

Payton Creek Phosphate Prospect, Ark
Core Hole 5-9 (Samples 5-9-1 to 5-9-98)

Sampled & described in the field by
E. H. Merewether - under binocular scope
by E. E. Glick

0-15' No sample

5-9-1 Shale, med dk gy, mic, silty;
15.0-18.0 ^{1/2" thick} 30-70% med-gy mic c-gr
sfts; v sl limy or sideritic(?) in
part -- slow acid reaction locally;
irreg wavy bedding; sfts laminae
are lenticular and, locally, fill
burrows in shale

5-9-2 As above, but sfts is in
18.0-21.6 part of sdy & contains ^{soft} white
"clay" grains -- weathered feldspar
or weathered chert.

s 1/2" 3 s 1/2" 3 75

5-9-3 Ss, lt br gy (weathered &
21.6-23.5 ironstained) silty, vf to f-gr;
dk-gy mic sh partings and
pebbles (some rounded).

5-9-4 Ss, weathered yellowish-gy,
23.5-25.0 clayey, silty, vf to f-gr; br
med grs, but well sorted in
general; scattered silt wh "clay" grs;
clay film coating on $g/3$ grs;
mostly sub-angular $g/3$ grs

5-9-5 Ss, weathered gel gy to lt br-gy,
25.0-29.0 sl mic, clayey, silty, vf to f-gr;
scattered white (weathered) clay
blebs (up to $\frac{1}{2}$ " long); silt white
"clay" grains; porous

5-9-6 Ss as above
29.0-33.0

5-9-7 ss, weathered ^{1-2"} yellow-orange, massive,
33.0-38.0 mic silty, clayey, v. to f. gr;
scattered weathered clay pebbles;
horizontal
persistent banding

5-9-8 ss as above - necky pebbles
38.0-43.0

5-9-9 ss as above; to med grs
43.0-48.0

5-9-10 ss as above; ^{1/2"} to 1" pebbles
48.0-53.0

5-9-11 ss, weathered yellow-orange,
53.0-58.0 silty, clayey, v. to f. gr;
wh "clay" grs

5-9-12 ss as above
58.0-63.0

5-9-13 SS as above; ^{thin} hematitic layers
63.0-68.0 with sh. iron grains

5-9-14 SS, weathered grey-yy to
68.0-73.0 dusky-grey. silty, clayey,
vt to sh gr = to med-grs
w/ "clay" grs

5-9-15 SS, lt. yy, med. silty,
73.0-77.0 vt. to sh. gr, ^{med.} scattered
a thin to $\frac{1}{8}$ " wavy shale
interbedded.

5-9-16 SS as above
77.0-81.0

5-9-17 SS as above; med. sh-yy
81.0-85.0 sh partings; sh grains?

5-9-18 SS, lt-yy, med. silty, vt gr;
85.0-90.0 sh-yy med sh partings

5-9-19 ss, ll gy, mic silty, vlt gr
90.0 - 95.0 ls. mass; ls. - mic sh partings
up to 1/2" thick

5-9-20 ss, ll gy, mic silty, vlt gr
95.0 - 95.2

PG
CH

5-9-21 silts, ll gy, ls - lg lenses
95.2 - 77.8 lenses of ss to 4.0 inches
thick; 40% dk^{gr} gy, vlt mic,
slaty sh; irregular contact
between sh + silts

5-9-22 sh, dk^{gr} gy, vlt mic s^t silty,
99.8 - 101.8 slaty; 25% ll. gy silts in
lenses & ^{up to 1/2" thick} silt partings

5-9-23 sh ss about; 10% silts;
101.8 - 105.0 silt

5-9-24

105.0 - 110.0

sh. dk-gr, ^{sl siliceous} mic. clayey,
with silts in lenses up to
1/4 inch thick & burrows;
siliceous cementation & gives slow
acid reaction

5-9-25 to 29

110.0 - 115.0

115.0 - 120.0

120.0 - 125.0

125.0 - 130.0

130.0 - 135.0

sh. silts in above

5-9-30

135.0 - 138.7

sh, dk-gr, mic. clayey,
10% silts in masses
up to 1/2 inch thick &
in burrows

5-9-31

138.7 - 140.1

sh, dk-gr, ^{partly silty} mic. & sandy,
with 10% silts in
lenses up to 1/2 inch
thick. wavy bedded

5-9-32 Sh. dk grey. st mic. clayey;
 140.0 - 145.0 1/4 to 20% ³⁰ in laminae
 (usually) lenses up to 1/2" thick
 and some 3" long st limy
 or siliceous

