



**SOKKIA™**

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FIELD BOOK**

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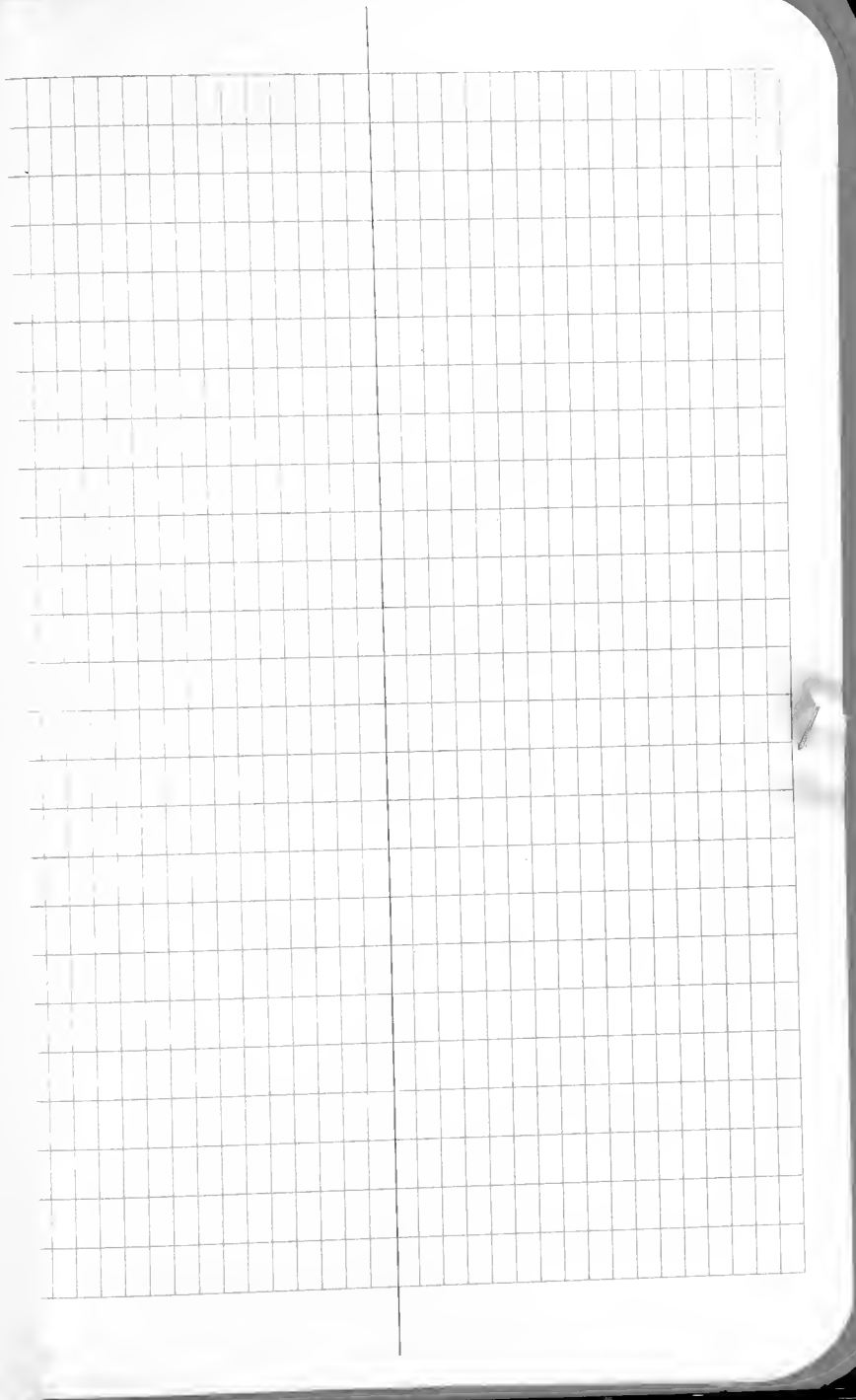
