

IOWA GEOLOGICAL SURVEY  
In Cooperation with U. S. Geological Survey

W-0682

RECORD OF WELL

Location:

Town: Holy Cross (NE) County Dubuque  
(SW)

NE/4 sec. 19 T 90 N., R. 1 W. Concord Twp.



Well name and number Town Well

Owner Town of Holy Cross Address \_\_\_\_\_

Tenant \_\_\_\_\_ Address \_\_\_\_\_

Contractor C. W. Varner Address Dubuque

Drillers \_\_\_\_\_

Drilling dates Sept. 14 to Nov. 8, 1927

Well data:

Elevations: Drilling curb 1205' feet; Land surface \_\_\_\_\_ feet

Determined by \_\_\_\_\_

Topographic position \_\_\_\_\_

Total depth: Reported 625 feet, Measured \_\_\_\_\_ feet

Drilling method cable

Hole and casing data 442' of 6" pipe + 2' - 440'

Original depth to water \_\_\_\_\_ ft. above \_\_\_\_\_ ft. below \_\_\_\_\_ Date \_\_\_\_\_

Original elevation of water level \_\_\_\_\_ ft.; Source of data \_\_\_\_\_

Sources of water: Principal \_\_\_\_\_; Others \_\_\_\_\_

Production data:

Date \_\_\_\_\_

Static depth to water \_\_\_\_\_ Measuring point \_\_\_\_\_

Pumping level \_\_\_\_\_ at \_\_\_\_\_ g.p.m.

Specific capacity \_\_\_\_\_ g.p.m. per ft. drawdown; Temperature \_\_\_\_\_ °F.

Pump data: Type pump \_\_\_\_\_ Column Dia. \_\_\_\_\_ Length \_\_\_\_\_

Cylinder or bowls: Dia. \_\_\_\_\_ Length \_\_\_\_\_ Suction pipe \_\_\_\_\_

Power \_\_\_\_\_ Airline \_\_\_\_\_

Estimated rate of production: \_\_\_\_\_ g.p.m. for \_\_\_\_\_ hrs. a day

Use of water \_\_\_\_\_

WATER ANALYSES (in parts per million)

Date samples	<u>Dec. 16, 1937</u>			
Sampled by	<u>Bolton</u>			
Total solids	<u>362</u>			
Insoluble matter	<u>8.5</u>			
Alkalinity (Meo)	<u>314</u>			
Alkalinity (Phn)	<u>0.0</u>			
pH	<u>7.3</u>			
Fe <sub>2</sub> O <sub>3</sub> + Mn <sub>2</sub> O <sub>3</sub> + Al <sub>2</sub> O <sub>3</sub>	<u>3.0</u>			
Alkali as sodium	<u>14.6</u>			
Calcium	<u>81.8</u>			
Magnesium	<u>31.3</u>			
Iron (unfiltered)	<u>0.1</u>			
Manganese	<u>0.00</u>			
Nitrate	<u>0.00</u>			
Fluoride	<u>Trace</u>			
Chloride	<u>5.0</u>			
Sulfate	<u>25.5</u>			
Bicarbonate	<u>383.1</u>			
Hardness (ppm)	<u>333.</u>			
Hardness (gpg)	<u>19.5</u>			

Remarks \_\_\_\_\_

Laboratory data:

Sample storage location \_\_\_\_\_

Sample range 0-625 No. spls. 125 No. dupls. & cond. 123 P-6.

