
S 15°W
Level
= 49'

Mostly outcrop - Sandstone.
Base to 25' 18" thick w/ much pyrite
V. f. gr.
Upper 10' PJ-8 (1) is poorly
exposed. 2nd bed below very
sandstone. 3rd bed may be typical
P. 8 (2) massive and f. m. ss
at base. Upper 25' softer but
n.t. much more interbedded
Sandstone, shale, and siltstone - Sandstone
beds mostly 6" but base is 18"
Shale is dark gray to black, finely
micaceous. Weathers red & brown
Sandstone f. m. gr.

Oct. 2

PJ-9
30'
S. 15 W
Level
= 49'

Mostly outcrop.
massive,
3 single unit.
Miscellaneous. Good

PJ-10
100'
S. 15 W
Line dips
northward
10°
= 94'

Lower 20' covered (probably soft ss)
sandstone and trace of
float not sampled
20'± massive
10' shale
may contain
10' unit of
on both side by 2'

(2) Mostly outcrop.
massive f. vc ss. (vc in lower
part mostly). No shale

Oct 2

PJ-11
 100'
 S 13 W
 Line dips
 northward
 15°
 = 91°

Mostly empty, no stone beds or thin
 good bed 8' thick, somewhat
 thick added to mass. f.c. ss

Line 5 offset 19' southward
 strike from bed of Line 4

Line 5
 Not level

100'
 S 40° W ~~37°~~ Rock N 80° W
 Overturned 85° A
 Outcrops along stream bank west of line

PJ-12
 100'
 S 40 W
 Line dips
 Southward
 04°
 = 87°

Lower 30' good outcrop of ss
 in thick to massive beds
 Upper 70' only 10% outcrop
 or slightly coarse sand, in shale
 noted. Abundant ss & peat

Oct 3

PJ-13
100'
S40W

1) 50' Flat only, ...
(2) 50' ... well ...
Thick to massive beds of

Line dips
southward
03°
= 87°

PJ-14
100'
S40W

(1) 30' Thin bedded to massive
outcrops at ...
(2) 30' ...
in shale beds

Line dips
southward
03°
= 87°

PJ-15
100'
S40W

50% ... throughout
Thick bedded ...
massive in part ... some of
the outcrops in stream bed

Line dips
southward
03°
= 87°

Oct 3 (11)

Line G. 13ins. 4x3ft with 40 of soil

Line G.
Not used
3° S

W 559° ~~226~~ 3:55 N 85° W
Vertical

PJ-16
559° W
100'

Concord. except ... m. S. 90' 18"
sandstone bed in middle at unit

Line dips
3°
= 59'

PJ-17
126'
559° W
Line dips
Southward 3°
= 74'

50% outcrop = outcrop only sampled
Sandstone bed 2' thick to 2' thick
(1) fine ss with v.c. at 2'
(2) v.f. - m. ss, micaceous

138
174
262

Oct 3 (12)

Line 7 Joins Line 6 - no offset

Line 7 N 85° W ^{262'} on dip of rocks

Middle of stream ca. 20'
Vertical dip of rocks, steep.
Line thin well defined.

Line 8 Joins Line 7 down
west side of Little Creek
700' Rocks N 85° W Vertical
Tape used

All measurements on west bank
of stream, in an oblique
direction down stream.
Water level in creek is
about 30' above where it
crosses road.

PJ 15
100'
S 20° W
level
= (97')

Floot only

- ① 0-60' Abundant. Floot from
beds 1" thick. vf-m ss
60-70' weak zone - shale?
- ② 70-100' Abundant. Floot from
beds 2' thick vf-m ss, mica

Oct 4, (13)

PJ-19
100'
S 20 W

Floak only
Dip - 30° abandoned flat 18°
blacks of the micaceous
that may be almost in place.
① 40-100' little floak may be
shaly zone but no shaly
floak related to 33 blocks of shaly
S 20 W micaceous

Level
= 97'

PJ-20
100'
S 20 W
Line dips
10° to N
= 96'
95' ✓

@ 58' is line brought into stream
N 27 W from line of strike
valley on East side of De Lisle
(similar strike valley on West
side turns southward before
reaching this point outside
Creek) No clear evidence, but
outcrops in stream where line
crosses are resistant sandstone
and work zone micaceous to
be to north.
① 0-25' 50% outcrop of massive
sandstone medium to thick bedded
micaceous f-c gr. Trace VC-grs
25' to 50' Soft zone may be
related to strike valley
② 50-100' 70% outcrop, thick
bedded to massive f-c gr micaceous
sandstone.

