

6LD2032



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93308 • Telephone: (805) 399-2961

Western Exploration and Production Division

January 22, 1979

Department of Energy
Nevada Operations Office
P. O. Box 14100
Las Vegas, Nevada 89114

Attention: Mr. J. B. Cotter
Contracting Officer

Re: Gradient Temperature Data from
Two Getty Oil Company Holes
Drilled in Pershing County, Nevada

Gentlemen:

Accompanying this letter is a series of data from two mineral assessment holes drilled at Colado Junction near Lovelock, Pershing County, Nevada. These wells were drilled by Getty Oil Company and are part of a series of data to be presented to the D.O.E. under contractual arrangements of RFP #ET 78-R-08-0003 Geothermal Reservoir Assessment Case Study for the Battle Mountain Area. A triplicate set of data for each well has been sent to the University of Utah Research Institute at Salt Lake City, per your instructions.

The first of eighteen additional wells will be spudded on or about January 24, 1979, and this data will be conveyed as it becomes available.

Also, under separate cover, we are sending maps and reports by Electrodyne and Lanton Surveys.

Please acknowledge receipt of the above data by signing and returning the enclosed duplicate copy of this letter.

Very truly yours,
GETTY OIL COMPANY

o/s J. W. Woffington
J. W. Woffington
Division Exploration Manager

JWW:WAS:js
cc: UURI- Dr. H. P. Ross
DATA RECEIVED THIS _____ DAY
OF _____, 1979.

By _____

August 19, 1976

GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-1
SW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F)</u> <u>LOW RANGE SCALE</u>	<u>MID-RANGE</u> <u>SCALE</u>
Surface	72°	
50'	81°	
100'	82°	
150'	80°	
200'	80°	
250'	81°	
300'	100°	
350'		112°
375'		117°
400'		123°
410'		123°
420'		123°
430'		123°
440'		123°
450' (Est. T.D.)		123°

NOTE: Hole may be bridged over and giving a false reading as to depth. The Thermistor line simple spools off and is difficult to check bottom hole depth measurements.

- .754.6 °C/km

0-450'

August 20, 1976

GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-2
NW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F) MID-RANGE SCALE</u>	<u>HIGH RANGE SCALE</u>
Surface	72°	
50'	85°	
100'	100°	
150'	118°	
200'	138°	
250'	154°	
300'		167°
350'		181°
360'		175°
370'		178°
380'		181.5°
390'		181.5°
410'		181.5°
420'		181.5°
450' (Est. T.D.)		181.5°

NOTE: Hole maybe bridged or caved in above indicated depth of 450 ft., estimated total depth.

Grad. 940.5 °C/Km v - 450'

August 17, 1976

GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-1
SW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F) LOW RANGE SCALE</u>	<u>MID-RANGE SCALE</u>
Surface	72°	
205'	82°	
225'	81°	
245'	85°	
265'	86°	
285'	92°	
370'	92°	
400'		115°
425'		117.5°
435'		122°
440'		139°
442'		141°
443'		142°
445'		142°

NOTE: Wells drilled with Air. Hit Lgt. flow of steam vapor and heated warm water at 400 ft. At 425 ft., Est. 5-7 5:00 p.m., water entry with hole caving. Flow increased to 10-15 6:00 p.m. estimated at 445 ft. No further penetration due to hole caving.

August 19, 1976

GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-2
NW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F) LOW RANGE SCALE</u>	<u>MID-RANGE SCALE</u>
Surface	71°	
50'	72°	
100'	73°	
145'	75°	
165'	83°	
205'	86°	
225'	86°	
245'	86°	
265'	90°	
285'	92°	
325'	92°	
345'	95°	
365'	95°	
385'	98°	
390'	105°	
405'		109°
425'		110°
435'		112°
440'		116°
445' (Est. T.D.)		120°

NOTE: Hole caving with fluid entry on bottom.

Operator

1-12

Well No.

Section: 12 TWP: 27N RNGE: 32E County: Pershing State: Nevada

Date: May 9, 1979

Depth (ft.) Temperature (°F)

Surface	9.8°C	49.6°
50.	13.8°C	56.8°
100.	14.6°C	58.3°
150.	15.3°C	59.5°
200.	15.9°C	60.6°
250.	16.6°C	61.9°
300.	17.3°C	63.1°
350.	18.0°C	64.4°
400.	18.6°C	65.5°
450.	19.4°C	66.9°
500.	19.9°C	67.8°

grad = 43.47 °C/km

1.325 °C/100'

Survey By: W. A. Shaw

Operator

2-2

Well No.