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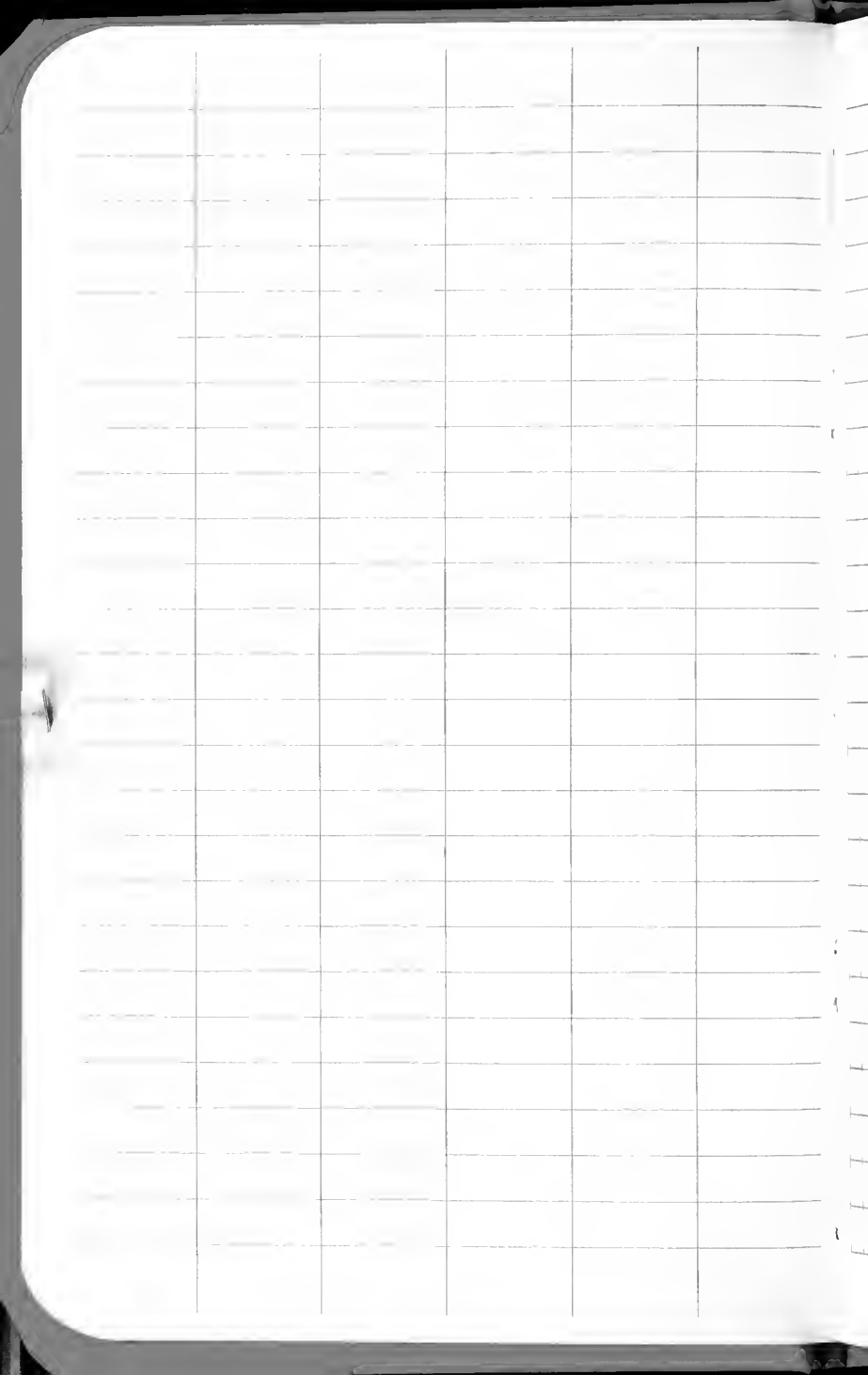
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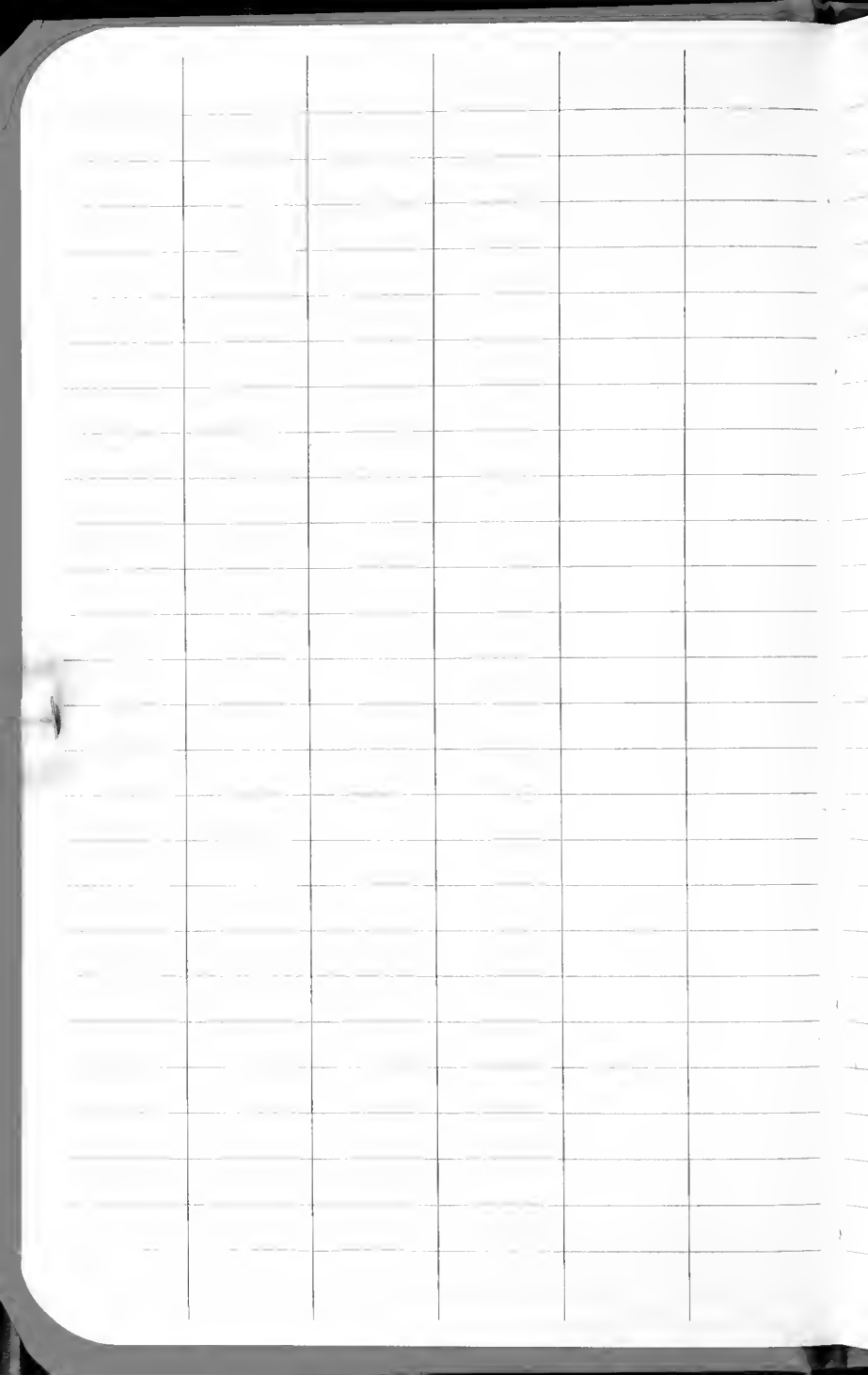