5-9-33 to 39 Sh + s/lts ss above
 145.0 - 180.0

5-9-40 Sh, dk grey, mic, clayey
 180.0 - 182.0 5-10% thin s/lts
 laminae st siliceous

5-9-41
 182.0 - 185.0 Sh + s/lts ss above

5-9-42 Sh ss above; s/lts
 185.0 - 190.0 subject for use downward

5-9-43 Sh, dk grey, clayey
 190.0 - 195.0 or within s/lts laminae

S-9-44 sh. sh. fine, sandy
199.0 - 200.0

S-9-43 sh. as above
200.0 - 204.0

S-9-42 sh. med. gr. sandy, ^{finer,} shaly
204.0 - 204.3 med. sh. to a grayish
Some pebbles of ^{3'} shaly
state granites.

S-9-47 limestone, brown sh
204.3 - 204.6 med. gr., brown sand

S-9-48 sh. ^{med.} sh. to sh.
204.6 - 204.9 sandstone, shaly

S-9-49 sh. ^{st. fine} sh. to med. gr.
204.9 - 205.4 sh. ^{st. fine} sh. to shaly
shaly & scattered med. to
vc qtz gr. s. scattered
green & pebbles of sh; wavy bedding

5-9-50

ss, med lt gr, mic, ^{very silty} silty

203.4 - 210.0

st med gr; dk gr

mic sh. ^{fine} silty; silty silt
makes up quite a bit of this unit
= 40%?

5-9-31

ss + sh as above

210.0 - 215.0

5-9-32

ss + sh as above; siltier

215.0 - 220.0

5-9-53

ss, med lt gr, mic, 45% clay

220.0 - 225.0

silty, med gr; mic dk gr

sh laminar parting

ripp & part. markings; joint

impressions of plant fragments in

mic sh.

5-9-54

ss^{sh} as above

225.0 - 230.0

5-9-55

ss + sh as above; siltier

230.0 - 235.0

in part lower 3"

5-9-56 SS + sh 25 above identical to
235.0 - 240.0 upper 3" pyritic plant
fragments all show bedding
planes

5-9-57 ss, ^{limy} dark grey, mic, silty, silty
240.0 - 243.0 12 to 15% mic, sandy, brack,
east of ^{sh} and some fine fossils
in dr of silty part; if
30% dr, mic in layers
as in the lower part

5-9-58 Sh, ^{limy} dk grey, silty, silty, silty,
243.0 - 245.0 mic; small orange forams,
brack plant fragments

5-9-59 Sh as above; abundant
245.0 - 250.0 fossils fossils in some layers;
micaceous bands

5-9-60 Sh, ^{limy} dk grey, silty, pyritic,
250.0 - 253.0 lenses of laminae & sdy
silty, fossils fossils

S-9-61 Sh. dk grey, sl limy, clayey;
253.0 - 258.0 Scattered concretions

S-9-62 Sh. dk grey, sl limy, silty,
258.0 - 263.0 pyritic; trace fossils in
scattered ^{limy} shells, pebbles or
concretions or "masses";
shells common & trace

S-9-63 Sh. dk grey, silty to
263.0 - 265.0 clayey; shellstone lenses &
laminae; Pass = fragments -
large gastropods or cephalopods,
brachiopods, & other frags

S-9-64 Sh, dk grey, clayey;
265.0 - 270.0 Scattered concretions

S-9-65 Sh, dk grey, clayey, sl limy,
270.0 - 275.0 many fragments of sh br
thin ribbed shells - - polypods?

5-7-66 Sh, dk gy, clayey, silty
275.0 - 278.0 fine grained sandstone
1" - 2" - 4" - 6" - 8" - 10" - 12" - 14" - 16" - 18" - 20" - 22" - 24" - 26" - 28" - 30" - 32" - 34" - 36" - 38" - 40" - 42" - 44" - 46" - 48" - 50" - 52" - 54" - 56" - 58" - 60" - 62" - 64" - 66" - 68" - 70" - 72" - 74" - 76" - 78" - 80" - 82" - 84" - 86" - 88" - 90" - 92" - 94" - 96" - 98" - 100"

5-9-67 Sh as above; fossiliferous
278.0 - 282.3 pyritic zones as much as
2" thick; con, brach, pelecypods,
etc.

5-9-68 Sh, med dk gy, ~~limy~~ limy,
282.3 - 284.9 v. sh, ^{pyritic} beds as much
as 1 1/2" thick; med
40% dk gy

5-9-67 Sh, dk gy, clayey, silty
284.9 - 285.5 med dk gy ^{limy} silty lenses
up to 1/2" thick

5-9-71
285.5 - 288.8 Sh, med dk gy, limy, v. sh, hard;
sideritic masses as much as 2" or more; dk gy
sh partings

5-9-71 Sh. dk. c. siliceous, massive

2-5, 3-22.8 Siliceous concretions of ^{crin.} ~~crin.~~ ^{with} ~~crin.~~ ^{crin.}
mass of ~~crin.~~ ^{crin.} ~~crin.~~ ^{crin.}
crin.