Oct 4 (14)

PJ-21
100 feet
S 20° W
Level
= 97'

0-25' (1) 70% exposed: med bedded
f-c gr ss, f-l' layers
25-75' (2) covered except 3' bed
base @ 60' + 12" bed @ 83'
f-c ss.

PJ-22
100 feet
S 20° W
Level
= 97'

① 0-45' 75% outcrop resistant
med. bedded. f-m ss
② 45-100' 2-14 zones. 23%
outcrop. of slightly variable
(clay?) f-m ss. Probably
all of zone is. outcrop

PJ-23
100'
S 20° W
Level
= 97'

0-60' 40% exposed. med to thick
bedded f-m or fine ss
60-100' dark zone little f but
probably ss. 23 sampled.
bed is c-gr. sh. ss.
Probably, no actual outcrops

Oct 7 (13)

PJ-24
100'

① Flat / some, mostly massive, ...
nearly in place.

S 20° W

level

97'

Med. to thick bedded, ...
gr. More grit, ...
elsewhere to these ...

2) 2 beds @ top of ... each 3' 6"
...
f-m gr ss. ... bedded to massive

Center. Dip side ... 170° S 85 E at
end of line

Line 9

Dip ... Line 9 - no. at 50'
N 85 W 750' or estimated
strike ... west (check ...
(60 slope to base)

Note string, not tape used,
add 2% for stretch

Oct 6 '60

add 20% for slant

Line 11 a South 400' Rocks strike west of
Not level

Discontinuity
stratum

Line begins 50' south of crest of
ridge marked by road. Line trends
SL 30° N25W at end of line to

PJ-25
100'

South
Slope 10°
Southwest

97'

Flattens out - indicates
Even though flat is 200' or more
probably in all directions because
it is level at several points

PJ-26
100'

South
Slope 20°
Southwest

91'

Line 11 b 50' south of crest of ridge

(B) 50' south of crest of ridge
Upper part (75'-100') 30% outcrop
Level of outcrop in valley between
2.5' average of outcrops
appear to be level, so within
15' of stream bottom. See
PJ-27 for possible shale
in upper part of interval.
Line south flat level with
road at 100' other side of rd.

Oct 6 (17)

PJ-27
10'

South
About
level
= 10'

Stream cutting, carbon, and
fresh water, but not, plus lower
12' of PJ-26.
To a depth of 10' by gradual
inc. grain size. From the
C-92 of upper PG 26 through
the shale of this unit.
Lower 4' exposed (low up stream)
VF - f gy. silty S mic ss.
3' covered
18" S mic. f. silty
18" mic. black. brown to
red brown. brecciated shale

Covered
90'
Slope 15°
northward
= 89'

Abundant f.c. ss. f. bed. with
probably some evidence
of fine lithology

Oct 6 (18)

PJ-28
100'

0-20' covered as upper PJ-29

South
Slope 25°
Northward
= 94'

40'-60' (1)
30'-100' (2)

80% siltstone and clay - that
may be rounded, either about
one possible bed 5' thick
E-W or 30' or less, but
beds. Good siltstone
The beds are thin and start
on top of hill, and are 30'
with at about east in point

Line 10 b
South

(Continued in same direction and from point 108)
South 700' (100' to 1100' (all 2 1/2' fine
Rock N. 80W. S. 30° strip stretch)

PJ-29
10'
South
Slope
10°
Northward
= 10'

0-2' rounded, clayey sh
and 2' 20' beds 1.5 to 2.5
2'-10' dark gray, fine sh w/
thin (2") lenses of 1.5 to 4
crude oil. Siltstone - this
unit does not weather as a
weak zone.

Zone sampled for Swenson -
Sample taken from near top
of unit

Note: Marine sh of ss about 100'
this zone downhill is interpreted as
clay because other beds are
not offset.

Oct 7

(20)

PT-31

Continued

- ③ 22' - 60'. No sample.
Soft zone - thin shale. Flat, but not enough to call shale. Also, several pieces of "grit" flat. Just covered with fine sand.
- ④ 60' - 100'. Thick bedded, to massive & probably mostly massive. Not much sandstone. bed. continuous. P. 37) sandstone. F. C. gr. with an. gr. throughout. but, considerably more at base. M. success. Weathers deeply like soft. like a soft. to about 1' sandstone. Good outcrops that show a. mineral.