Section: 2 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: August 9, 1979

Depth (ft.) Temperature (°F)

Surface	8.1°C	46.6°
50.	14.9°C	58.8°
100.	16.2°C	61.2°
150.	17.2°C	63.0°
200.	18.1°C	64.6°
250.	18.9°C	66.0°
300.	19.8°C	67.6°
350.	20.7°C	69.3°
400.	21.8°C	71.2°
450.	22.8°C	73.0°
500.	23.8°C	74.5°

Grad. = 62.34 °C/km

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

3-10

Well No.

Section: 10 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 5-10-79

Depth (ft.) Temperature (°F)

Surface	12.4°C	54.3°
50.	16.4°C	61.5°
100.	17.9°C	64.2°
150.	19.7°C	67.5°
200.	21.2°C	70.2°
250.	22.3°C	72.1°
300.	23.4°C	74.1°
350.	24.5°C	76.1°
400.	25.3°C	77.5°
450.	26.7°C	80.1°
500.	27.4°C	81.3°

Grad = 77.92 °/km

Survey By: W.A. Shaw

Operator

4-16

Well No.

Section: 16 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: May 10, 1979

Depth (ft.) Temperature (°F)

Surface	12.0°C	53.6°
50.	13.1°C	55.6°
100.	13.8°C	56.8°
150.	15.8°C	60.4°
200.	20.2°C	68.4°
250.	24.7°C	76.5°
300.	27.9°C	82.2°
350.	30.0°C	86.0°
400.	31.3°C	88.3°
450.	33.0°C	91.4°
487'		
500.	33.2°C	91.8°

grad = 176.6 °C/km

Survey By: W. A. Shaw

~~GETTY OIL COMPANY~~

Operator

5-8

Well No.

Section: 8 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: May 10, 1979

Depth (ft.) Temperature (°F)

Surface	9.4°C	48.9°
50.	19.0°C	66.2°
100.	25.2°C	77.4°
150.	29.7°C	85.5°
200.	32.9°C	91.2°
250.	34.4°C	93.9°
300.	35.5°C	95.9°
350.	34.9°C	94.8°
400.	33.9°C	93.0°
450.	33.2°C	91.8°
500.	33.2°C	91.8°

Intermittent

Survey By: W. A. Shaw

Operator

6-6

Well No.

Section: 6 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 5-10-79

Depth (ft.) Temperature (°F)

Surface	11.8°C	53.2°
50.	12.8°C	55.0°
100.	13.5°C	56.3°
150.	14.2°C	57.6°
200.	15.0°C	59.0°
250.	15.8°C	60.4°
300.	16.5°C	61.7°
350.	17.5°C	63.5°
400.	18.2°C	64.8°
450.	19.4°C	66.9°
500.	20.0°C	68°

53.3 °C/Km

Survey By: W.A. Shaw

GETTY OIL COMPANY

Operator

7-4

Well No.

Section: 4 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 5-10-79

Depth (ft.) Temperature (°F)

Surface	11.9°C	53.4°
50.	40.0°C	104.0°
100.	54.0°C	129.2°
150.	64.2°C	147.6°
200.	67.4°C	153.3°
250.	72.6°C	162.7°
300.	73.2°C	163.8°
350.	71.6°C	160.9°
400.	70.4°C	158.7°
450.	69.0°C	156.2°
500.	68.4°C	155.1°

Revised

Survey By: W.A. Shaw

Operator

8-34

Well No.

Section: 34 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 9, 1979

Depth (ft.) Temperature (°F)

Surface	13.0°C	55.4°
50.	20.6°C	69.1°
100.	27.1°C	80.8°
150.	33.1°C	91.6°
200.	38.5°C	101.3°
250.	42.8°C	109.0°
300.	43.5°C	110.3°
350.	43.1°C	109.6°
400.	43.0°C	109.4°
450.	43.2°C	109.8°
500.	43.1°C	109.6°

Reversal

Survey By: W. A. Shaw

Operator

9-34

Well No.

Section: 34 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 9, 1979

Depth (ft.) Temperature (°F)

Surface	14.0°C	57.2°
50.	34.8°C	94.6°
100.	49.4°C	120.9°
150.	59.0°C	138.2°
200.	65.6°C	149.9°
250.	70.9°C	159.6°
300.	73.9°C	165.0°
350.	75.9°C	168.6°
400.	76.8°C	170.2°
450.	77.7°C	171.9°
500.	78.2°C	172.8°

} 50.3 °C/km

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

10-34

Well No.