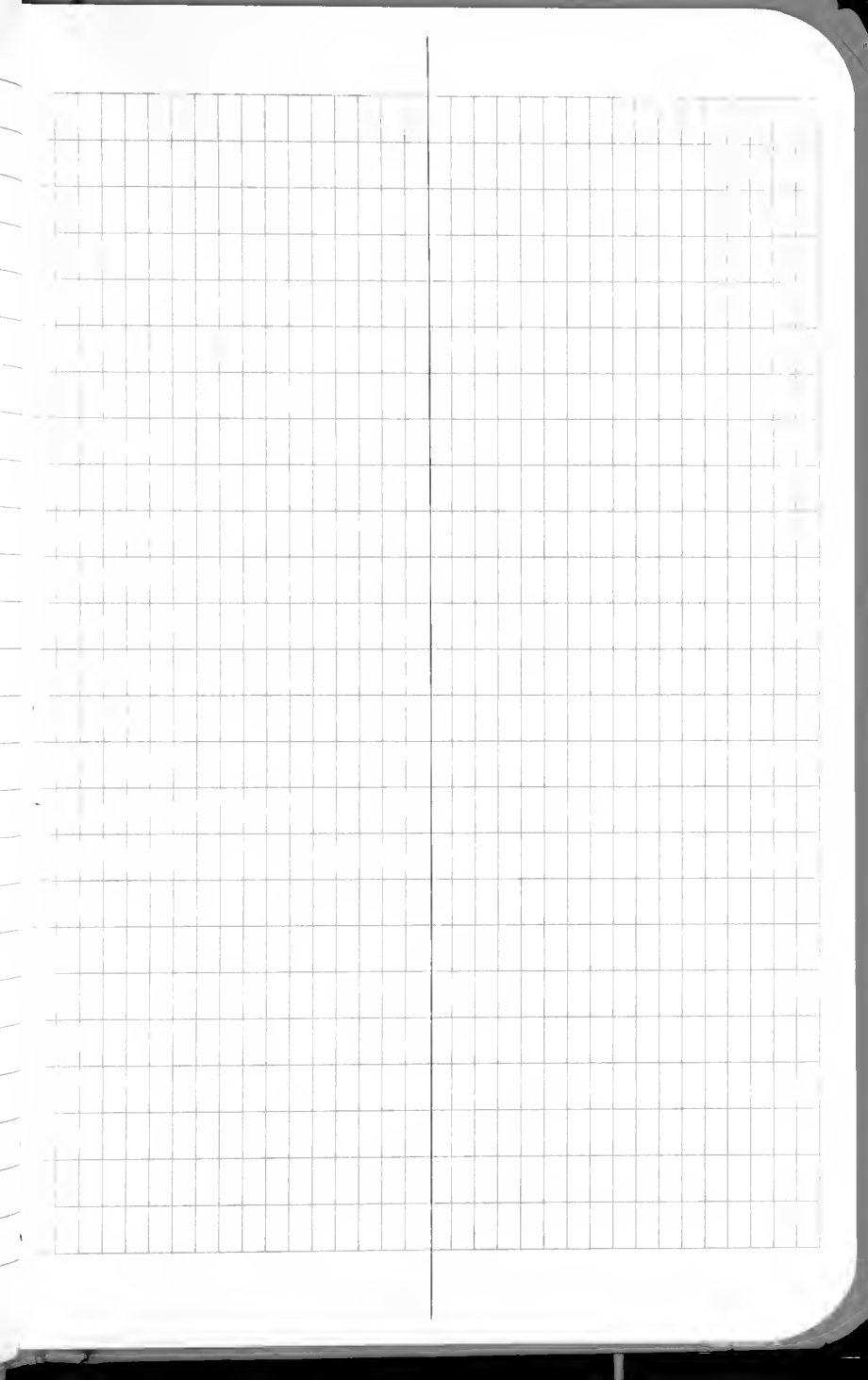




This image shows a blank sheet of graph paper. The paper is white with a grid of small squares. A vertical line is drawn on the right side, creating a margin. The grid consists of 20 columns and 30 rows of small squares. The margin line is positioned approximately 10 squares from the right edge. The paper is otherwise empty of any text or markings.