Oct 7

PJ-32
100'
South

① 0-60' solid calc. (no bedding breaks of importance) massive m-c ss. Trace of calc. to

Level
(Top total 103')

= 97'

grit throughout. Deeply weathered, soft, zone that crops out in slight troughs down steep hillside. (2) is more resistant and is not part of trough. Probably decalcified ss. Sample taken for grain analysis

② 60'-100' Similar to ① except slightly more resistant in part and weathers to med. in thick beds except for 1 or 2 3" beds. Also sampled in large sand sample for grain analysis

PJ-33
100'
South
Level

(Top total 101')
= 97'

① 0-30' soft zone, dark-gray shale, kinks, shales, and siltstone where checked by float and digging in fine gully

② 30'-60' Thick bedded to massive in ss - outcrops good - mica

③ 60'-100' Lower half poorly exposed but ss, upper half beds out. Thick bedded to massive except upper 5' med. bedded f-in ss with mica

Oct. 7 '72

PJ-3A

1001

South -
Line. slopes
10° south.

(Tape total
99')

(-92')

- ① 0-8' Sandstone & sh. beds.
f-m. gr. mica.
- ② 8-40' Med to dark gray shale
interbedded with silty
ironstone beds or micaceous
1" thick. Trace of thin
beds. f-m ss - one 6" thick.
Does not weather over a mile.
- ③ 40-50' Sandstone block-bedded f-m gr.
weathers with even surfaces in lower
part. Decalcified?
- ④ 50-100' Heavily eroded, etc.
covered shale, some slight
valley. Dark gray and black
shale floor. Probably mostly shale.

Oct 7 23

PJ-35
100'
South

① 0-65' Thick bedded in massive
f-m. gr. med. ss. May be
shale partings but exposed

Dip 15° S.
(102' by
Tape)

almost good enough to show
possibility. Estimated to be all ss.

(89°)

② 65'-100' Partly exposed
5' bed. 30% med bedded
f-m ss. with occasional plant
stems) and dark gray to black
shale partings. Sandstone
crags out alternately throughout.

Oct 8

PJ-36
100' (Tape)
South

0-8' covered probably by PJ-35. (R)

Dip 20° S

① 8'-60' Thick bedded to massive
f-m. med. gr. ss. well exposed
about 30' above Behle Creek.

(85°)

South end

② 60'-85' Thick bedded (some) to massive
(mostly) f-m ss. Slightly silty?

20' N of
Strike valley
but valley
has already
turned south
95' mark
aligned with
most of valley

③ 85'-100' Lower 4' thin to
med bedded micaceous silty
f-m ss. w. plant fragments.
Upper 4' covered in
direct evidence of shale out
in a slight depression on
steep slope - siltstone or shale?

Oct. 8 21

Note: "Shale" valley in west is not quite level with rocks. Westward 300 yards upstream the valley continues to cut slightly into rocks.

Also, rocks seem to follow a line of faulting upstream. Fault measured 300' wide. Dip 10° N 85° E. S 80' (160 yards across from line to b)

Line 10c
100'

South 1100 to ... from 10b
Rocks N 85 W 75° South

PJ-37
100' (Top)
South

Line Dip
8° N
E 99'

- Entire unit forms edge of ... stream cuts through it as a sharp ... at section.
- (1) 0-60'. Thick bedded to massive f. med gr. micaceous ss. Upper 10' contains quite nearly all ...
- (2) 60'-80'. Top of ... edge with ... only f. c. ss.
- (3) 80'-95'. Med to thick bedded ss. f. med (or c) gr.
- (4) 95'-100'. Brown silty bedded siltstone. Contact (3) + (4) sharp. Grades upward into f. micaceous brown to dark-grey shale as N 75-30 (1)

Oct 3. (23)

PJ-38
100' S.

Rounded slopes but exposures
good except to base of ss

Line dips
02° South
(96°)

Brown to medium gray fairly
micaceous (in part) silty (in part)
fissile shale. Upper " "
has wavy beds to 1" thick
and shale has slightly
unconformity or oval weathering
pattern. Entire unit dip?

