

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

RECORD OF WELL

W 8284

Location:

Town: MASON CITY (NE) (SW) : County Cerro Gordo
NE 1/4, SE 1/4 sec. 33 T. 97 N., R. 20 W. Twp.

Well name and number _____

Owner LEHEIGH PORTLAND CEMENT CO. Address MASON CITY

Tenant _____ Address _____

Contractor LAYNE-WESTON CO. Address AMES, IOWA

Drillers _____

Drilling dates APRIL - AUG. 1957

Well data:

Altitudes: Drilling curb _____ feet; Land surface _____ feet

Determined by _____

Topographic position _____

Total depth: Reported 1215 feet, Measured _____ feet

Drilling method CABLE TOOLS

Hole and casing data _____

Original depth to water _____ above
ft. below _____ Date _____

Source of data _____

Sources of water: Principal _____

Others _____

Production Data

Date _____
 Static water level _____
 Measuring point _____
 Pumping water level _____
 Yield (g. p. m.) _____
 Duration of pumping _____
 Specific capacity _____

Pump Data

Type pump _____ Column diameter and length _____
 Cylinder or bowls diameter and length _____
 Suction pipe _____ Airline _____
 Power _____ Production _____ g. p. m. for _____ hours per day
 Use of water _____

Dissolved constituents and properties (in parts per million except as indicated)

Date sampled _____
 Sampled by _____
 Silica (SiO₂) _____
 Iron (Fe) _____
 Manganese (Mn) _____
 Calcium (Ca) _____
 Magnesium (Mg) _____
 Potassium (K) _____
 Sodium (Na) _____
 Carbonate (CO₃) _____
 Bicarbonate (HCO₃) _____
 Sulfate (SO₄) _____
 Chloride (Cl) _____
 Fluoride (F) _____
 Nitrate (NO₃) _____
 Dissolved solids _____
 Hardness (as CaCO₃) _____
 Total _____
 Grains per gallon _____
 Noncarbonate _____
 Alkalinity (as CaCO₃) _____
 pH _____
 Specific conductance _____
 (micromhos at 25°C) _____
 Temperature (°F) _____
 Analysis No. _____

Laboratory Data

Well No. **8282** Sample range 0-12 No. of samples 244
 No. of dupls. and cond. 244 Good Washed range 6-1215
 Samples prepared by Dow + Dunn Date 8/19/57
 Logged by NORTHUP Date 8/27-28/58
 Correlations by _____ Date 8/27-28/58

6 Wdg289 Coded 1/7/76 Davis
STATE HYGIENIC LABORATORY, IOWA CITY, IOWA
WATER LABORATORY DIVISION
MINERAL ANALYSIS

5
LAB. NO. 6595

MINERAL NO. 5678

9-15-58 19

TOWN Mason City COUNTY Cerro Gordo
OWNER OF SUPPLY Lehigh Cement Co.
COLLECTOR'S NAME Driller
DATE COLLECTED summer 1957 DATE RECEIVED 8-26-58 Numbered 9-2-58
REPORT TO: NAME Iowa Geological Survey
ADDRESS Geology Annex,
Iowa City, Iowa

FIELD DATA

SOURCE: WELL NAME, NUMBER, POINT OF COLLECTION, DEPTH, CONSTRUCTION DATE, ETC.,
Well #3, 650 ft. depth (still drilling)
Bailer sample (summer 1957)

WELL PUMPED _____ HRS. AT _____ GPM. DATE OF PREVIOUS SAMPLE _____
WAS SAMPLE FREE OF TURBIDITY WHEN COLLECTED _____
TEMPERATURE °C _____ ALKALINITY (ppm CaCO₃) P _____ T _____ pH _____
IS A POLYPHOSPHATE BEING USED? _____

LABORATORY ANALYSIS
(PARTS PER MILLION)

SPECIFIC CONDUCTANCE K AT 25°C 45.3 x 10⁻⁵ TURBIDITY _____
DISSOLVED SOLIDS 260 SOLUBLE IRON (Fe) < 0.05
TOTAL SOLIDS _____ SILICA (SiO₂) 6.0 TOTAL IRON (Fe) _____
ALKALINITY (ppm CaCO₃) P 10.0 T 188 pH 8.4 DATE 9-2-58

POSITIVE IONS

K⁺ 13.2
Na⁺ 21.3
Ca⁺⁺ 21.9
Mg⁺⁺ 33.3
Mn⁺⁺ < 0.05
Al⁺⁺⁺ _____

NEGATIVE IONS

NO₃ - as N < 0.1
F⁻ 1.9
Cl⁻ 8.0
SO₄ -- 49.8
HCO₃ - 205
CO₃ -- 12.0

HARDNESS AS CaCO₃ 192 ppm 11.2 gpg
Grayish-white turbidity when received.
Lab. filtered 9-2-58.