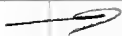




Brunton set at  
0° Dec.

$$HCM = 10M$$

$$1 \frac{19}{32}'' = 10M$$



980-H

6/18/98

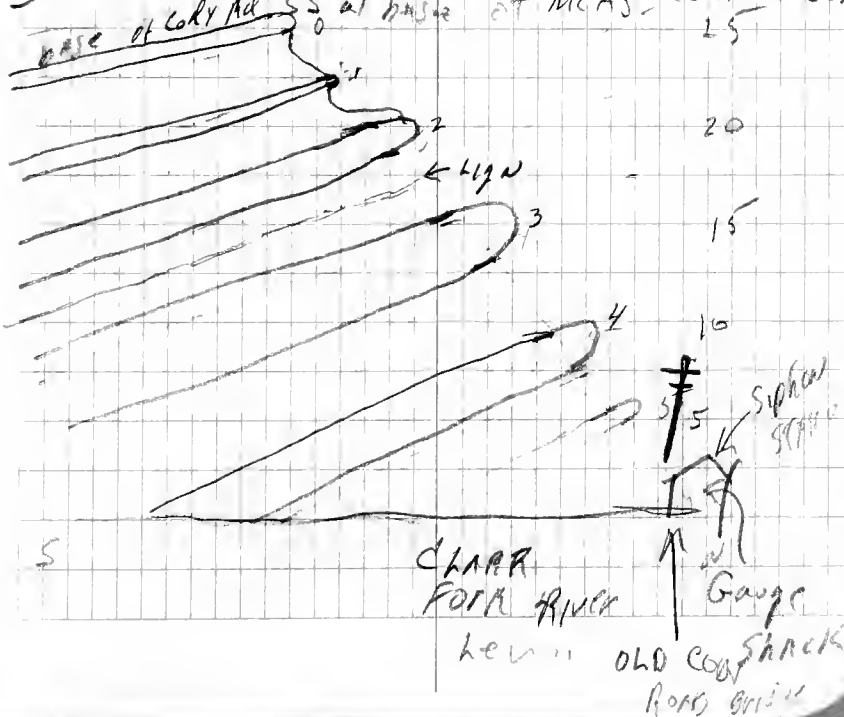
# Cody Roadcut

NEXT SS above the leaf bearing unit  
abt 0.5m above road

Pedogenic STRS. in SS.

Round nodules to abt 1" in dia. I would have thought there were  
RID UP CLIFFS

9805 - River Bank below N Cody Road  
base of Cody Ad<sup>15</sup> SS at house at MEAS. Cody R. Sec. 25



9806

6/18/98

PUMPING STATION AT  
DHD CORY ROAD CROSSING  
NW, NE, Sec 27 T8S, R 22 E, Carbon Co.  
MT.

SHOT TO STRIKE OF  
Belfry Mbr.  
156° (0° Dec.)

THIS PUT <sup>base of</sup> CORY ROAD  
SECTION AT base of  
Belfry Mbr.

9807 Head of Hollenbeck Draw,  
NW, NW 34, T9S, R. 22 E., Carbon Co.  
Double X SS. Wyo.

Concretion ~~above~~ directly  
above the 2nd Double  
X SS. in a deformed  
marl.

9808

C/18/98

NW 1/4 Sec 36 T9S, R 22E, CARBON CO, MT.

Top of Hallelujah II on  
Big Nose.

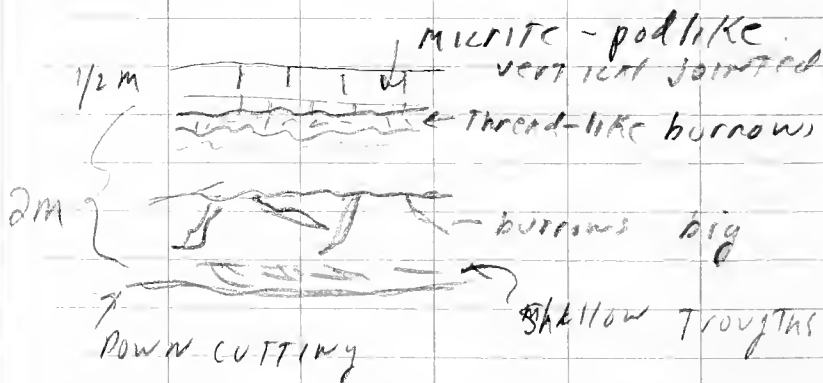
SS. UNIT at top of

Hallel II package

abt. 2 m THICK

Shows bioturbation &  
ripple marking.

Five burrows below micrite



9809

6/19/98

AT PUMP STATION

AT CROSSING

of

Rd. ~~PAV~~

CLARK'S FICK, WEST BANK AT

9806

6/19

COXY ROAD

Sec 9809

SECTION STARTS PUMPING  
STATION  $\approx$  1M ABOVE CLARK'S FORK  
RIVER

SE, NW, Sec 27, T8S, R22E, Carbon Co. MT.

1 1/2 m INTERVALS

0 SECTION STARTS 1M  
ABOVE LEVEL OF CLARK'S  
FORK RIVER ON N SIDE  
OF PUMPING STATION  
COVERED - POORLY  
EXPOSED INTERVALS TO  
BASE OF SS.

1.90m INTERVAL MARKS TOP  
OF "6" WHICH IS AT  
LEAST 2 M THICK

3.30m TOP OF "5"  
 $\approx$  50 cm THICK

2.5m TO BASE OF "4" WHICH  
IS 2.04 m THICK

6.20m TO TOP OF "3"

~~1.1~~ | 1.5 + 1.80 | 1.5 + 1.80 || 1.20 || 1.31 | 1.20 + 1.0



"3" IS AT LEAST  
2.15 m THICK

4.37 m TO BASE OF "2" WHICH IS  
2 1/2 M THICK  
(REDUCING DIP FROM 7° TO 4°)

2.5 m TO BASE OF "1"  
WHICH IS 1 m THICK

2.58 m TO BASE OF "0"  
WHICH IS 2.19 m THICK

1 + 1/2 + 1 + 0.09 m + 0.69 m

Sec 9809

SECTION STARTS 1m above level of  
Clarks Fork River on N. side of  
Pumping Station located on W.  
BANK just S. of bridge of  
Hotzum Rd.