- ① 0-50'
- ② 50'-100'

PJ-39
100' S

Strike west, dip 5 60°

Line dips
01° South
= (86°)

- ① 0-50' Flat only.
Appears to be 80% shale
as PJ-38 and 20% f-ss
in beds to 8" thick
- ② 50'-85' - Exposures fair to good
not so thick bedded f-ss
to ss. 3 foot siltstone to
v. f-ss unit near middle
- ③ 85'-100' Siltstone and silty shale
grading upward within 2' into
gray to dark-gray fissile shale

PJ-40
100' South
Line dips
8° North
93°

(1) 0-60'. Dark gray to green
shale. Slightly silty in part.
Top of unit with some
fossils.

(2) 60-100'. Dark gray to black
shale. Silty in part. In
lower half of unit, appears to
be more calcareous and
fossils are more common.
Lower 3" of bed is a
thin bedded, somewhat
and polished, sandstone.

Reminds of well exposed
shale and sandstone
in part, silty shale
with shale partings. Could
be mostly shale.

Oct. 9 (28)

Line 11, East 100' along strike

Stops on one side of valley
crosses section @ 75'. Vertical
sharpened and water in small
medium wet slope water at 25'
East of strike dipper and
to center of section in dip
to be 62' strike

Line 12 South 175 feet. Intersected from
base of section. Dip 62'
South at East end of line 11
to top of sandstone unit
thick is at base of section. Whole
unit possible even with
this unit. No dip, but
to 24'. No dip possible
even possibly is 23' at
base end 23' at top.
Rocks are all along south
side of De Lida Creek. From
line 12, west most
Rocks 30' in west, dip 60' south

Oct 7 '78

PJ-41

50'

= 49'

① 0-10' med. to thick bedded
vs. f. ss - grain size 20-40

upward and more ss. ss. ss.

② 2'-40' massive vs. ss. with

bedded ss. in a few

thin to good size beds throughout

PJ-42

50'

= 49'

① 0-49' 2" to 4" thick bedded

to massive ss.

② 49-50' med. bedded ss.

f. med. to coarse ss. and
into 4" ss.

PJ-43

75'

= 73'

0-1' (U) silty sh. 2" beds

1'-70' (L) massive to thick-

bedded silty f. to gr. ss.

Upper 15' 0-4" bed very

resistant to beds

Oct. 12 (39)

Slope is covered with splinters
mostly 1" long and $\frac{1}{2}$ to $\frac{3}{4}$ "
thick.

PJ-#5
100'

Line 13
17'

92'

Under the cut on westward end
of line 13. P.J. #4. May
contain some material as
indicated by the +.

Notes at No. 5 site. That and
probably other sites covered

Line 13

1300'

eastward

along

outcrop.

Note Junc. East end of line 13,
and North end of line 14

1300' Eastward along outcrop on
west side of ridge 1300 ft
of De Lisle Creek.

About S. 83 E. at the first

small horizontal outcrop

is line 13. Major gully is 270

Sully. 70' x 200'

Last definite outcrop of

Sandstone being traced is

Oct 13

PJ-46
120'

① 0-60' Flat, only
Clay white + original surface

South
Line down
06° North

783'

② Probably all sandstone
60'-100'. 85% calcareous
medium bedded. No massive
bedding seen. 3' or 4' beds
of marl, clay, sandstone.
Cross-bedded with some
not too regular.

1

47
PJ-46
South
Line
Level
100'

77'

① Flat only
R.F. ground all over sandstone
probably all sandstone
shale flat

② 60' 100' 100' calcareous
medium to massive clay
fine sandstone

48
PJ-47
South
Line
Level
60'

76'

① 0-60' Flat only + probably
all sandstone, but weather
green

Line 17
S. 31° E.
600'
Line dips
S. 01°

Rock 5200 E-49

Dip 49°

Line on face of rock
on west side of road. Rock
Surface is 10' above
ground level. The
Shale is probably weathered

PJ-49
100'
~~75'~~
66'

Shale - present only as thin
on surface but is also
present throughout unit.
6" below surface. Dark gray
to brown, highly weathered.

D. sandstone. Stone
lower part of unit probably
not from PJ-49.

E. sandstone. Shale. Stone
upper part of unit is
much more uniform. It seems
to be from an 8" bed
about 10' from unit top.