5-9-72 Sh. dk. gy. siliceous, clayey

293.8 - 296.2 Fossiliferous, ~~crin.~~ ^{crin.} ~~crin.~~ ^{crin.}
mass. ~~crin.~~ ^{crin.} ~~crin.~~ ^{crin.}

5-9-73 Cr. gy. med dk. gy. siliceous

296.2 - 298.0 Cr. gy. interbedded w/ dk. gy.
sh. in upper 10 inches of
mass; ^{crin.} ~~crin.~~ ^{crin.} ~~crin.~~ ^{crin.}
crin. (?)

5-9-74 Sh. med dk. gy. siliceous, clayey

298.0 - 303.0 crin., brach., ~~crin.~~ ^{crin.} ~~crin.~~ ^{crin.}
bryo?; ~~crin.~~ ^{crin.} ~~crin.~~ ^{crin.}

5-9-75 Sh. dk. c. many brachs;

303.0 - 304.5 lower 4 inches med gy & BSS
ls; crin., brach., bryo

5-9-76

304.5 - 310.0 sh. med dk gray, limy clayey;
foss frags in thin fossil
zone in bed.

5-9-77

sh. dk gray, silty, sandy clayey;

310.0 - 315.0

~~sh. dk gray~~ to thin silty, ^{impressionary}
clay nodules (spherulites) scattered

5-9-78

sh. as above

315.0 - 318.2

5-9-79

sh. ^{med} dk gray, limy, & thin 'masses';

318.2 - 318.9

lower 3 inches of med. dk gray
& foss 15; some large brachiopod
gast., and fragments of many
unidentified fossils.

5-9-80

sh, dk gray, limy, clayey;

318.9 - 324.0

Scattered foss fragments

5-9-81 Sh, med dk gy, limy, tuss,
324.0 - 325.3 clayey, ^{to silty} pyrite, many fossils
in zones up to $\frac{1}{2}$ inch thick;
Polysphaera, gastropods, brachiopods

5-9-82 Sh, dk gy, limy, clayey;
325.3 - 326.0 ifw 40% med dk gy, silty
intenses - as much as $\frac{1}{4}$ " thick

5-9-83 Sh & silty as above; in
326.0 - 326.9 lower 1/2 inches, 2 fossil
zones up to $\frac{1}{4}$ inch thick;
many corals, small bryoz +
brachi

5-9-84 ls, med gy, silty, limy
326.7 - 327.3 sideritic, fossiliferous; corals,
bryoz, and other fossil fragments;
concentrically banded sideritic
"concretions" as much as
1" long $\frac{3}{4}$ " thick; ifw
beds dk = gy sh up to 1" thick

S-9-85 Sh. med dk grey, clayey,
327.3 - 332.3 clayey to silty; some fossils
... .. as much as 3/4 in

S-9-86 Sh. med dk grey, clayey
332.3 - 337.3 as much as 2" thick; brachy-
zoa (straight cylindrical),
... .. fragments.

S-9-87 Sh. med dk grey, clayey,
337.3 - 342.3 fossiliferous zones
as much as 1/2" thick; crin,
brachy, etc. orgs

S-9-88 Sh. med dk grey, clayey
342.3 - 346.6 zones as much as 2" thick;
Folyspiris, crin, other
... .. fragments

S-9-89 Silts, med-grey, clayey, limy;
346.6 - 347.8 scattered fossil fragments;
... .. in laminar & crinoid beds
30% dk-grey sh.

5-9-90

Sh. med. ss, med. clayey;

341.8 - 351.8

very frequent - very fine

gr. ...

ss. ...

5' ...

is ...

... 2 1/2' ...

1/4' ...

5-9-91

Sh. dk. gray, fine, clayey;

352.8 - 354.5

scattered siltstone stringers

as much as 2' long

5-9-92

SS, med. gray, ^{1.5' long} & silty, v. gray,

354.5 - 357

even to v. wavy bedded; 10%

dk. gray shale beds as much as

1 1/2" thick; rounded siderite

"concretions" as much as 1" long

in lower 6" of core

5-9-93

2' med sh. ss, limy, clayey;

361.8 - 361.8

1' med sh. ss, siltstone

lenses of calc. ss $\frac{1}{2}$ "

Siderite concretions as in

3" x 1" thick

5-7-74

shs, med sh. ss, clay, sh.