Spls. prepared by \_\_\_\_\_ Washed range \_\_\_\_\_ by \_\_\_\_\_

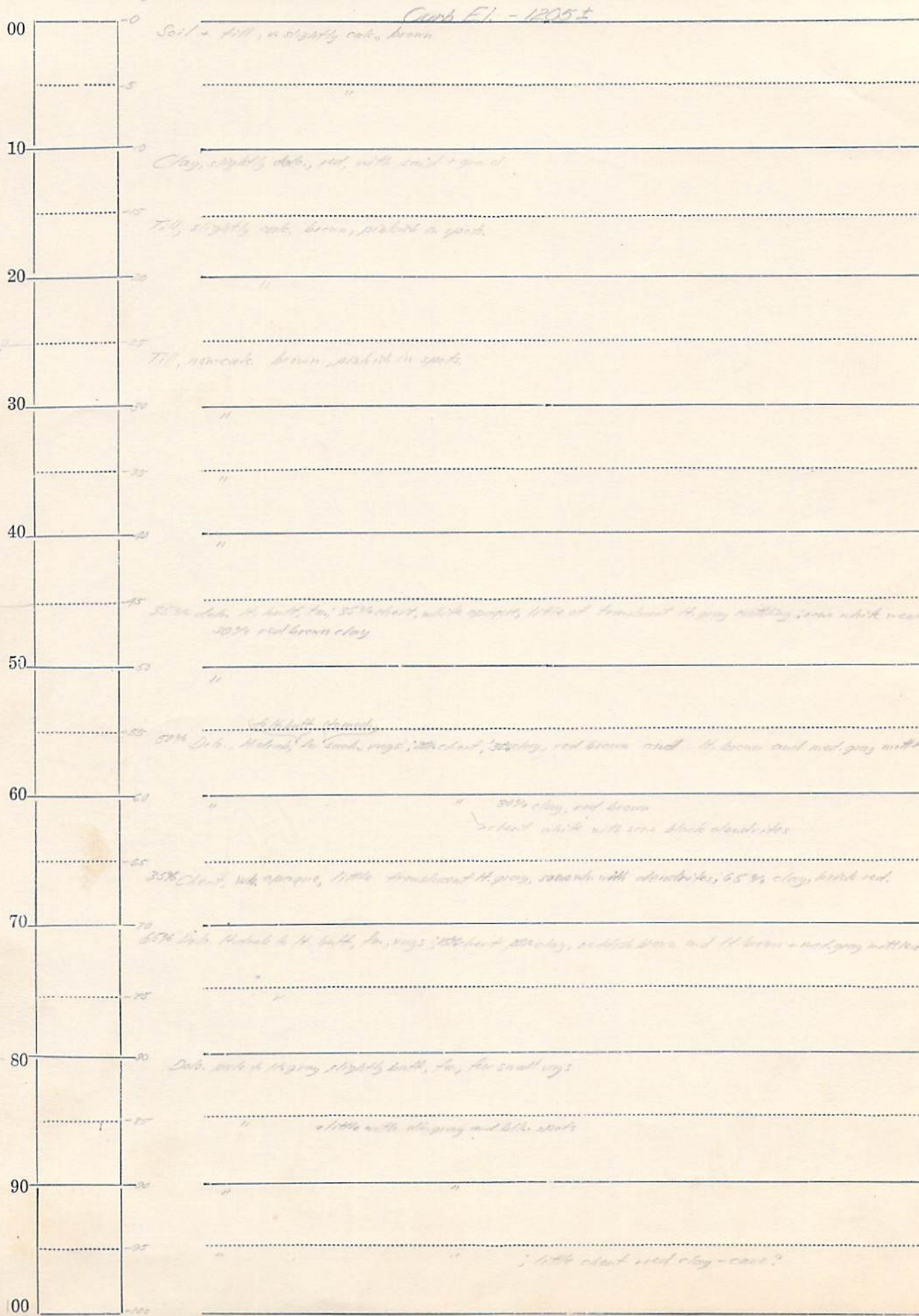
Driller's log and cond. \_\_\_\_\_

Insoluble residues: Prepared by \_\_\_\_\_ Studied by \_\_\_\_\_ Strip log \_\_\_\_\_