Entire unit is very slight
depression and contains
very little sandstone. That

Oct 13 1951

PJ-50
100'
~~75'~~
66'

(1) 0-45'. Fine calc. sh. & sh. l. throughout. gradation upward with sandstone. Sample taken from 20' down from base. 20' thick bed. 36" thick.

(2) Outcrop
45' - 100'
From base upward
20' sand stone bed (sampled)
36" thick
20' fine, mostly calc. sh. & sh. l. lower 20' well cemented upper part about only
no coarse rocks

PJ-51
100'
~~75'~~
66'

(1) 0-10' calc. sh. & sh. l. probably shale
10'-50' sand stone, fairly well cemented. no shale. beds thick-bedded to massive fine grained bed. 3' thick. friable and extra sand. sample taken

(2) 50' - 100'
50' - 85' Coarse - mostly flat noted, could be soft ss
85' - 100' (10' actual bed thickness) Massive. Coarse-gr. ss - grain size decreases upward - grit in lower 3'

PJ-52
100'
Soils
~~75'~~
66'

Flint only, except for
3 beds in upper half
thin, or, thin, evenly
spaced, and each 1" thick
except middle one which
is 2" thick

No shale flint found

Beds in place with fine
ground sandstone with
scattered coarse grains
in one bed. Abundant

Estimated entire unit is
45' sandstone, but flint
and beds are evenly distributed

Soil sample PJ-52 taken

PT-53
100'

~~98'~~
510E
level
76'

...

Upper ...
...

PT-54
51
~~49~~
510E
level
38'

...

...

PT. 37

State of Michigan

73'

South of

Michigan - 1912

~~74'~~

56'

State of Michigan

Michigan - 1912

Michigan - 1912

Michigan - 1912

Michigan - 1912

Michigan - 1912

Michigan - 1912

Michigan - 1912

Michigan - 1912

Michigan - 1912

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Michigan - 1912

N15-2
75'
= 25'

Sandstone with 5% siltstone
... ..
... ..

... ..

N15-3
100'
~~55'~~
47'

... .. N 80W

0.20'
... ..
... ..
... ..

... ..
... ..
... ..
... ..
... ..

... ..
... ..
... ..
... ..
... ..

200'-403'

Correct as not reliable

~~110'~~
95'

Cross cutter for small
gully to 2' x 3'
head grades has the usual
edge and surface. The
mass to be in the ground
is a fine grained material
very similar to what
has been there. It is not
entirely the same as
the dark sandstone
found there, but otherwise, is
quite similar.

Line 2
175'

N 50 W. Many beds, estimate at
6 beds.
2 beds are covered at each end
beginning of curve curve to SW

Line 3
494'
Dip
24 N

N 50 W

M5-4

≈ 90
6-36' covered
36' - 41' = 5

163' total

Aluminum ...
This ...
Jackson ...
what is ...
46-300' covered ...

M5-5

Strike
N. 75° W

Dip - 10°
80° N

$\approx 91'$

$\approx 80'$

...
311-355 ...
...
28' ...

338' ...

375 - 90 ...

-11

$300 - 99 +$

actual bols ...

see line 415

Line 4
Dip 30° SE
396'

N 73 W - - - - -
N 72 West
Dip 30° E

crest of hill

Line 5
N 29 W
Dip 7° N
292'

Note, Line 5 is shorter than Line 4
and at West end. Elevation of
Line 4 is 10' above surface of
line 5. The dip of line 4 is
3' to 4' at crest of hill. Part
is because rocks on west side
were not eroded. The dip of
line 4 is 7° N at crest of hill.

Section at line 5
120' across at small water bridge

N 5-6
45°
30'

lower half interbedded sandstone
and shale (60° to 55° to SE)
Sandstone beds to 8" or
lower part but mostly
2" or less with shale beds
of about same width
SS is soft. S.M. 92.

Upper half

Massive sandstone beds
(about 3'), separated by
1" shaly sandstone
SS is soft. S.M. 92.

MS-7
20'
13'

Lower unit. 12. Gray green
slate 1" thick.

Remained 13. Low to top of
siltstone? in. and in. with
with low slate part as that
probably about 10'.

5'. From base of 12. and of
with siltstone? with
plant fragments. Remained
at top of unit. The
plant fragments in the
siltstone part.

MS-8
50'
34'

Remained 14. Siltstone
with low to top of
siltstone? about 3'.

MS-9
50'
34'

Remained, no slate breaks
noted. From top of unit
very soft white clay
grades. Entire unit
weathers into 2' thin clay
concretions that resist.