Section: 34 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 9, 1979

Depth (ft.) Temperature (°F)

Surface	13.9°C	57.0°
50.	46.2°C	115.2°
100.	67.0°C	152.6°
150.	72.9°C	163.2°
200.	77.3°C	171.1°
250.	80.5°C	176.9°
300.	83.1°C	181.6°
350.	85.2°C	185.4°
400.	86.3°C	187.3°
450.	87.6°C	189.7°
500.	88.2°C	190.8°

} 65.6 °C/km

Survey By: W A Shaw

GETTY OIL COMPANY

Operator

11-36

Well No.

Section: 36 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 9, 1979

Depth (ft.) Temperature (°F)

Surface	11.0°C	51.8°
50.	15.0°C	59.0°
100.	16.3°C	61.3°
150.	17.4°C	63.3°
200.	18.4°C	65.1°
250.	19.4°C	66.9°
300.	20.3°C	68.5°
350.	21.3°C	70.3°
400.	22.1°C	71.8°
450.	22.9°C	73.2°
500.	23.7°C	74.7°

60.7 °C/KM

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

12-26

Well No.

Section: 26 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 9, 1978

Depth (ft.) Temperature (°F)

Surface	11.9°C	53.4°
50.	16.9°C	62.4°
100.	19.3°C	66.7°
150.	21.3°C	70.3°
200.	22.8°C	73.0°
250.	23.9°C	75.0°
300.	24.9°C	76.8°
350.	25.8°C	78.4°
400.	26.6°C T.D.	79.9°
450.	
500.	

69.6 °C/km

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

13-26

Well No.

Section: 26 **TWP.** 28N **RNGE.** 32E **County:** Pershing **State:** Nevada

Date: April 20, 1979

Depth (ft.) Temperature (°F)

Surface	16.8°C	62.2°
50.	53.0°	127.4°
100.	67.7°	153.9°
150.	79.7°C	175.5°
200.	88.2°C	190.8°
250.	93.4°C	200.1°
300.	97.2°C	206.7°
350.	96.5°C	205.7°
400.	95.0°C	203.0°
450.	94.2°C	201.6°
500.	93.1°C	199.6°

R

Survey By: W. A. Shaw

Operator

14-22

Well No.

Section: 22 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 8, 1979

Depth (ft.) Temperature (°F)

Surface	13.3°C	55.9°
50.	71.4°C	160.5°
100.	98.7°C	209.7°
150.	112.1°C	233.8°
200.	112.6°C	234.7°
250.	113.5°C	236.3
300.	113.3°C	235.9°
350.	112.6°C	234.7°
400.	111.5°C	232.7°
450.	110.9°C	231.6°
500.	110.3°C	230.0°

R

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

15-21

Well No.

Section: 21 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 8, 1979

Depth (ft.) Temperature (°F)

Surface	12.3°C	54.1°
50.	15.2°C	59.4°
100.	17.4°C	63.3°
150.	19.3°C	66.7°
200.	20.4°C	68.7°
250.	21.3°C	70.3°
300.	21.8°C	71.2°
350.	23.0°C	73.4°
400.	23.9°C	75.0°
450.	24.9°C	76.8°
500.	26.3°C	79.3°

} 65.6 °C/km

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

16-22

Well No.

Section: 22 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 8, 1979

Depth (ft.) Temperature (°F)

Surface	11.3°C	52.3°
50.	45.9°C	114.6°
100.	66.5°C	151.7°
150.	78.2°C	172.8°
200.	76.6°C	169.9°
250.	73.3°C	163.9°
300.	70.9°C	159.6°
350.	69.2°C	156.6°
400.	68.0°	154.4°
450.	67.6°C	153.7°
500.	67.9°C	154.2°

} 19.7 °C/km

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

17-24

Well No.

Section: 24 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 8, 1979

Depth (ft.) Temperature (°F)

Surface	10.1°C	50.2°
50.	15.9°C	60.6°
100.	19.5°C	67.1°
150.	21.1°C	70.0°
200.	22.7°C	72.9°
250.	23.8°C	74.8°
300.	24.6°C	76.3°
350.	25.4°C	77.7°
400.	26.3°C	79.3°
450.	27.5°C	81.5°
500.	28.6°C	83.5°

} 75.4 °C/km

Survey By: W. A. Shaw

GETTY OIL COMPANY

Operator

18-24

Well No.