361.8 - 363.0

2' sh. ss, med sh. ss, sh. ss

1' sh. ss, med sh. ss, sh. ss
2' sh. ss, med sh. ss, sh. ss

1' sh. ss, med sh. ss, sh. ss

1' sh. ss, med sh. ss, sh. ss

1' sh. ss, med sh. ss, sh. ss

1' sh. ss, med sh. ss, sh. ss

5-4-95

2' med sh. ss, clay, sh.

363.1 - 363.3

2' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

1' med sh. ss, clay, sh.

5-7-26
 370.4 - 370.9
 med. gr. silty, clayey
 matrix
 coarse sand
 2" thick

5-7-27
 370.4 - 375.3
 ss, med. gr. silty, limy, fossil
 brack, brye frags
 sh. 2-3" parts
 bedded

5-7-28
 373.3 - 382.2
 ss above in upper 20"
 grade into med. gr. silty, limy, fossil
 matrix, sh. 2-3" parts
 sh. 2-3" parts, lower 3" - many
 "skeletal" pieces up to
 1" long sh. sand & brack
 frags in limy silt
 matrix

405.9' - 410.2' Sh. dk gy, some light
small coniferous

410.2 - 411.8 ls, dk gy

411.8 - 414.4 Sh, dk-gy, sh. gy. at
base of unit some small
trees

414.4 - 416.3 Sh. dk gy, sh. gy,
small trees at base of unit
large

416.5 - 418.8 sh, dk gy, sh. gy?

416.8 - 417.3 Congl P, and dk gy,
w/ b w c rounded &
angular sh frags, scattered
small sh frags. Base of
unit is base of Case Hill
Mbr?

417.5' - 418.25' Sh, dk grey, sandy limestone
lined fossiliferous
with a mass of small shells?

418.25' - 418.50' Limestone, med to dk grey, fine
crystalline, scattered fossil
fragments

418.50' - 418.8' Limestone, med to dk grey, shaly
fossiliferous

421.8 - 422.8 Sh dk grey - small grains of
round fossils, some tubular
as much as 1/2" thick in
places 1.4'

422.8 - 424.8 Limestone, med to dk grey,
very shaly (very sh) abundant
fossils in upper 2m3'
small fossiliferous fragments
not to be seen

424.3' - 425.3' sh. dk grey, sil. lining,
scat. fossils; + some, small
dk grey, smooth, v. + shaly, scat.
fossils; + small, irregular, angular, sil.
sh.; + very fine bedding. Some
lks up to 3/4" thick; + shaly
up to 1" thick.

425.8 - 426.0 lime, red lks + sh. grey,
v. + sh. + sil. + small? scat.
fossiliferous.

426.1 - note depth

See note 5-8

Total length of core -

Base Prairie Blue Member 25' 7"

Core saved as from 233 - 381 feet
(143 ft of core in 1R boxes)

Core samples start 2' 9" (33")

beginning at 233', in last core

Hill - 52100 - base of Prairie Blue

Core described by L. S. in 1964

238.0 - 239.6 - ss, med dk gray, silty, less
v. to f. gr. sand and
med grs; thin cracks;
sh. to med. pores
gel on silty micaceous
layer 1/2" thick in
201.

239.6 - 242.1 - Sh, dk gray, silty, thin sh
slts laminae & micaceous lenses
throughout; scattered foss
frag, mostly erin

242.1-242.4 Sh. med dk grey, limy, &
foss, silty; sh on each side of
brach frags; siderite
monsters pebbles or concretions
throughout

242.4-246.0 dk grey, limy silty;
limy, sandy, siderite
& various fillings throughout
monsters, layers
242.6
243.1

246.0-246.4 sh st as above - scattered crin frags

246.4-246.5 dk grey sideritic monstons on
each side of $\frac{1}{2}$ " thick, 2-3" ss
sh layer; many crin & brach
frags.

246.8-250.0 Sh, dk grey, sh limy, clayey
5" ^{low} silts in burrow fillings
and thin laminae (sh fragments
small pieces in
bed)
fo-stone @ 247.9, 249.0,

250.0 - 253.0 Sh + Sls at about

For Stone

250.3 "

" "

" "

Shale + sand to
1.5 - 2.0 ft

253.0 - 255.0

Sh + sand at top of sil. core

3.0 ft. sand + beds further

in set ^{out} clay + sand + shale

pyrite + shales + shales in lower fillings

+ thin shales

For Stone at 253.0 + 24

253.0 "