97
18

M5-10

C-17 = 11' ... shale
2" thick ...
base

292

-100

127 x .682

= 86'

105' ...
75' Covered interval to bridge

upper 10-10' ...
...
very hard

Line 6
Dip 105

N12W ... 400' (Ficks N70E?)
60°N E

388'

M5-11

0-45' = 38' Covered -

100'

X848

45'-105' = 46' greenish-gray splintery
shale (outcrop looks black)
Trace sulfide beds in
2" thick in lower part
70% exposed.

M5-12

gray to greenish gray shale
50% exposed

80'

= 67'

Covered

80'
= 67'

MS-13
20'

Greenish gray shale with
2" lens like beds

16

10 lens like part

Covered

20' = 16

MS-14
70'
= 59

0-18' = 15 Greenish gray shale with
thin micaceous beds, one 4" thick

18'-20' = 22 Thin bedded sandstone
M.C. covered

= 42

20-30 Greenish gray shale with
3 or 4 units of sandstone
(3 of them) equally spaced
In unit
Lower 2 or 3 units are gray

Upper 30 feet of greenish shale
2" bed of black chert(?) in
3" from base (S. side
true top of bed)

Next 4' of unit (10 top)
above last 30' is
alternating sandstone and
shale in 4" units

M5-15
18'
= 15'

0-18' massive salt sandstone.
3' from top down to top
north to south. ~~is~~ which
is from top base to top

Line 7 -

120' North Section N 10° E 10' SW
(overturned)

M5-16
= 107

0-107' massive salt sandstone.
shale with sandstone
beds to 2" thick. 10'
sandstone bed (10' from
south end)

Line 8

N 6° E. parallel, not measured

570' = 530' ±

Rocks vertical
strike west

Line 9 -

141' N 6° E - 14'

M5-17

0-14' massive salt sandstone

= 550' ±

shale with sandstone
beds to 2" thick. 10'
sandstone bed (10' from
south end)

= 140' ±

52'
14-66' massive salt sandstone
white salt. 1' to 55
2 shale partings 6" each
in. and - out. 12' from
North end. 2' from 10'

Oct 18, 1957

MS-18
75'
74'

From S to N

2-13' from surface, sand, shale
and some of sand, siltstone

shale, some in 2' beds.

13-20' Mostly sandy siltstone
in 1' beds. Some shaly, very
shaly. 2' beds.

20-43' Mostly shaly, 1' bed
siltstone, some shaly

43-53' Mostly shaly, siltstone
and sandy siltstone
some 6" - 1' beds, shaly
in places. Some in
siltstone and shaly
in some beds

53-75'

Mostly 3" shaly, 4"
siltstone beds, some sandy
4'

End 11.5.

From here north, exposure
is not very good, and
unknown structures may
be present to which thickness
measurements are variable.

bridge over the water and
road bridge and a water
(Lake ...)
... ..
... ..
... ..
... ..

... ..
... ..
... ..
... ..
... ..
... ..
... ..
... ..

PA 7.

... ..
... ..
... ..
... ..

End - PA.

55 Junction

A-7

October 19, 1967
1.1 miles north junction Hwy 7 & 67
on Hwy 71 Clock County, A.K

Atolla ...
along east side of Hwy 71, 4550
Strike N 75 W ; Dip 40° South
(log is somewhat contorted and
variable in thickness and strike)
Sample collected at ...
shale out ...
quartz ...
No ... and plant debris ...

~~A-5~~

1.4 miles
...
Strike N 80 W Dip 60° South
No sample collected.

A-6

1.6 miles ...
N + ... base ... (sampled)
100' silty shale (sampled)
30' ... sandstone
...
partly (sampled)
30' silty shale out ...
beds - not sampled

A-5

1.8 mi N Junction (7 & 67)
Atolla ... shale and sandstone
...
One ... shale bed
2" thick - ...

A-4

1/2 mi. north of junction 7867
Atoha - to 7 shale, mostly
thin bedded to 1/2 ft (seaward).

A-3

2 1/2 mi. north of junction 7867
Lowermost Jackfoot - thin bedded
to massive sandstone with
some pebbles to 5 feet thick
and coarse.
This coarse and lowermost
beds are massive and separated
by a valley.
Dip here is to the east and
about 5° - 6°.

68.0.

Found some
granite rock