ANALYST Dougherty mrw

R. L. MORRIS
PRINCIPAL CHEMIST



AFFILIATED WITH
LAYNE & BOWLER, INC.
MEMPHIS, TENNESSEE

Layne-Western Company

WATER WELL DRILLING
EXPLORATION BORINGS AND TEST SURVEYS
LAYNE TURBINE PUMPS

TELEPHONE CEDAR 2-3563

March 1, 1961

OFFICES
KANSAS CITY, MISSOURI
WICHITA, KANSAS
OMAHA, NEBRASKA
AMES, IOWA
AURORA, ILLINOIS
ST. LOUIS, MISSOURI
DENVER, COLORADO

SOUTH DUFF AVENUE
AMES, IOWA

Dr. H.G. Hershey
Iowa Geological Survey
Geological Survey Building
Iowa City, Iowa

Dear Dr. Hershey:

I am enclosing herewith drawings showing the construction on wells at Allied Mills and the Lehigh Cement Company at Mason City, Iowa. Also enclosed is a record of the pumping test on the well at Allied Mills.

Production data on the well at Lehigh Cement is as follows:

Static Water Level 220 Feet

<u>GPM</u>	<u>Draw Down</u>	<u>Pumping Level</u>
508	51 feet	271 feet
578	63 feet	283 feet
618	69 feet	289 feet
654	75 feet	295 feet

We trust this is the information you desire, and if we may be of further assistance at any time, please contact us.

Very truly yours,

LAYNE WESTERN COMPANY

Carl R. Larson

Carl R. Larson
CRL/aje

DETAILS OF WELL CONSTRUCTION

FOR

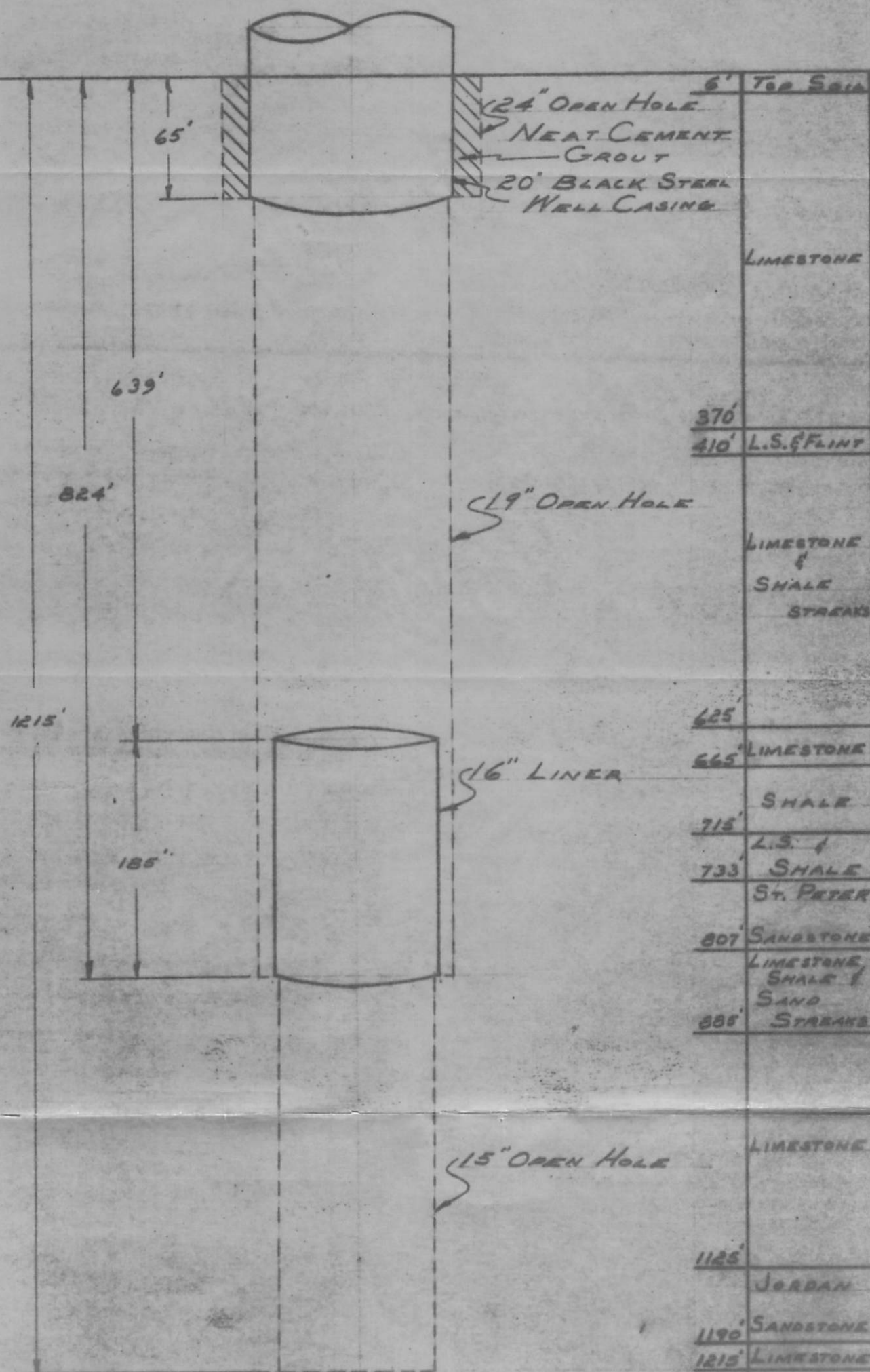
LEHIGH CEMENT CO.