Microscopic study Gulf strip log Gulf

Gen. log \_\_\_\_\_ Correl. by Gulf

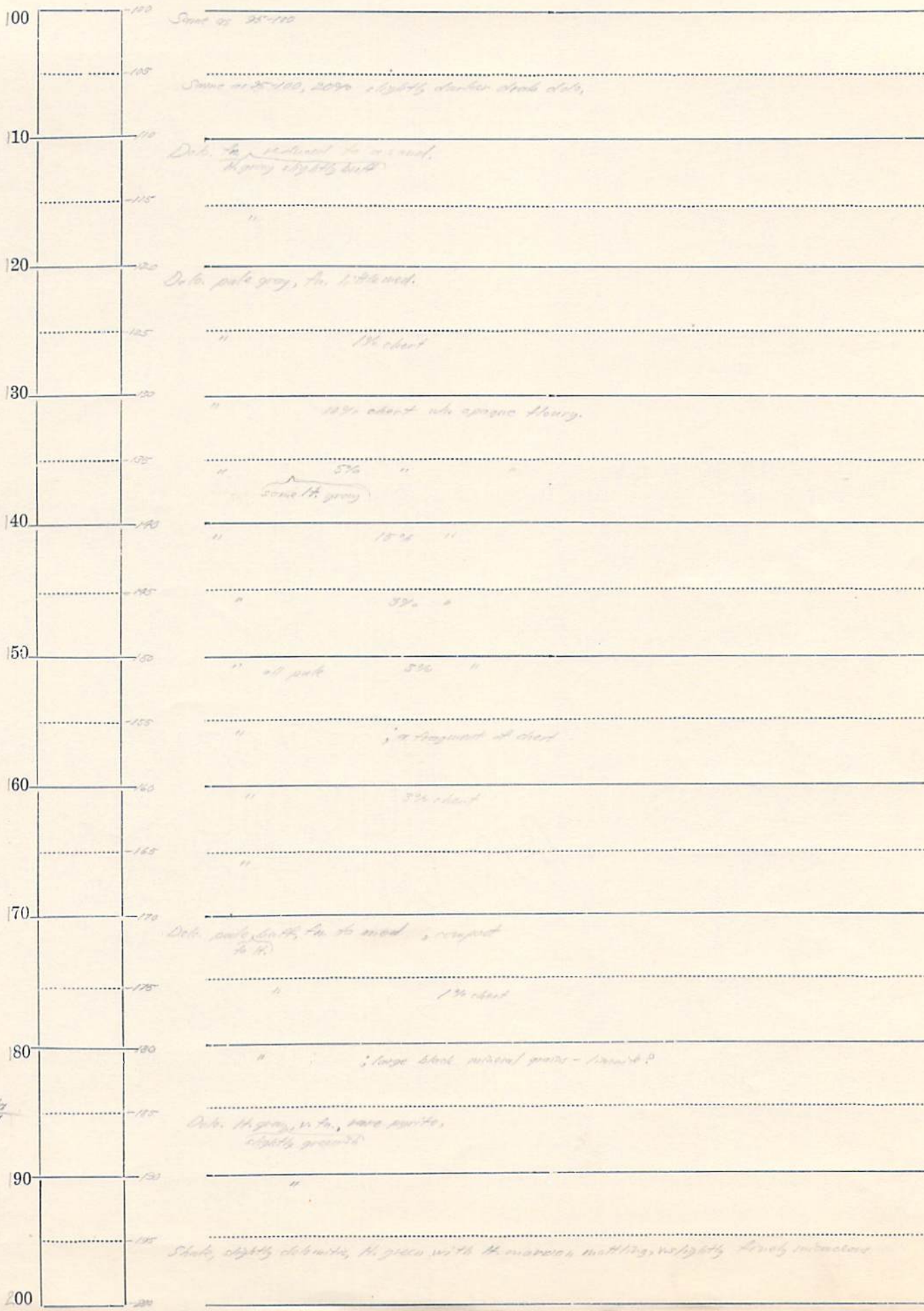
Location Dubuque Co Date Drilled 11-3-57 Analyst M. Elias