Section: 24 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: May 8, 1979

Depth (ft.) Temperature (°F)

Surface	9.9°C	49.8°
50.	13.9°C	57.0°
100.	15.3°C	59.5°
150.	16.8°C	62.2°
200.	18.2°C	64.8°
250.	19.4°C	66.9°
300.	20.7°C	69.3°
350.	21.9°C	71.4°
400.	23.0°C	73.4°
450.	24.0°C	75.2°
500.	25.1°C	77.2°

} 77.8 E/Km

Survey By: W. A. Shaw



Claron
Browce

Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

June 2, 1980

Contracting Officer
Department of Energy
P.O. Box 1400
Las Vegas, Nevada 89114

Attention: Engineering and Energy Applications Division

RE: Contract DE-AC08-79ET-27008
Colado Area, Nevada
Period 4-1-80 to 5-1-80
Report #15

Gentlemen:

Arrangements for logs to be run by Dresser-Atlas Company fell through due to prior commitments at the Geysers Field. Go-Wireline Services from Woodland, CA. ran the logs instead and several factors emerged from this log run. First of all, the temperature noted in the IGH#1 in Section 26-28N-32E appears to be associated solely with the shallow hot water aquifer found in this area. After the sonde passed through the zone of hot fluid, a reversal is present with a decline in temperature to total depth of 1500'.

Logging of the IGH#2 in Section 10-27N-32E indicated a fairly good gradient to total depth of 1162'. A slight variation in temperature recordings is evident between the first log run by United Wireline Service Company and the second run by Go-Wireline Company. While the difference overall is not too great, it is still disconcerting to have logs that vary as much as 10° at the same depth point. The problem most likely is one of calibration more than any other one factor.

Dresser-Atlas is currently scheduled to log both holes for the final runs and the results of their logging will hopefully indicate which of the present data recordings are correct.

Very truly yours,
GETTY OIL COMPANY

N.J. Kappeler
Division Exploration Manager

NJK:WAS:esp

cc: Dr. H.P. Ross ✓
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore

Return to Ross



Getty Oil Company | P. O. Box 5237, Bakersfield, California 93388 • Telephone: (805) 399-2961

Western Exploration and Production Division

July 3, 1980

Contracting Officer
Department of Energy
P. O. Box 1400
Las Vegas, Nevada 89114

Grad.	4° F/100' @ 0-500'	
		7°/100'
		9°/100'
	219° F @ 2500'	159° F
	289° F @ 3000'	199° F
	529° F @ 7500'	359° F

DH 3-10 → 79° F @ 500'

Attn: Engineering and Energy Applications Division

Re: Contract DE-AC08-79ET-27008
Colado Area, Nevada
Period 6-1-80 to 7-1-80
Report #16

Gentlemen:

The Dresser-Atlas Company ran a temperature log on the IGH #1 in Section 26, T. 28 N., R. 32 E., and the IGH #2 in Section 10, T. 27 N., R. 32 E., Pershing County, Nevada.

As already indicated on the first log run in May, the gradients for each well responded as originally recorded. The shallow hot water aquifer is present in the IGH #1 with a slight reversal noted on the log after the Sonde has passed through the zone. In the IGH #2, a positive gradient of approximately 7° F./100' is noted to total depth of the hole. Assuming this constant to 7500', a maximum temperature of 525° F. might be present at total depth. *(How Deep?)*

A location study is underway to determine the most logical area to drill a test well to a proposed depth of 7500'.