INTERVAL

0 Start of Sect at 1 m. above  
river level. Most of interval  
covered, showing thickness  
of Sect. only.

6m. Base of lowest SS. in  
exposure, designated as  
"6" below 0 SS which is  
basal SS. of Sect. of  
~~Wright~~<sup>Hickey</sup> et al. 1986. (Colx  
Road Cut.)

1.98 Top of "6" SS.

2.88 Base of "#5" SS. Brown  
thin bedded, flaggy SS.

3.38 Top of #5 SS

2.5 Base #4 SS. Interval of  
fine grained clastics  
covered. #4 SS thin

INT.

Sec. 9809

bedded to Thinly laminated  
f to m. g. SS. color tan to  
buff w/ ripples or small  
scale x-lamination in  
several layers.

2.04 Top #4 SS.

4.0 Approximate base of #3  
SS.

Similar to #4 except  
not as well exposed  
some prominent layers  
~ 1-2 cm thick, of  
weathers to rounded  
knobby appearance.  
Thin interbeds of  
less resistant, silt  
SS.

2.2 Top of "#3" SS

4.37 Interval of fine grained  
seds., ll bedded w/  
~ 15 cm. bed of lignite  
~ 2.25 m above base  
top of interval is base

- of "# 2 SS"
- 2.75 ~~"# 2"~~ SS More MASSIVE SS  
w/ set 30-50 cm THICK  
of Thin, med. scale X-  
bedding, w/ some interbeds  
of UNLaminated or disturbed  
Knobby layers.
- 2.5 Base of "# 1" SS  
SS, lower half is //  
laminated SS overlain by  
10 cm. of less resistant  
SS. w/ flaggy parting,  
Thin beds 1/2 to 1 cm  
thick; upper half dominated  
by medium scale rough  
X-bedding.
- 1.0 Top of "# 1 SS",
- 2.58 Base of "# 0" SS. & base of  
"Cody Road" Type section  
of Hickey et al, 1986.

Loc 9810 Li

6/20/98

Limestone Paradise Loc 9716

Center S<sup>1</sup>/<sub>2</sub>, NE<sup>1</sup>/<sub>4</sub>, Sec 32, T. 58N, R. 100 W  
Park Co., WY.

Coal P.C. Threat of DRAIN

Above ~~80m~~ 80m SS MZ SS

Micrite concretions  
separated by about 2-3m.

These are gradational  
both vertically &  
laterally to a laminated  
limy shale.

Laminae are oft-w  
rippled or flat.

Photos - 1 of Limestone Paradise  
2. Detail of basal contact  
of ls. con.

About 1.5m below top of  
cones "Thread" like burrows  
occ. in a ripple drift

9810 (CONT)

SS. †

Sec. 9810

Detailed section through  
80m Cycle (Roller Derby)

9810 a one sample labeled  
9810 3a  
Aquatic  
a = plant horizon 0.3m  
below carbonate rich

UNIT #3 of SECTION  
0.2 below downcutting  
calc. channel

IN SECTION

1.6 - 1.1. PLANT beds

Charophycae

MONOCOT lvs.

Mollusks (PULMONATE snails)

Fish scales

1 poor *Cercidiphyllum*  
leaf frag.

# 9811 Epiphany Pt Section

9711

over in

Sec.

Sample levels plotted on Sec. 9711

Sample 9811-01

54M

Micrite above The  
1st Council

Sample 9811-02

65M

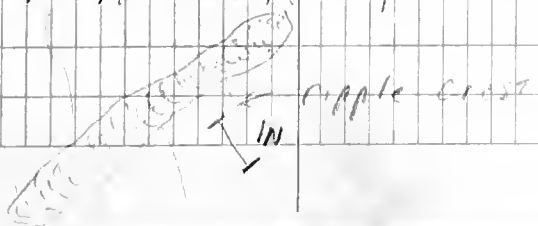
Ferruginous micrite.

Ripple marks sinuous  
ripple drift  $185^{\circ}$  (uncorr.)  
Secor reading  $213^{\circ}$  just below  
1st.

Sample 9811-03

Micrite above 110 SS or  
Hallelujah ~~SS~~

Top of Hallelujah ~~SS~~  
strongly ripple marked  
& w/ large burrows  
& horizontal pine con.



Some burrows 1" in diameter.

level 1171 Thin br. Kashi  
ss. laterally w/ orange  
wh sandy micrite

concs. to 3' in diam.

Sample 9811-05



9812 CONTINUATION of 9711

Epiphany pt. SECTION

IN NE, NW, Sec 32, T58N, R100W, PARK Co.

START AT TOP of 130' SS. WY.

EIM BASIN, NW QUAD. 7 1/2'

9813

~~Sec 14~~

- D

NW<sup>1</sup>/<sub>4</sub>, SE<sup>1</sup>/<sub>4</sub>, NE<sup>1</sup>/<sub>4</sub>, Sec. 14 T57N., R160W  
~~OTM~~ Park Co., WY.

Fluvial Mbr of F. V.  
Fm.

Tiffanian

Sequence of dark TAN  
to gray mudsts.

w/ sideritic nodules  
and lenticular channels  
of ss (ind. x bedded.)