250

lower 1' is ~~4.0~~ 7.0 ft +

shales "bbles" at bottom

in some shales. Lowermost

massive is oolite + underlain

by a thick + mass sand

crin, brachi + frag

266.8 - 270.95 4 Sh, dk gy, at base, 2 layers
 of small frags

267.7 - 274.8 Sh, dk gy, at base, 2 layers,
 breaks into small pieces; Fe Stems @ 276.3 (1/2") 276.5 (1")

274.8 - 275.4 Sh, red dk gy, at base, 2 layers, hard
 much pyrite & siderite, breaks,
 crin, gast & other frags are
 30% of the rock -

275.4 - 277.3 Sh, dk gy, at base, 2 layers,
 breaks into small pieces; Fe Stems @ 276.3 (1/2") 276.5 (1")

277.3 - 277.7 Silty, med dk grey, limy, silty,
fine sand, some silt
apparently some iron
in lower strata

277.7 - 280.4 Silty, dk grey, dk grey, dk grey,
units with small pebbles
~~fine sand~~ to fine sand;
1-2% pebbles (3)
278.4 (2"), 280.1 (1")

280.4 - 282.5 Silty, med dk grey, med dk grey, med dk grey
sandstone - probably limestones;
1/4 to 3/4 dk grey sh;
shs ~~interbedded~~ downward
& grades into unit below;
pyrite - pyrite

282.5 - 283.7 Sandstone, silty, silty,
med dk grey, silty
units

283.7 - 284 Silty, med dk grey, dk grey, silty
0.2% 1/4 to 3/4 dk grey sh;
maybe dk grey sh pebbles in upper part

284.0 - 286.1 Silts, med H grey to sand grey
limy, v. clay, c-gr;
In case of unusual secondary
... ..

286.1 - 293.3 Silts, dk grey, shaly, clayey;
... ..
... ..
... ..

- 0.601

+ 36.9 - $\frac{1}{2}$ "

+ 37.7 - $\frac{1}{2}$ "

289.1 - $\frac{1}{2}$ "

290.9 - $\frac{1}{2}$ "

291.0 - $\frac{1}{2}$ "

... .. $\frac{1}{2}$ feet

293.3 - 295.6

Upper 10' - pebbly to coarse

lower 10' - med to fine

limy shales s. M; benches, part

293.6 - 295.2 5/8 shaly, silty, shaly,
massive, shaly
3/12 massive

295.2 - 295.7 5.05, ... to mid 74,
...
Fragmented massive or
...
... 90% shaly
... x ... beds

295.7 - 296.1 5.05, massive, shaly,
...
... x ...

296.7 - 297.1 5.05, shaly, silty,
20% shaly laminae

297.2 - 297.7 5.05, mid-74, silty, shaly,
silty, massive; fractures
break, ...
... make up much
of the rock; ...
thin shale partings in lower part

297.7 - 299.3 Sh. dk. gray, clayey;
tr. silt in shale matrix &
silt laminae; $\frac{1}{2}$ " thick
silt on a side

299.3 - 300.6 Sh. dk. gray, clayey, ~~fine~~;
~~clayey~~ clayey; $\frac{1}{2}$ " thick
to 27.7"; many brachi-
opods scattered in shale

300.6 - 301.2 Sh. dk. gray, clayey;
many $\frac{1}{2}$ " thick zones with
silt $\frac{1}{2}$ " thick; crin. brach.,
post, + other fossils

301.2 - 303.3 Sh. dk. gray, st. clayey, clayey
to zone 301.5 (2")

303.3 - 304.7 Sh. dk. gray, clayey, clayey;
thin zones of $\frac{1}{2}$ " thick
crin. brach.

303.7 - 311.7 Sh. med dk grey to dk grey,
 limy, clayey, with thin
 sh. to 5' zone
 To 311.0 - 313.3 (1/2")
 307.7 (1")
 311.8 (1/2")
 311.9 (1/2")

311.7 - 312.5 Sh. med dk grey, & limy, shaly,
 minor brach, arid, brachinids,
 & thin shaly

312.7 - 314.0 - dk grey, shaly, shaly,
 shaly, small foss

314.0 - 311 Sh. dk grey - shaly, shaly,
 without foss zone

To 311.0 314.7 (1/2")
 311.2 (1/2")

317.0 - 318.3 24.
12:00

317.3 - 318.3 24.
2114'
... ..
5'
... ..

319.3 - 319.4
... ..
... ..
... ..

319.4 - 320.9
... ..