Very truly yours,

GETTY OIL COMPANY

O/S N. J. KAPPELER

N. J. Kappeler
Division Exploration Manager

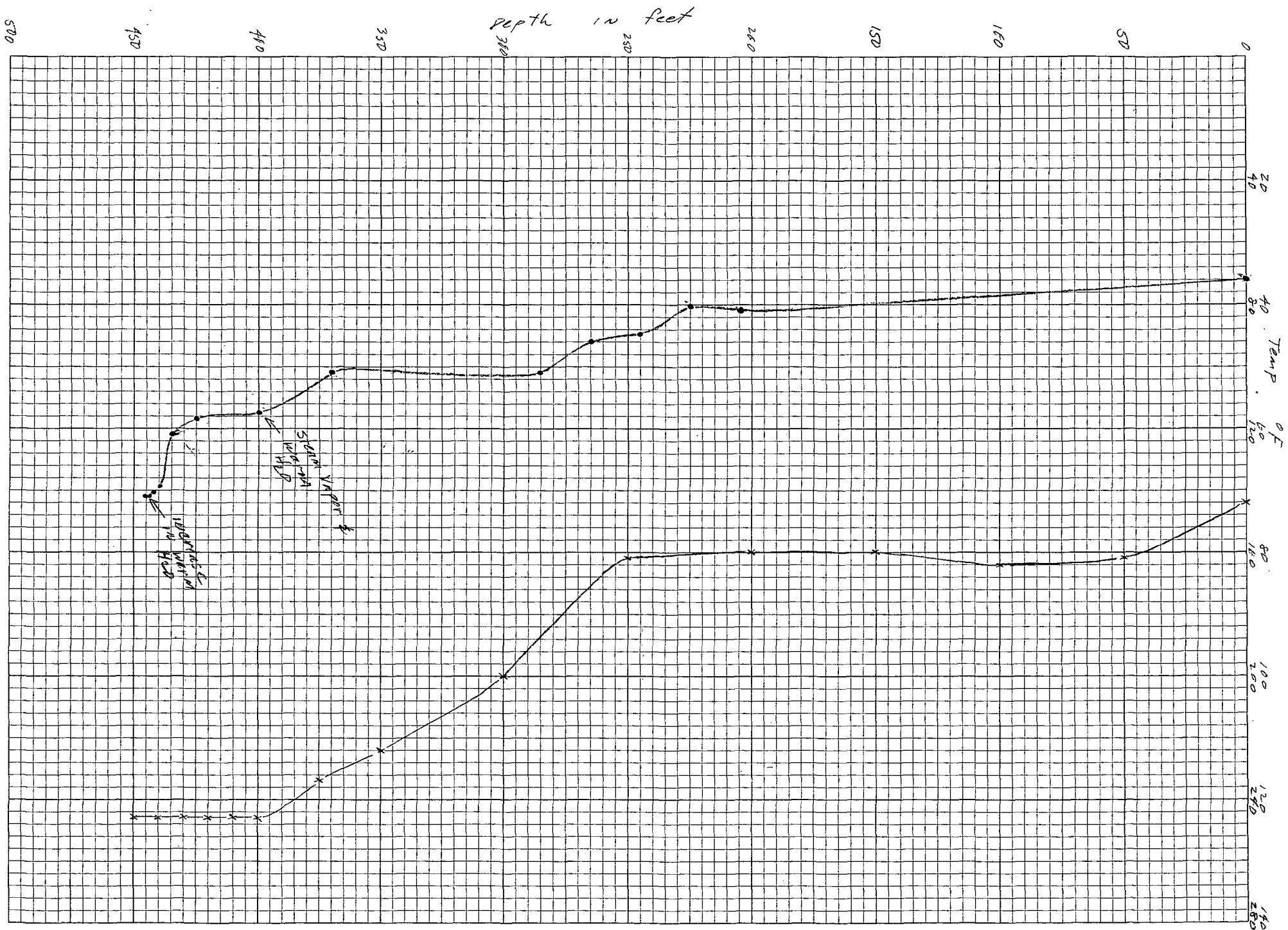
NJK:WAS:ges

cc: Dr. H. P. Ross
Earth Science Laboratory
University of Utah Research
420 Chipeta Way, Suite 120
Salt Lake City, Utah 84108

Joe Fiore

<u>D</u>	<u>T</u>	Assume: 200° F @ 500'
2500'	340° F ←	140° F ← 7° F/100' for 2000'
3500'	410° F ←	210° F ← 7° F/100' for 3000'

Question: At what depth does temp. reversal occur?
or isothermal?