*Kansan*  
*glacial*

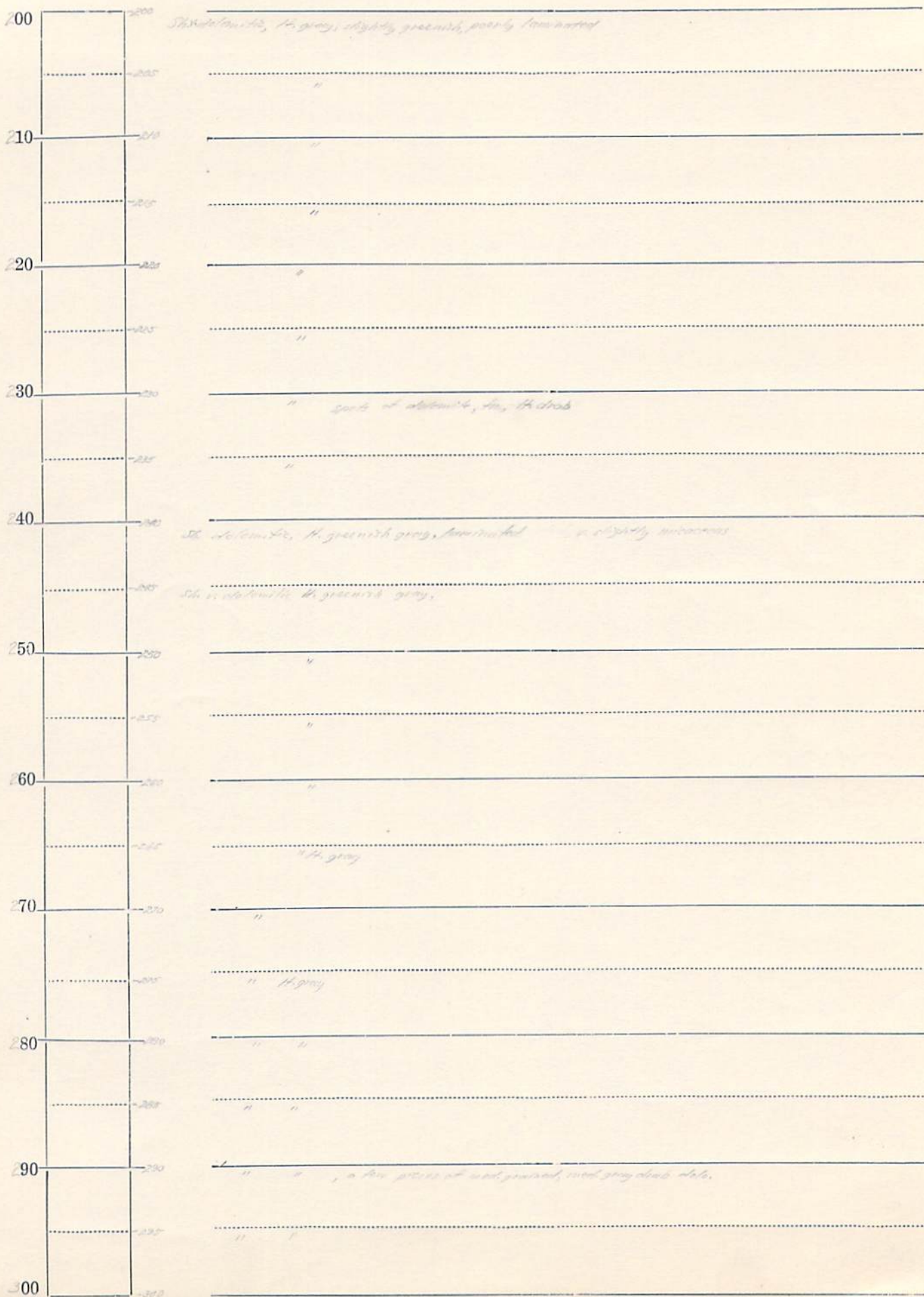
*Hesperian*

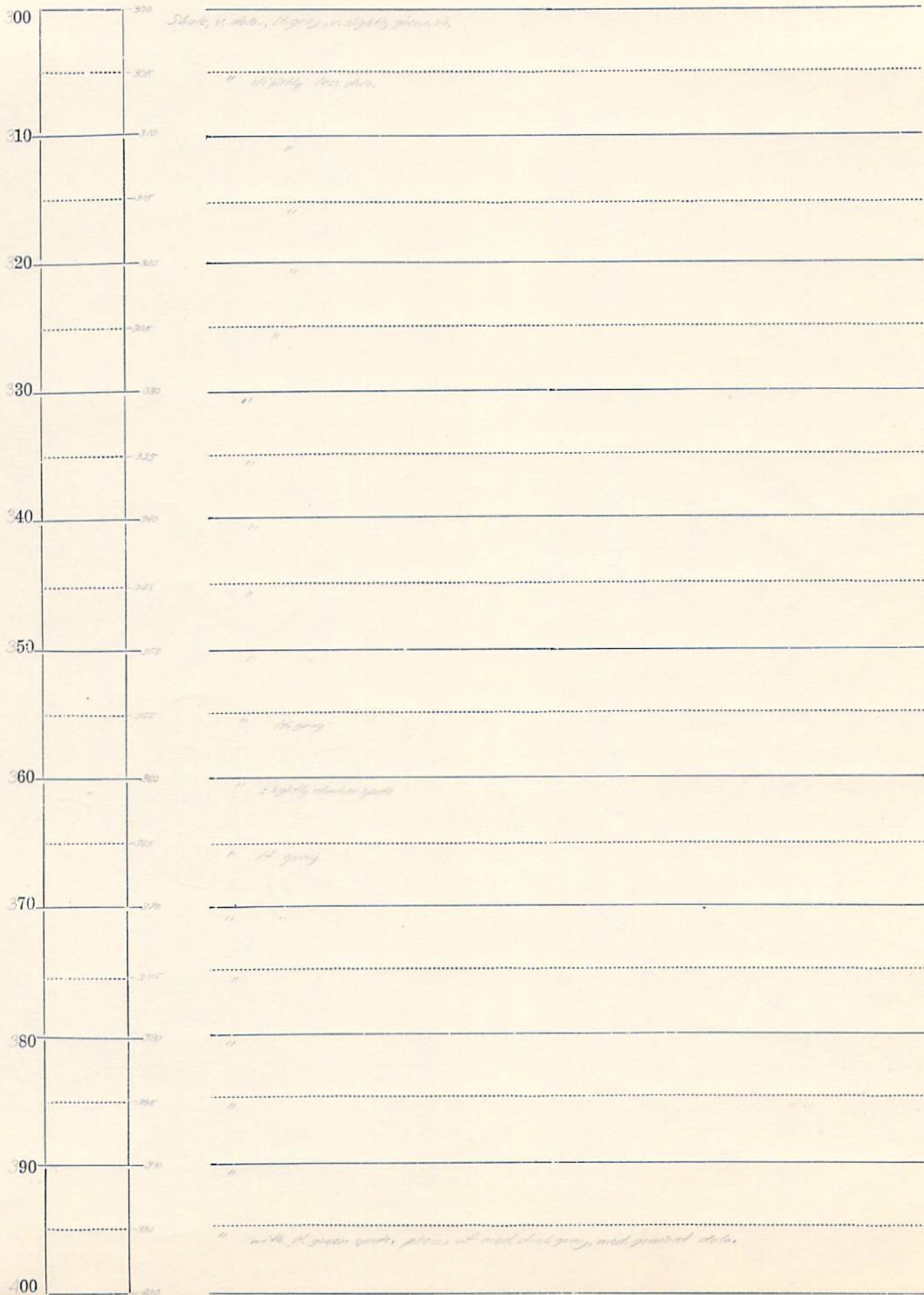
Location Dubuque Co Date Drilled 11-5-37 Analyst M. Elias