# Correlation of SS. Units.

- #2 Blazing SS.  
#1 Rosetta (?)  
#0 130 \ Hallelulah II \ 22 JPL  
M-1 110 m \ Hallelulah \ (Piss) PUB  
M-2 \ 80 m \ Roller Derby (?) \ Access Rd (?)  
M-3 Council / Double cross

9814.

6/21/98

CAPSTONE BUTTE

NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>, NE<sup>1</sup>/<sub>4</sub>, Sec 3, T 57N, R 100W

#1 SS CAPS BUTTE

Park Co., Wyo.

#0 SS FORMS APPROX.

ON ELK BASIN

NW 7<sup>1</sup>/<sub>2</sub>.

Mapped.

9815

6/21/98

Hill 4905 SW, NE, NE, Sec 3  
T. 57N, R. 100W Park Co.

SW 1/4, NE 1/4, NE 1/4, Sec 3.

MICRITE 0.5m THICK below  
a rusty ferruginous  
bedded ss 0.25m THICK.

Equated w M-2

0.25 ———— ss  
0.5 ———— micrite

—————  
—————  
micrite. 1m.

M1

9816

Center, W line, NW<sup>1</sup>/<sub>4</sub> Sec 2  
T 57N, R 100W, Park Co., WY  
Eik Basin NW<sup>7</sup>/<sub>2</sub>'

Sideritic concs above M3

Sandy, sideritic micrite  
between M3 & M2

Top of lower Council SS -

180° ± 160° (uncorr decl.)

1 m thick micrite below  
lower Council

---

Note M3 should occur  
in Tel poles c ad road to  
Scorpion Gap. from  
Crossing labeled (1)

9817

On MILVITA ridge

SE $\frac{1}{4}$ , NW $\frac{1}{4}$ , NE $\frac{1}{4}$ , Sec. 2, T. 57N, R. 100W

M-8 of Council 15, M3

ELK BASIN NW. 7 $\frac{1}{2}$ '

9818

6/22/98

Shell bed in upper Lebo or  
Scorpion Hollow Rd.

S



9819

6/22/98

Fine Day.

Top of Ridge, Scorpion Pass.

MICRITE Ridge Bed. (15.)

becomes less well defined  
from its high pt on  
ridge about 400' W of  
Road X-ing of ridge.

Strike of bed abt  $118^{\circ}$

MICRITE in IT now  
pinky & limonitic  
SS is thinning.

Tabulariry of section

below M-3 is local on  
order of a few kms. NOT  
basin-wide.

9820

Double Cross SS

Dip on top of upper  
SS.  $8^{\circ}$

9821 ~~SHORT~~ <sup>SHORT</sup> GRASS POINT  
LITTLE NOSE SET.

Rod notes

AT 8m Turned at N74  
dip on level 50 to SW

AT 66.87 Reduced dip to  
3 1/2° SW

6/23 Resuming measurements of  
on 9821 on #0 NW 24  
Short Grass Lunch Bowl  
Dip now 6° SW

Re zeroed on top of # M1

9822

6/23/98

DN #1 SS IN SW, SE, Sec 11  
T57N, R100W, PARK CO., WY.

ELK BASIN, NW  $\frac{7}{2}$

INTERVALS between 0 - #1 - #2

Very thin, NO MICRITES  
ONLY LIMCY SITST

SS RUSTY, ferruginous  
CONTRIBUTED & CHANNEL  
bedded.

This is the RUNNING OUT  
of the upper sequence  
southward.

NO MICRITE IN #1 & #2

Vector on trough  
As bed in seq. in #1  
90° (uncorr.) vector on trough

FIRST fluvial CHANNELS  
APPEARS

9821 Extended walking toward  
top of section at 9823 down dip slope.

Top of #2

occasional thin  
micrite pods in 0.25  
m above it on  
dip slope

Top of section

First fluviol ss

1.7 m above #2

med gr. brown lenticular  
& bedded. 1.16 m thick.

This is top of Sect 9821

This is fluvi. mbr

Obs. of micrite on #2 contradicts  
obs of no micrite made initially  
at 9822

9823 top of fluvial  
ledge at top of Sec. 9821  
Short Grass Point.

NE, NW, Sec 14, T 57N, R100 W,  
EAR PARK Co, NY.

See note on top of Sect. 9821  
on previous page

9824 Lake Shore Draw

Southernmost outcrop of  
Belfry Member - 0 beds

Three thin ledges of

Flaggy TAN SS to 0.25m

thick interbedded w/

calc shale laminated

shale interval ~ 2m thick

of 0.

Immediately above top SS

ledge is typical soil

profile + lenticular SS

+ siderite nodules of

Fluvial mbr

12° SE Dip.

NW corner, sec 30, T57N, R99W

EIK BASIN 7'12

OUTCROP IN DRAW.

9825 DRAW ON CENTER W LINE  
Sec 30, T 57N, R 99W, PARK CO,  
WY.

EIK BASIN 7'12 Q.

TYPICAL FLUVIAL SEQUENCE EXPOSURE;  
NO TRACE OF LACUSTRINE MBR.



9826

6/24/98

On Divide between S &  
N Fork of Long Draw  
S. Facing slope

At base of Double X  
micrite

SW  $\frac{1}{4}$ , NE  $\frac{1}{4}$ , Sec. 8, T 9 S, R 23 E,  
Carbon Co., MONT.  
Long Draw 7  $\frac{1}{2}$  Quad.

9827

6/24/98

NE 1/4, SW 1/4, Sec. 31, T 8 S, R 23 E,  
Carbon 60, Mt. Long Draw 7 1/2' Quad.

PLANTS in lign. seq.