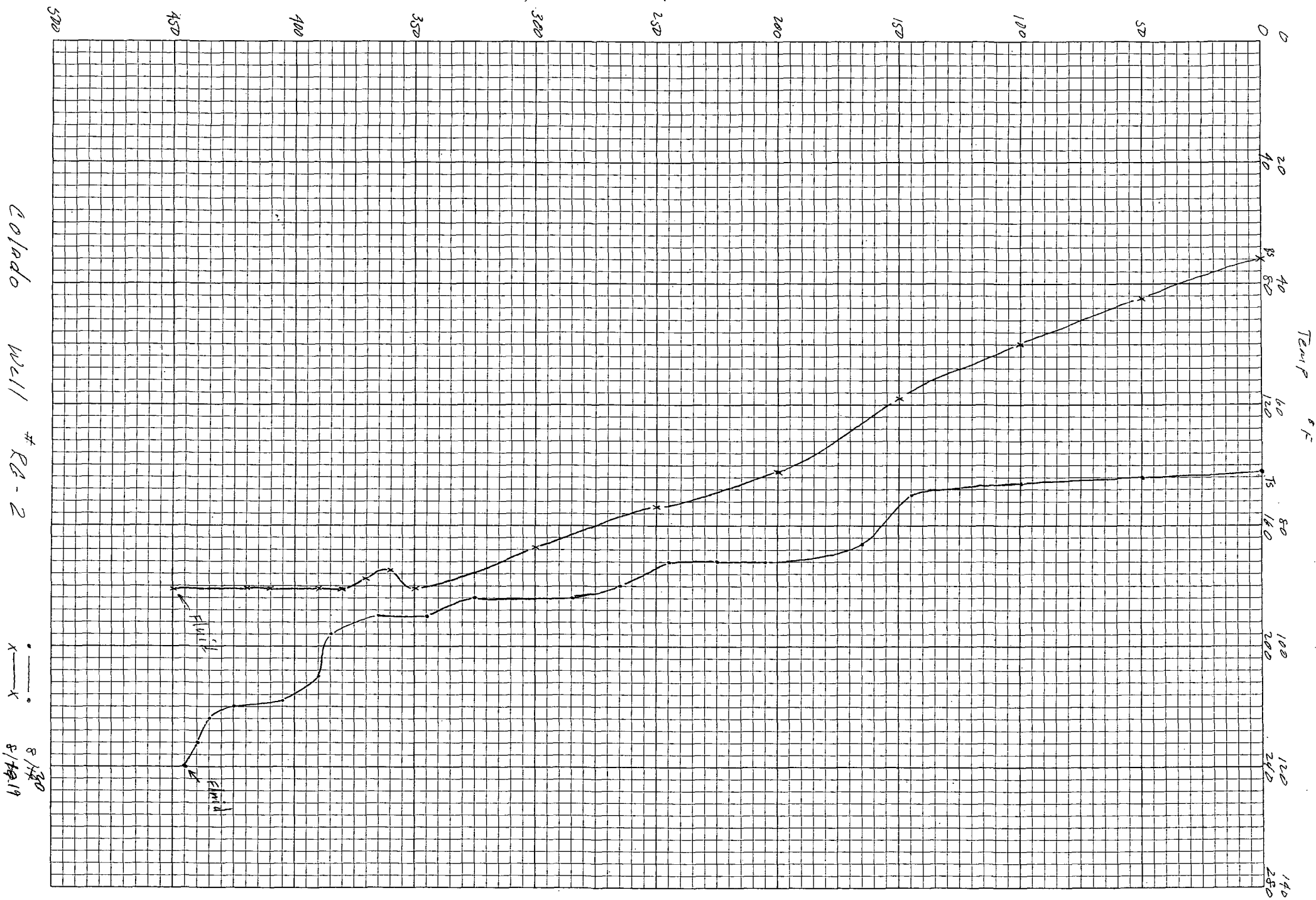


Colorado

Well #RG-1

8/17
8/19

Depth in feet



Colorado Well # RG-2

8/13/20
8/19/19

August 17, 1976

GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-1
SW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F) LOW RANGE SCALE</u>	<u>MID-RANGE SCALE</u>
Surface	72°	
205'	82°	
225'	81°	
245'	85°	
265'	86°	
285'	92°	
370'	92°	
400'		115°
425'		117.5°
435'		122°
440'		139°
442'		141°
443'		142°
445'		142°

NOTE: Wells drilled with Air. Hit Lgt. flow of steam vapor and heated warm water at 400 ft. At 425 ft., Est. 5-7 5:00 p.m., water entry with hole caving. Flow increased to 10-15 6:00 p.m. estimated at 445 ft. No further penetration due to hole caving.

August 19, 1976

GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-1
SW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F)</u> <u>LOW RANGE SCALE</u>	<u>MID-RANGE</u> <u>SCALE</u>
Surface	72°	
50'	81°	
100'	82°	
150'	80°	
200'	80°	
250'	81°	
300'	100°	
350'		112°
375'		117°
400'		123°
410'		123°
420'		123°
430'		123°
440'		123°
450' (Est. T.D.)		123°

NOTE: Hole may be bridged over and giving a false reading as to depth. The Thermistor line simple spools off and is difficult to check bottom hole depth measurements.

August 19, 1976

GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-2
NW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F) LOW RANGE SCALE</u>	<u>MID-RANGE SCALE</u>
Surface	71°	
50'	72°	
100'	73°	
145'	75°	
165'	83°	
205'	86°	
225'	86°	
245'	86°	
265'	90°	
285'	92°	
325'	92°	
345'	95°	
365'	95°	
385'	98°	
390'	105°	
405'		109°
425'		110°
435'		112°
440'		116°
445' (Est. T.D.)		120°

NOTE: Hole caving with fluid entry on bottom.