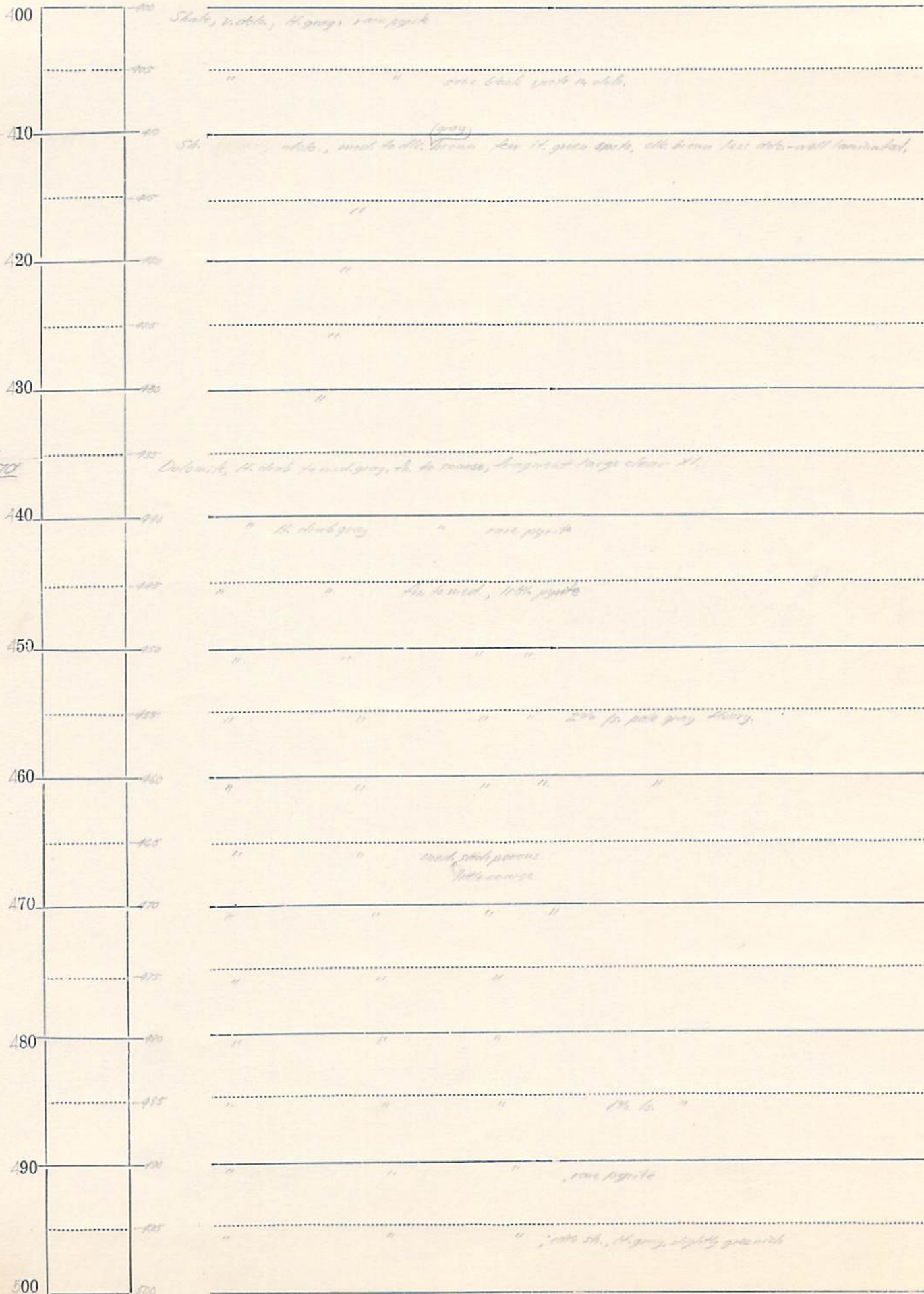
T. Maguokets  
1020'