INT grades upward  
to a micrite 10' 1m

MICRITE 1m THICK

PLANTS ~ 0.2m above

TOP of Council SS.

(Double X)

PLANTS *Limoniochloa*

SOUL. 7

Cercid (poor

leaf frags).

9828

NW 1/4, SE 1/4, SW 1/4  
CARBON Co., MI.

6/24/98

Sec. 31, T 8 S, R 23 E  
Long Draw 7 1/2' 9

Shooting from top of

Double X to top of

ESCARROT SS 4.0 HI top

BMC 3.6 HI

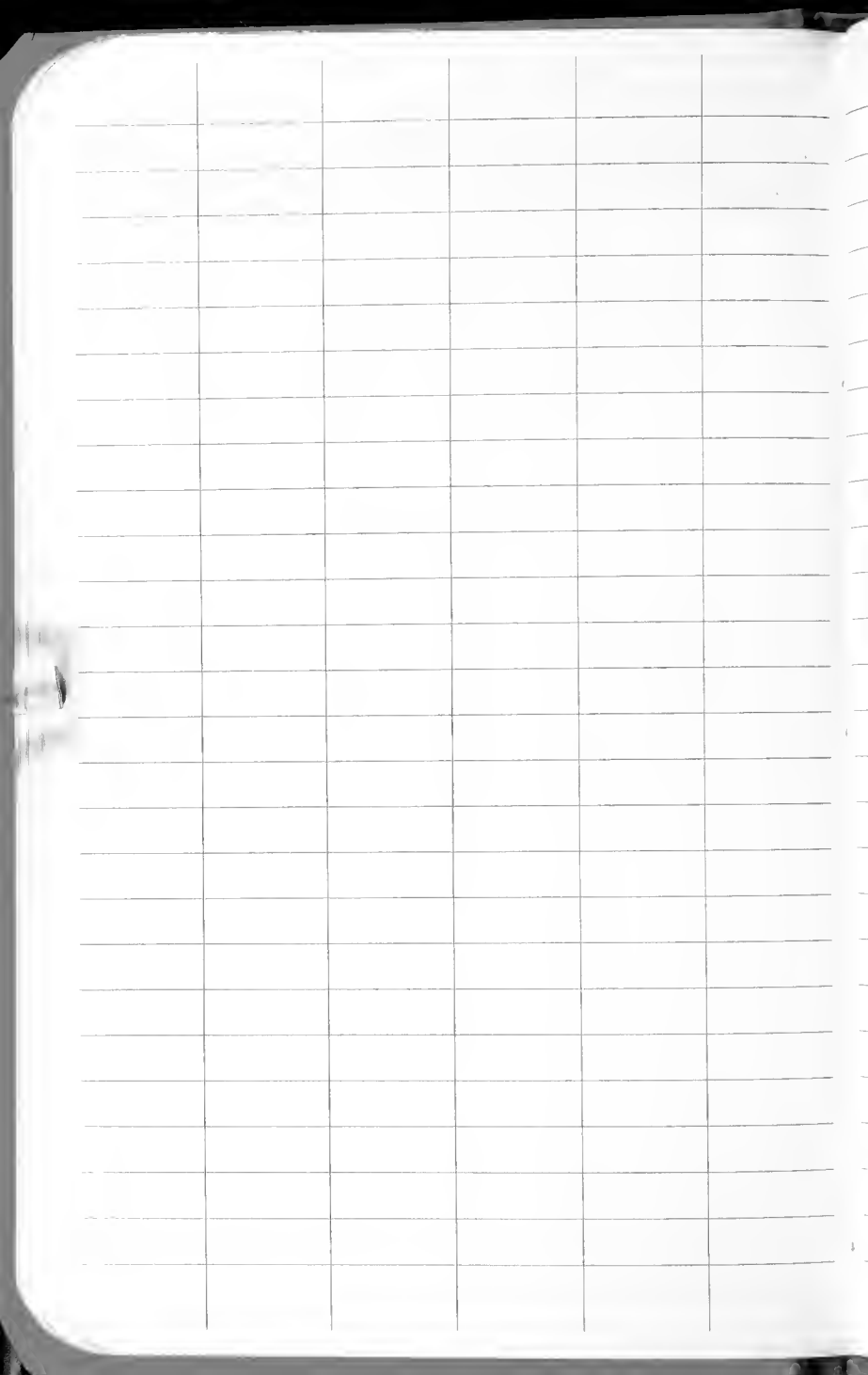
HI @ 5.5'