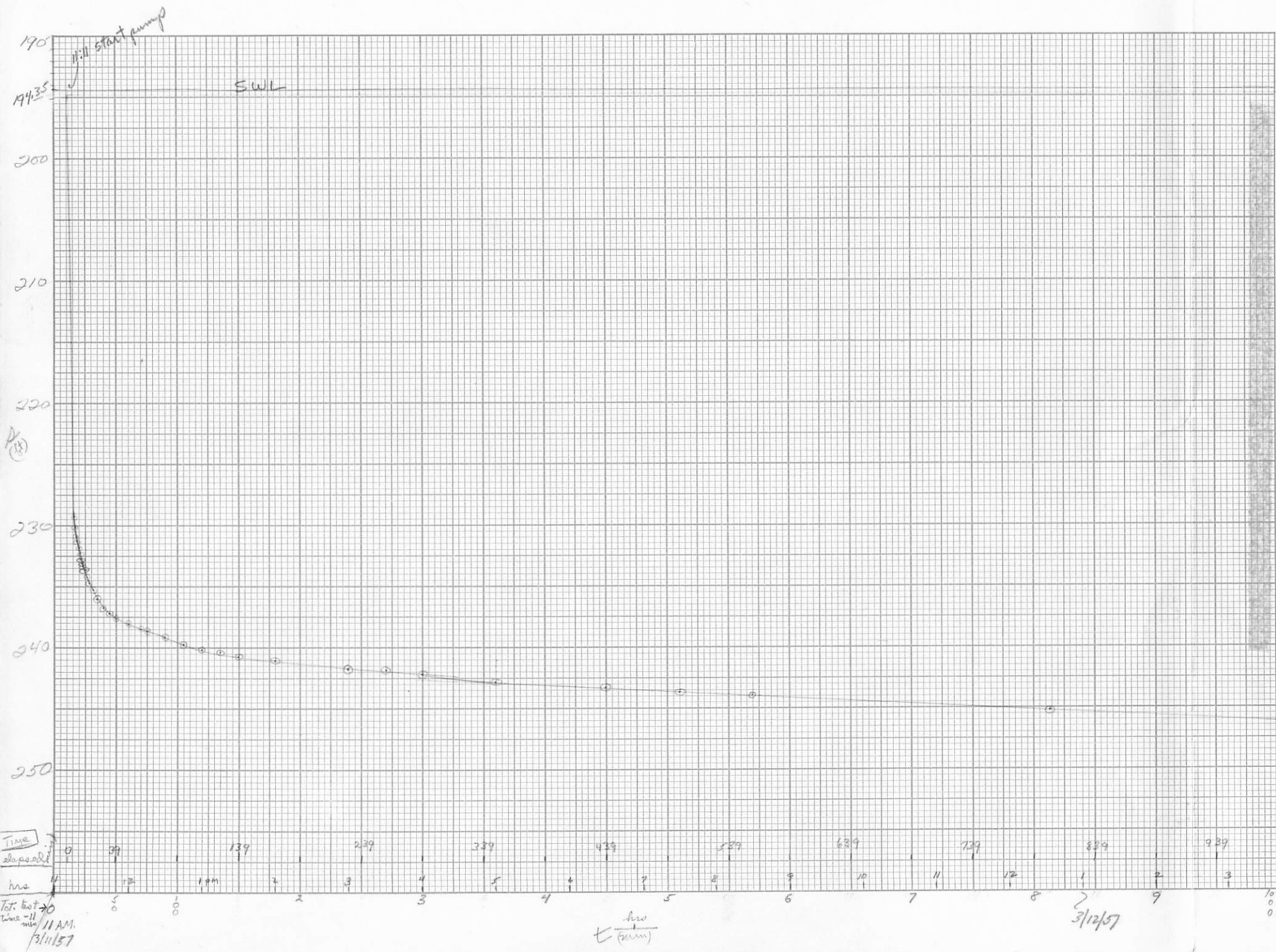
WELL No. 2 MASON CITY, IOWA

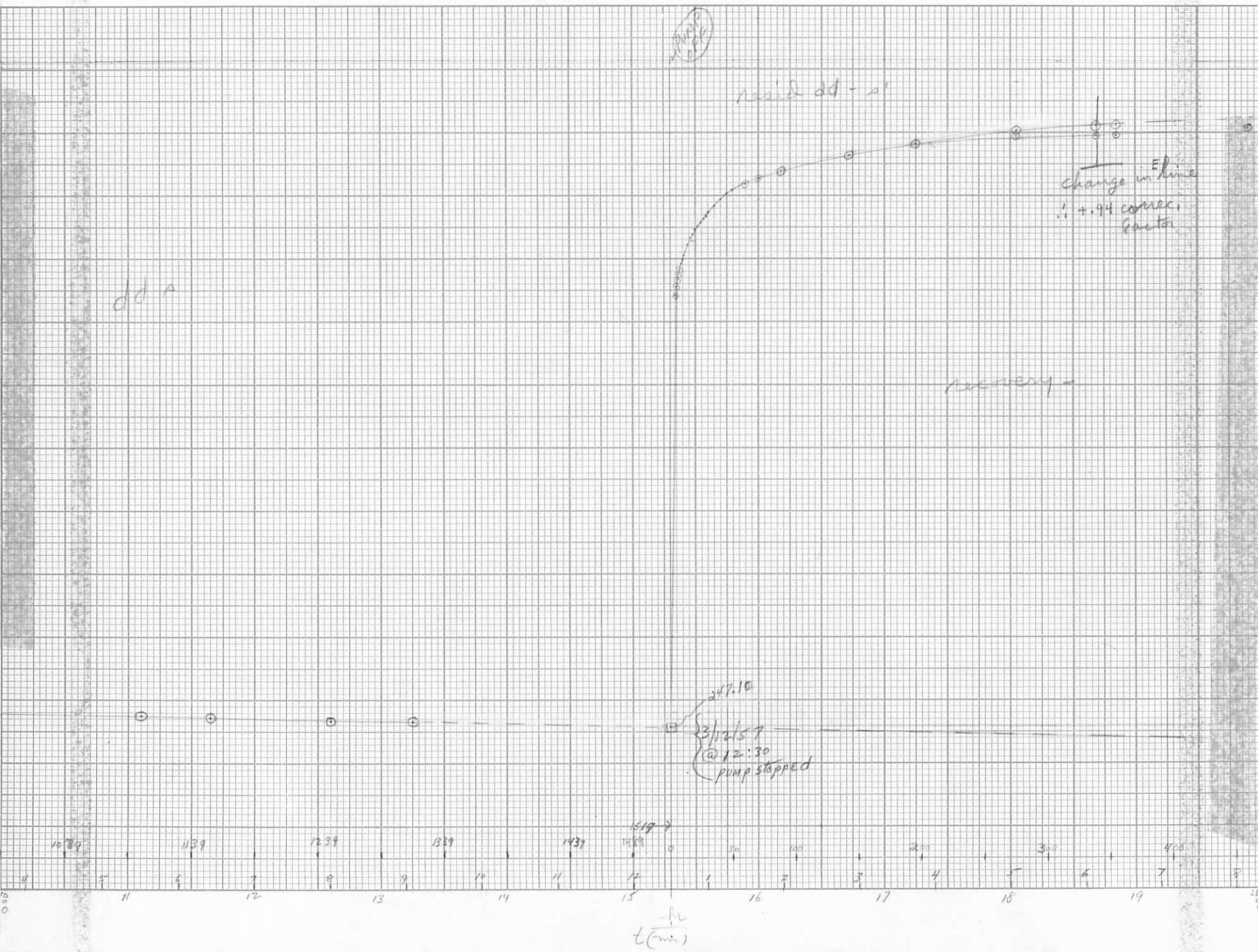