Location Dubigue G Date Drilled 11-2-37 Analyst M. Ellis



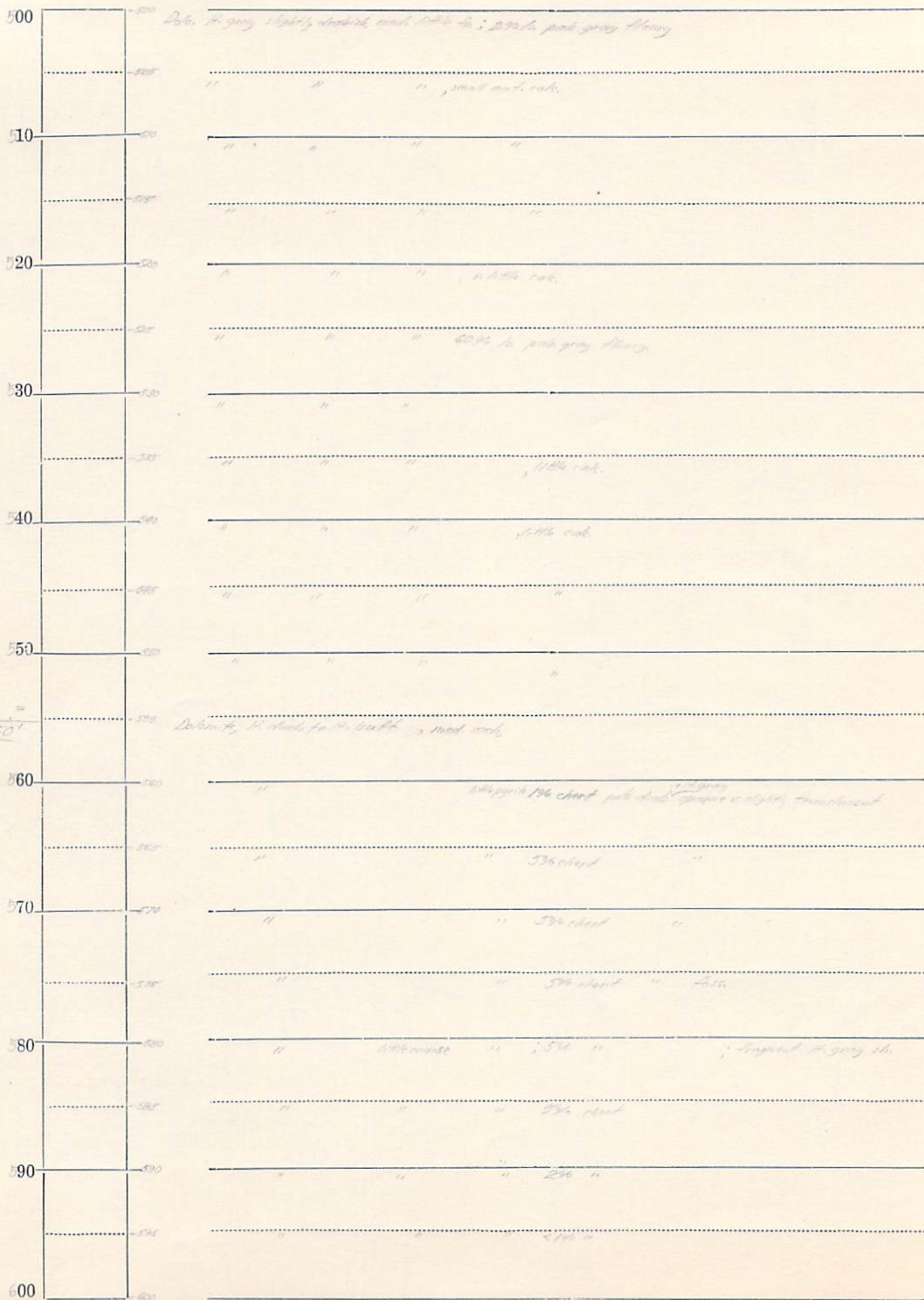


Location Dubuque Co. Date Drilled 11-3-37 Analyst M.F. Mac



T. Gabon  
770

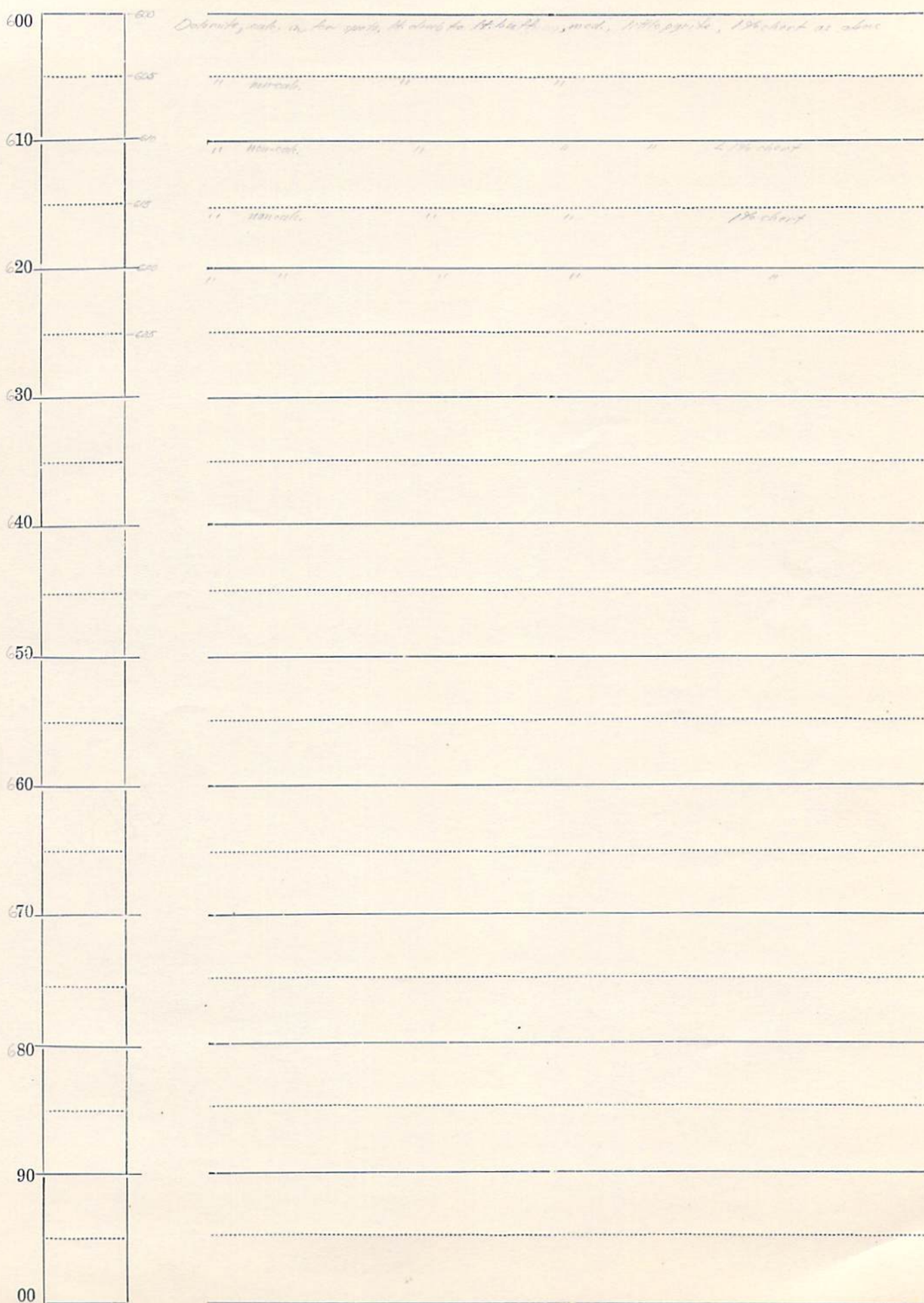
Location Dubuque Co Date Drilled 11-3-37 Analyst M. Elias



T. Prosser  
650'



Location Debuque Co Date Drilled 11-3-37 Analyst M. E. Elias



HOLY CROSS

NE 1/4 NE 1/4 NE 1/4 Sec. 19-T90N-R1W  
Concord twp.  
Dubuque Co.