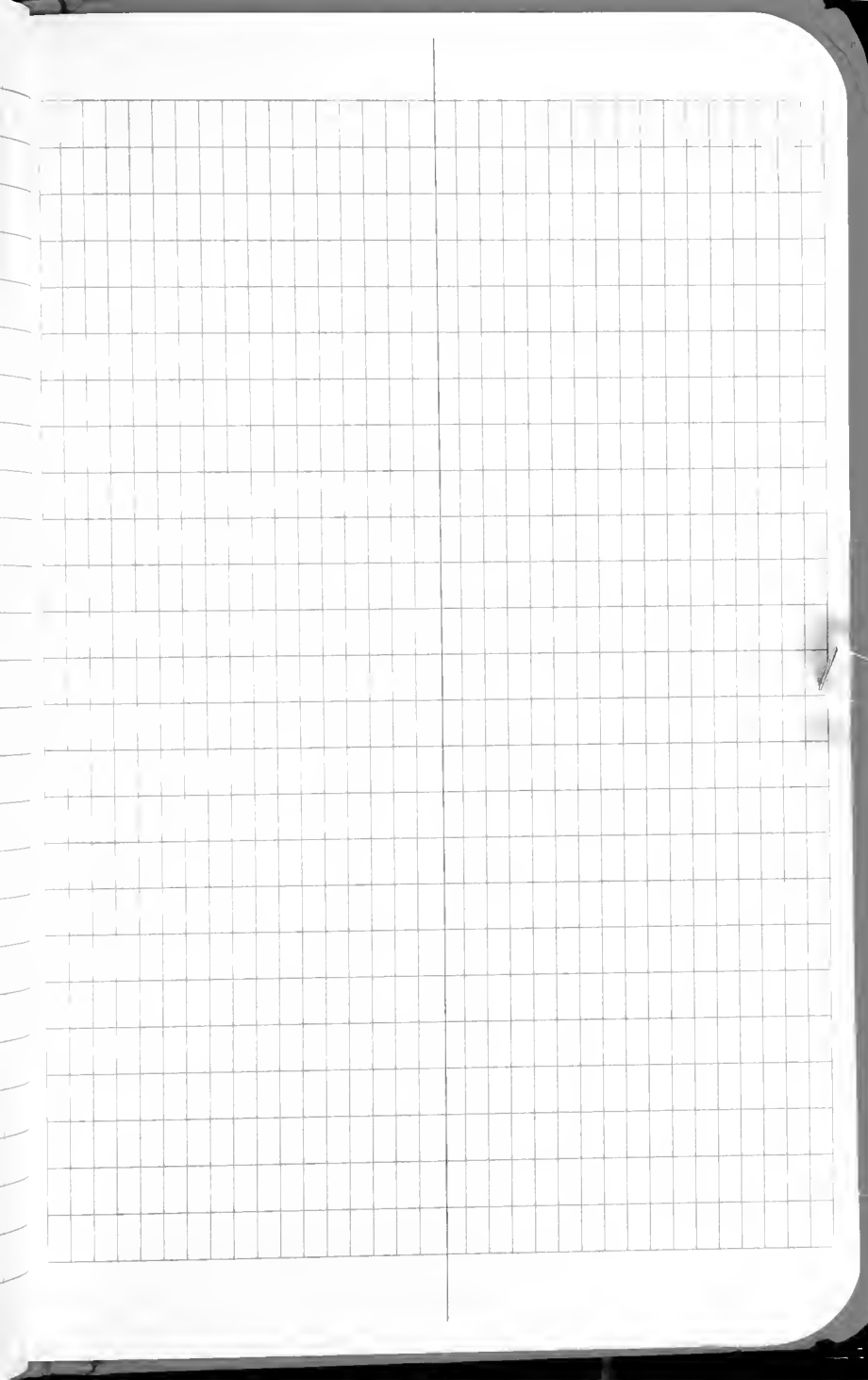
ESCARROT head loose

with wear being in

under SS.

↓  
friable







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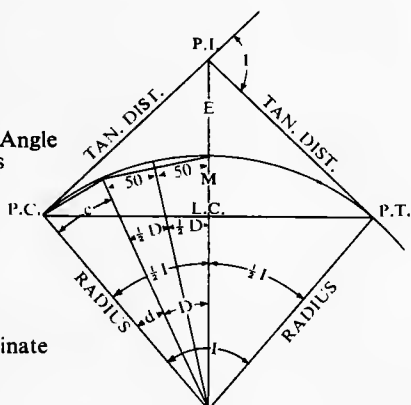
Left page blue horizontal lines; red vertical lines.

Right page 4 horizontal and 8 vertical blue lines; red vertical center line. Pages numbered and perforated. Carbon paper.



## CURVE FORMULAE

- D** = Degree of Curve  
**1°** = 1-Degree of Curve  
**2°** = 2-Degree of Curve  
**P.C.** = Point of Curve  
**P.T.** = Point of Tangent  
**P.I.** = Point of Intersection  
**I** = Intersection of Angle, Angle between Two Tangents  
**L** = Length of Curve, from P.C. to P.T.  
**T** = Tangent Distance  
**E** = External Distance  
**R** = Radius  
**L.C.** = Length of Chord  
**M** = Length of Middle Ordinate  
**c** = Length of Sub-Chord  
**d** = Angle of Sub-Chord



$$R = \frac{L.C.}{2 \sin \frac{1}{2} I} \quad T = R \tan \frac{1}{2} I = \frac{L.C.}{2 \cos \frac{1}{2} I}$$

$$\frac{L.C.}{2} = R \sin \frac{I}{2}, \quad D 1^\circ = R = 5730, \quad D 2^\circ = \frac{5730}{2}, \quad D = \frac{5730}{R}$$

$$M = R (1 - \cos \frac{1}{2} I), \quad = R - R \cos \frac{I}{2}$$

$$\frac{E + R}{R} = \sec \frac{I}{2}, \quad \frac{R - M}{R} = \cos \frac{I}{2}$$

$$c = 2 R \sin \frac{1}{2} d, \quad d = \frac{c}{2R}$$

$$L.C. = 2 R \sin \frac{1}{2} I, \quad E = R (\sec \frac{1}{2} I - 1), \quad = R \sec \frac{I}{2} - R$$

### Minutes in Decimals of a Degree

1'	.0167	11'	.1833	21'	.3500	31'	.5167	41'	.6833	51'	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

### Inches in Decimals of a Foot

$\frac{1}{16}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729
1	2	3	4	5	6	7	8	9	10	11
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167

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