LAYNE WESTERN CO. AMES, IOWA

CONSTRUCTION

LOG



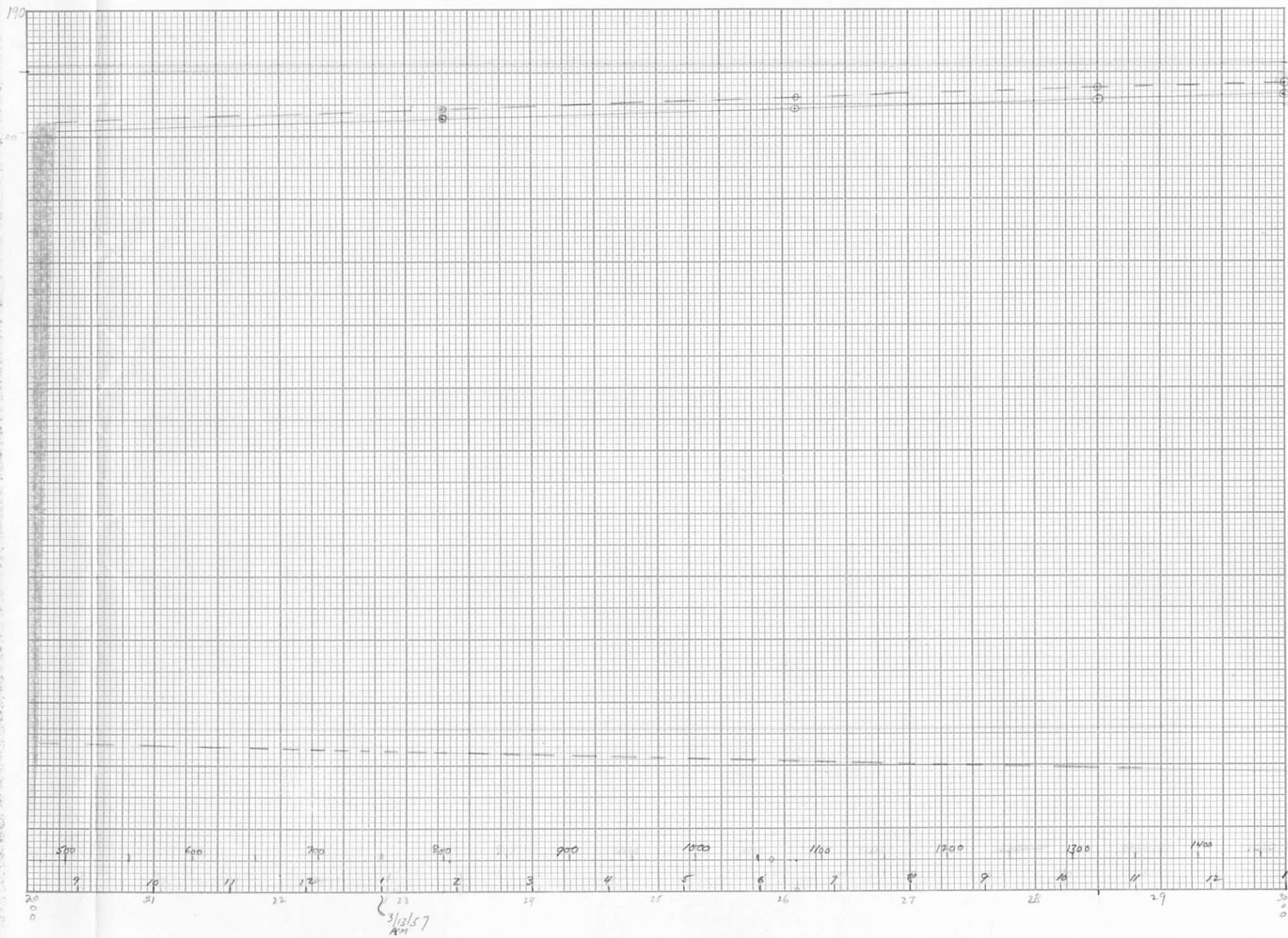






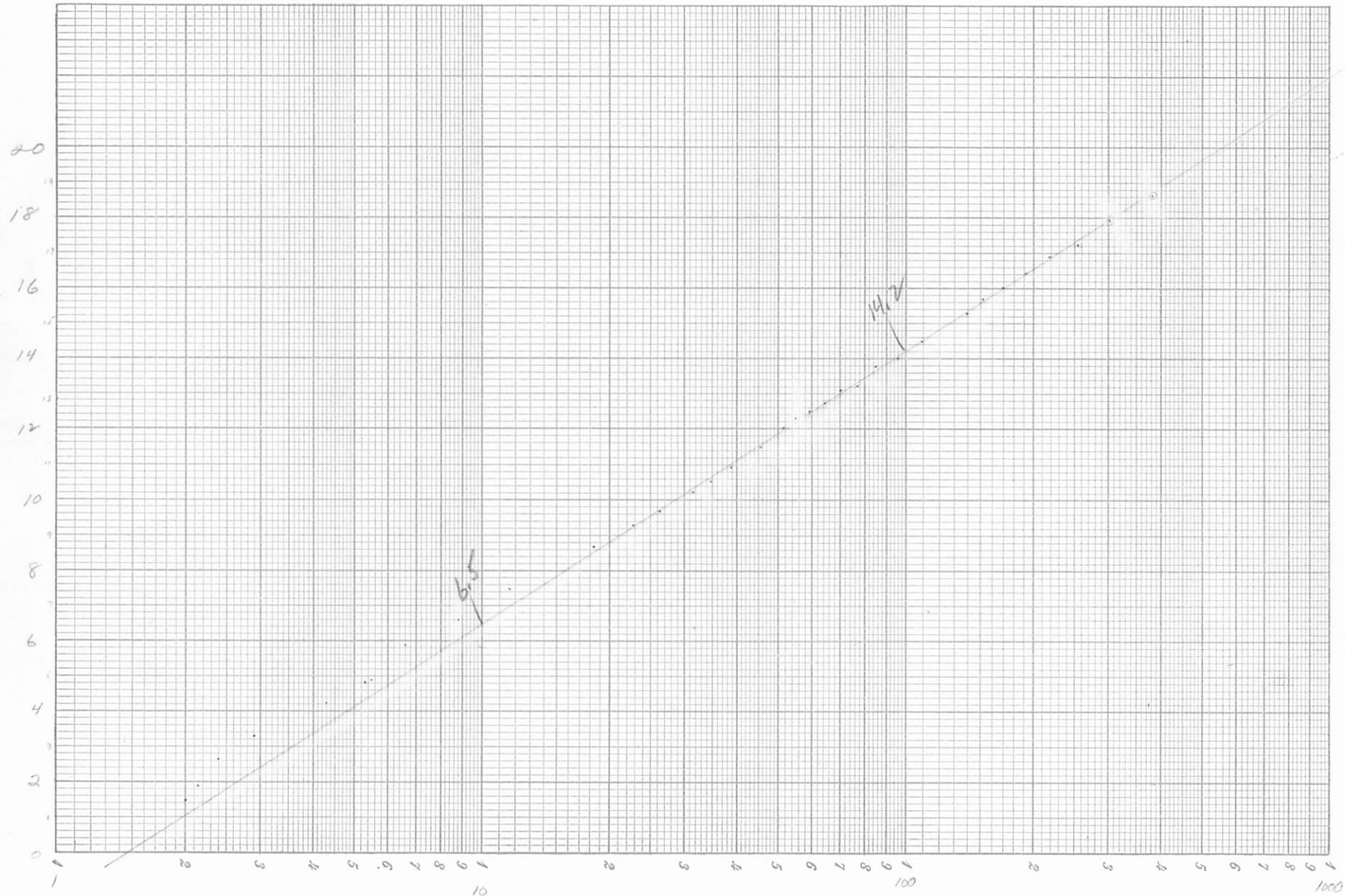
10 X 10 TO THE 1/2 INCH
KEUFFEL & ESSER CO.

358-11
MADE IN U. S. A.





is a $\frac{1}{2}$ ' plot for recovery formula
Mason City #14



$t/t' - \text{min}$

$$T = \frac{264Q}{\Delta a} = \frac{264 \cdot 1100}{2.7} = 3,2600$$