Date Started 9-14-37

Completed 11-8-37

Depth - 625'

Diameter - 12" to 45', 10" to 94', 8" to 440', 6" to 625'

Casing - 442' of 6" pipe set at 440'

Curb elev. (1205')

Strata Record

Depth

From	To	Thickness	Description of Beds
Top	25	25	Clay and boulders
25	31	6	Lime
31	45	14	Clay and boulders
45	50	5	Rock
50	65	15	Clay and boulders
65	70	5	Clay
70	83	13	Lime, brown, flint, hard
83	98	15	Lime, light brown, hard
98	100	2	Lime, crevicy
100	103	3	Lime
103	105	2	Lime, crevicy
105	112	7	Lime, solid
112	120	8	Lime, crevicy
120	127	7	Lime, hard
127	132	5	Lime, softer
132	152	20	Lime, hard
152	192	40	Lime rock
192	197	5	Lime, blue
197	410	213	Shale, blue
410	435	25	Shale, black
435	495	60	Lime, dark gray
495	575	80	Lime, gray
575	595	20	Lime, dark gray
595	625	30	Lime, gray

1231 AFA

STATIC WATER LEVELS;

- From 132' to 152' - 120'
- " 152' to 172' - 110'
- " 172' to 330' - 100'
- " 330' to 440' - 108'
- " 440' to 465' - 135'
- " 465' to 520' - 158'
- " 520' to 610' - 125'
- " 610' to 625' - 500'

Contractor - C. W. Varner,  
701 Federal Bank Bldg.,  
Dubuque, Iowa.

Total depth - 625' Curb El. - 1205±

No.	Rock unit	Description	Thick.	From	To
<b>PLEISTOCENE</b>					
<u>Kansan</u>					
1		Till, v. slightly calc. brown	10	0	10
2		Clay, red, with sand and gravel	5	10	15
3		Till, slightly calc. brown, pinkish spots	10	15	25
<u>Nebraskan?</u>					
4		Till, leached, brown, pinkish spots	20	25	45
<b>SILURIAN</b>					
<u>Hepkington formation</u>					
5		Dolomite, lt. buff, fn. with 35% white opaque chert, mixed with much red clay (residual?)	10	45	55
6		Dolomite, lt. drab to lt. buff, fn. to med. vugs, chert white opaque, mixed with much red clay	25	55	80
7		Dolomite, pale to lt. gray, slightly buff, few dk. gray and black spots	40	80	120
8		fn. few small vugs			
		Dolomite, pale gray, fn. little med. up to 15% white opaque flinty chert	50	120	170
9		Dolomite, pale to lt. buff, fn. to med. compact, lower 3' with large black mineral grains, limonite?	15	170	185
<b>ORDOVICIAN</b>					
<u>Maquoketa formation [T. + 1020']</u>					
10		Dolomite, lt. gray slightly greenish, v. fn. rare pyrite	10	185	195
11		Shale, slightly dolomitic, lt. green with lt. maroon mottling, v. slightly finely micaceous	5	195	200
12		Shale, v. dolomitic, lt. gray slightly greenish, poorly laminated	65	200	265
13		Shale, v. dolomitic, lt. gray, poorly laminated	40	265	305
14		Shale, dolomitic, lt. gray, v. slightly greenish	50	305	355
15		Shale, dolomitic, lt. gray	35	355	390
16		Shale, dolomitic, lt. gray with lt. green spots, med. drab gray med. grained dolomite in shale, rare pyrite	20	390	410
17		Shale, dolomitic, med. to dk. gray brown few lt. green spots, dk. brown well laminated, less dolomitic.	25	410	435
<u>Cuba formation [T. + 770']</u>					
<u>Dubuque - Stewartville</u>					
18		Dolomite, lt. drab gray, fn. to med. little coarse, rare pyrite, v. small and pale gray flinty ls. in lower 10'	30	435	465
19		Dolomite, lt. drab gray, fn. to med. little coarse, saccharoidal, porous, v. small and pale gray flinty ls.	35	465	500
20		Dolomite, lt. gray slightly drab, med. little fn., more or less of pale gray flinty ls.	55	500	555
<u>Prosser (?) [T. + 650']</u>					
21		Dolomite, lt. drab to lt. buff, med. sacch. up to 5% chert, pale drab to lt. gray opaque and v. slightly translucent, less	45	555	600
22		Dolomite, calc. in few spots, lt. drab to lt. buff, med. little pyrite, 1% chert	5	600	605
23		Dolomite, lt. drab to lt. buff, med., little pyrite, 1% or less chert	20	605	625