August 20, 1976

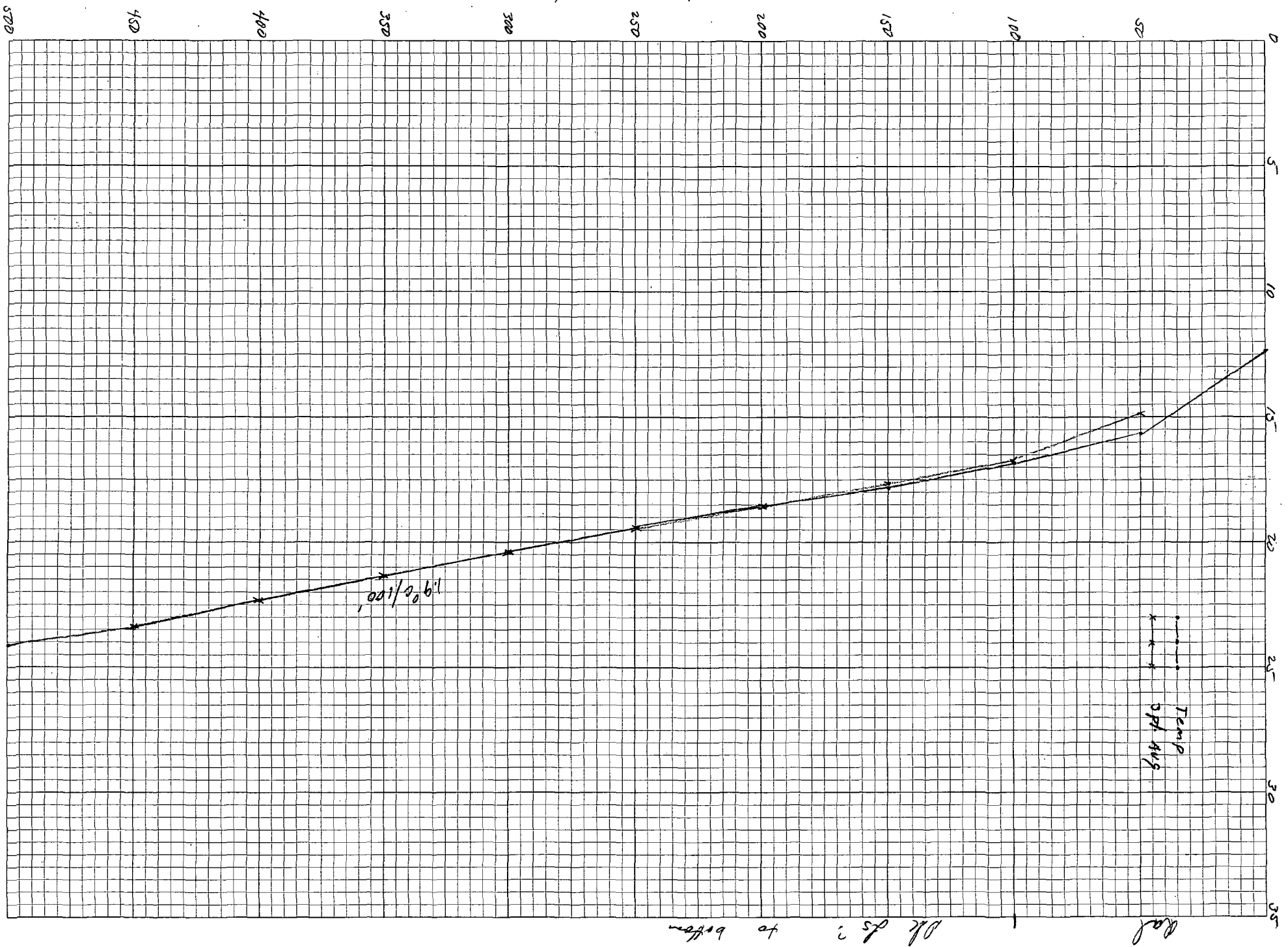
GETTY OIL COMPANY
TEMPERATURE GRADIENT SURVEY
WELL #RG-2
NW/4 SEC. 26, T. 28 N., R. 32 E.
PERSHING COUNTY, NEVADA

<u>DEPTH (FT.)</u>	<u>TEMPERATURE (°F) MID-RANGE SCALE</u>	<u>HIGH RANGE SCALE</u>
Surface	72°	
50'	85°	
100'	100°	
150'	118°	
200'	138°	
250'	154°	
300'		167°
350'		181°
360'		175°
370'		178°
380'		181.5°
390'		181.5°
410'		181.5°
420'		181.5°
450' (Est. T.D.)		181.5°

NOTE: Hole maybe bridged or caved in above indicated depth of 450 ft., estimated total depth.