- 320.6 (1/2")
- 323.6 (1/2")
- 322.8 (1/2")
- 324.4 (1/4")
- 325.1 (1/2")

325.7 - 326.3 24, dk-ry,
Brooks,
Fe Stone @ - 326.1 (3/4")

326.3 - 328.5 fine, thin, silty, clayey, scattered shells

Fossils - 22' - 24'
22' - 24'
24' - 26'
26' - 28'

329.5 - 331.7 silty, clayey, many fine shells, scattered shells, some small

331.7 - 333.7 silty, clayey, many shells, scattered shells, some small, some 334.8 (1")

333.7 - 334.0 silty, dk. red clay, silty, clayey, some shells, some small

337.0 - 339.6 with shaly, thin layers,
 many fossils mostly
 scattered individuals.
 many of them polypoid
 many of the spots, etc.

V. Fossiliferous zone to

- 336.1 (2")
- 336.2 (2 1/2")
- 337.2 (2 1/2")
- 337.3 (2")
- 338.6 (2")

Section from ... to ...

339.8 - 341.8 shaly, with ... layers,
 shaly, many ...
 the ... at ...
 in these ...
 masses (shaly, ...) in
 upper part of ... as much
 as ... thick in lower ...

342.8 - 343.3 2' to 3' ... clayey,
... ..

342.8
342.2

342.3 - 343.0 2' to 3' ... clayey,
... ..
... ..
... ..

Field ...
measurement ... = 2.3' sh

... ..
... ..

346.0 - 347.3 Sh, silty, limy, clayey;
5/8" thin silty laminae;
scattered ... throughout
... ..
... ..
... ..

347.3 - 348.2 slts, med. gr, sl. liny,
clayey, c. 25% compacted
beds (maybe cross-bedding)
c. 10% dk gr sh
in very irreg beds;
fossiliferous (cf. 348.6)

348.6 - 351.2 ss, med. gr. to med. sh,
sl. liny, v. silty, v. 25%
(maybe c. 25% siltstone upper
part), thin silty sh
beds in part
lower 3", but main part
is massive & unbedded;
fossiliferous, esp. in
siltstone

351.7 - 352.6 - by dk gr, sl. liny, clayey;
40% dk gr sh
med. gr, v. silty, siltstone slts;
slts in clayey in part & in
beds mostly $\frac{1}{4}$ to $\frac{1}{2}$ " but lower part of 7".

351.6 - 355.1 ss, med lt gray, limy, silty,
vt gr' ^{sh} limy sh partings continuous
with massive bedding
sh partings @ 351.7 (1/2")
silty sh @ 354.7 (1")
lower 1/2 - sandy ^{all} interbedded
structure - (massive)
to base throughout unit

356.1 - 357.2 Ss, dk gray, silty, clayey,
sh 40% med lt gray silts,
interbedded irregular beds

357.2 - 360.6 ss, med lt gray, limy, silty,
vt gr' to mass frags;
sh partings @ stylolites
Fe-stain @ 358.3 (1")
dk gray sh partings in lower
1/2 inch -

360.6 - 361.2 Silts, med H gy to med gy
reddy, silty, sh
10% dk soil / med
sand (top)
1" layer of silt
pebbles in dy silts
inter - 2-3 frags

361.2 - 364.6 Sh, dk gy, sl med clay,
silty & sh silts in
lower 6"

1" stone beds

361.8 (1/2")

362.0 (1/2")

362.1 (1 1/2")

363.1 (3/4")

364.2 (3/4")

364.6 - 363.4 Silts, med H gy to med gy,
sl fine & silty, sh
30% dk gy sl fine sh -
irreg beds

(Core 10 mg in first box
1 sheet in second box - so actual core length plotted)

365.4 - 371.9 ss, med to gr. massive,
lens - silty, & f-gr,
thin sand partings
massive brown stylolites

371.9 - 372.5 sh, dk-gr, clayey,
sl limy; several
sideritic "masses", silty
layers to 1/2" thick
in lower 3".

372.5 - 374.1 sh, med dk-gr, limy,
clayey (conspicuous??), f-gr,
sideritic blabs mostly
1/2 to 1/4" thick in lower
1/3 of unit

374.1 - 374.7 sh, dk-gr, limy, clayey;
2 sideritic bands make
up most of lower 1",

374.7 - 375.0 silt, very bedded, red clay,
at base, 1-2' of
40% clay silt

375.0 - 375.6 ~~red clay~~ ^{red} ~~clay~~ ^{clay}
bedded ~~well sorted~~, clayey

375.8 - 376.7 ~~is~~ ^{is} ~~at~~ ^{at} ~~20~~ ²⁰, ~~being~~,
clayey, ~~at~~ ^{at} ~~silt~~ ^{silt}
contact. ~~Being~~
silt, poorly developed
siderite beds $\frac{1}{4}$ to
 $\frac{1}{2}$ inch thick.
(Note contact w/ ~~is~~ below
& ~~scaley~~ partings dip
about 25° - bedding
plane above ~~is~~ ^{is} ~~below~~
~~is~~ appears to be nearly
horizontal)

379.9 - 381.0

1/2, 1/2 baggy

15' thin, 15' baggy

31 photos

TD 1/2 - lower 33' in

Little Rock Twp - Oregon

~~Drill hole summary~~

Hole # 5-10

Collar Elevation:

1370.5' N.S.

Location:

550' W SW of Center
12-3rd 12th. Van Buren Co. Mo.

Lessor:

Min. Section: Leach, etc.

Lessee:

Wagon Creek & Shumaker
Mining Company, Inc., Mo.

Drilling Financed by:

Min. Section Contract No. C-6578

Drilling Contractor:

E. J. Langyear Co.,
Minneapolis, Minnesota

Drill Hole Summary:

Rock Bit	0-10'
NX Machine Bit	10'-400'
Standard NX Core	400'-440' (T.D.)
Work Started	June 10, 1964
Work Completed	June 20, 1964

0-10'

1/2 sample

14.0 - 19.0

St. med dk gy (weathered

silty-sand - gray) - some clayey

at base - some silt

deeply weathered

19.0 - 33.0

St. med dk gy to dk-gy, medium,

clayey

33.0 - 36.7

St. dk gy; 1/4 to 40% med

st gy & silty silt

36.7 - 41.3

SS, weathered yellowish-gray, massive, silty

1/2" grains, silty

med-gt ss, clay coating, org

grains, scattered clay or mudstone

pebbles; mottled layers -

as much as 3" thick; white

"clay" grains

100.2 - 115.0 sh, dk grey clayey
greenish mica and
... ..
siltstone - medium to fine grained
... ..

115.0 - 134.0 sh, dk grey clayey, 2-3% mica
loss siltstone laminae

134.0 - 134.0
... ..
3% mica - imp 2-3%
siltstone 3-5

134.0 - 213.7 sh, dk grey clayey
5% ^{or less} mica
siltstone laminae
to stone @ (113.0 ft)

213.7 - 215.2 ss, dk grey, silty, clayey
... ..
... ..
ca 215.0; fa - stone pebbles
fa ss (Frag S) - crin? brach?

215.2-220.1 ss, med gy, v silty & shaly,
sl. shaly, v. to 15 gr; gls
grains to 219.3 to 220.1.
shale & silty shaly pebbles
to 1/2" long; Hw 30%
dk-gy sh in laminae &
1-1.5" up to 2" thick

220.1-259.4 ss, med to gy, silty, shaly,
v. to 15 gr; ^{mic} silty shaly
to 1/2" long; any
be as thin 50% o-gr glsilt
at end of

259.4-262.0 ss, med gy, ^{dk} shaly; (1
v. shaly, thin shaly
fragments, thin shaly laminae
Hw 40% 1/2" to 1" shaly sh

262.0-285.0 sh dk gy, silty shaly, shaly
shaly; 10% silts in laminae
& burrow fillings; scattered
crin & brach; 1" FO Stone about every 2"

289.2 - 292.0 silty dk grey clay
 292.0 - 295.0 silty dk grey clay
 295.0 - 300.0 silty dk grey clay
 300.0 - 305.0 silty dk grey clay
 305.0 - 310.0 silty dk grey clay
 310.0 - 313.0 silty dk grey clay

305.0 - 305.6 silty dk grey clay
 305.6 - 310.0 silty dk grey clay

305.8 - 313.0 silty dk grey clay
 313.0 - 315.0 silty dk grey clay
 315.0 - 317.3 (2") silty dk grey clay

313.0 - 314.6 silty dk grey clay
 314.6 - 315.0 silty dk grey clay
 315.0 - 316.4 silty dk grey clay
 316.4 - 317.3 (2") silty dk grey clay

314.6 - 316.4 silty dk grey clay

316.4 - 317.4 3rd rd 1/2 way, along
C-gr: dk 7/4 3/4 toward
thin partings

317.4 - 318.4 3rd rd 1/2 way, along
v 3/4 (50% + brush)
v 3/4 (50% + brush)

321.4 - 325.0 23, dk 7/4, along "grey"
v 3/4 (50% + brush)
324.9 (1")
327.5 (1")
331.0 (1")
331.5 (1")
331.7 (1")

335.4 - 335.5 23, dk 7/4, along "grey"
v 3/4 (50% + brush)

335.9 - 341.0 31, dk 7/4, along "grey"

341.0 - 350.0 Sh. 1.5; 2.0; 3.0; 4.0; 5.0; 6.0; 7.0; 8.0; 9.0; 10.0

342.6 - 342.8

Fe spec 347.1 - 2")

347.1 - 1/2")

347.1 - 1/2")

351.9 (1")

351.9 (2")

352.3 (1")

353.6 - 353.6

341.0 (1")

341.3 (1")

343.4 (1")

342.8 (2")

343.6 (1")

344.3 (1")

356.0 - 363.6 Sh. dk grey, clayey;
many fossiliferous;
thin, pebbly beds

363.6 - 364.7 Sh, dk grey clay, ²/₂ grey
low 40% red sand
5 lbs

365.0 - 370.0 Sh, dk grey clay, clayey
with some red sand
365.3 (1")
Fe. band 365.3 (1")
365.3 (1")

370.7 - 373.7 Sh, dk grey clay, clayey
with some red sand
371.5 (1")
373.3 (1")

373.7 - 385.7 Sh, dk grey clay, clayey
with some red sand
381.5 (1")
383.3 (1")
385.4 - 385.7 - several

385.7 - 389.0 Sh dk gray, clay
w/ silty; 388.0-389.0

389.0 - 390.0 silty, med dk gray, clay
w/ silty; 389.0-390.0

390.0 - 396.6 Sh, med dk gray, silty, clay
w/ silty; 390.0-396.6
sh parting @
393.7 1/2" }
393.8 1/2" }
~~394.0~~

396.6 - 398.1 Sh, dk gray, silty, clay
w/ silty; 1/2" 40%
med dk gray silty

398.1 - 398.7 silty, med dk gray, clay
w/ silty; 398.1-398.7

398.7 - 400.0 Sh, dk gray, silty, clay
w/ 10% silt

404.6 - 403.2 SS, dk grey, silty, shaly
No sh's - unusual in this part

403.2 - 401.8 SS, dk grey, silty, shaly
No sh's

401.8 - 400.0 SS, dk grey, silty, shaly
No sh's - 2' sh's dk grey - sh

400.0 - 411.3 SS, dk grey, silty, shaly
No sh's - 2' sh's

411.3 - 412.4 SS 35 above - salted
+ phosphite celitic to granular
No sh's - increased to 10%
2' sh's above passing at base

412.4 - 414.0 Phosphite, dk grey, silty, shaly, celitic
~~to probably not~~ trace
of early laminae - all very thin

414.0 - 415.3 SS, 1/2 to 1/4", silty,
fine grained, 2-3% to 4% calc
phosphate
3'

415.3 - 415.4 dk gray, fine grained, silty

415.4 - 415.7 phosphatic, calc. gr., silty,
silty, calcitic, many granules
etc. - coarse. - low resist

415.7 - 416.3 SS, calc. ^{silty} silty, phosphatic,
calc. gr.; 20% phosphatic
grains 400's - pyritiferous
partings

416.3 - 416.5 phosphate ~~st~~ calc. gr.,
silty, silty, calc. gr., to sample
fluorite" transition (siderite)
pebbles to 1" long

416.6 - 417.0 SS, calc. (1/4") silty,
silty, calc. gr.; scattered
phosphatic grains;
pyritiferous; dk. gr. 54
partings @ top & middle (1/4") base (1")

417.0-418.5 Phosphorite, med-gy, limy,
 silty, calc. dk gy sh
 partings @ 417.2 (1/4")
 417.8 (2")
 418.1 (1/2")
 418.3 (1/2")
 418.5 (1/2")
 pebbles to 1" long - similar

418.5 - visit - ss, med-gy, limy, silty
 phosphatic, dk gy,
 scattered phosphatic cals.

418.7-423.1 phosphorite, med dk gy, limy,
 v silty, silty, calc, pyrite

423.1-423.3 - same as above

423.3-423.6 phosphorite as above

422.6 425.7 ss, med-gy, v silty,

fasten partings of bl limy, v fgr, pyrite, thin
 layers to 1/4" in lower part
 dk-gy sh laminated partings

425.7 - 430.0 Sh. dk gray, ~~tan~~, clayey;
x-bedded in massive bedding
v. thin to approx 1" ^{vertical} thin
in some part "any joint
irregularly spaced

430.0 - 433.0 Sh. dk gray, clayey;
x-bedded in massive bedding
wavy bedding surface

433.0 - 438.1 Sh. dk gray, phosphatic(?)
wavy, x-bedded; calcified
about tops of wavy
conglomerate rock (any
bc. bottom reads in
part)

438.1 - 438.3 Conglomerate, dk gray
v. thin; massive bedding
1/2 pebbles 3" long;
3/4" pebbles; contact w/
B below sharp

\$38.5 Fund ... and 29, 50/100
... ..
... ..
... ..

72 \$38.5