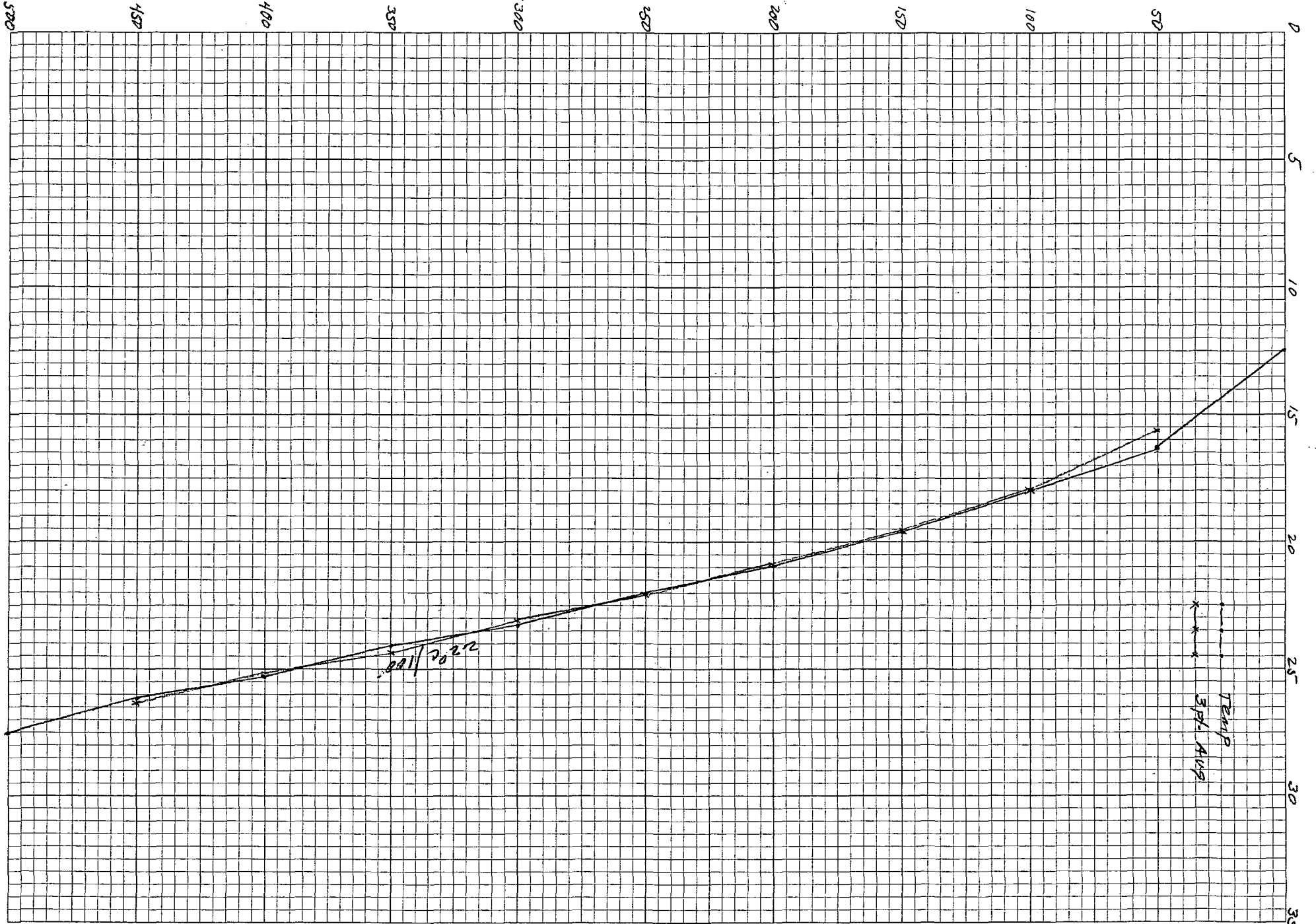
Depth in feet

Colorado (Bee) DH 2-2



Depth in feet

Colorado (GAC) DH3-10



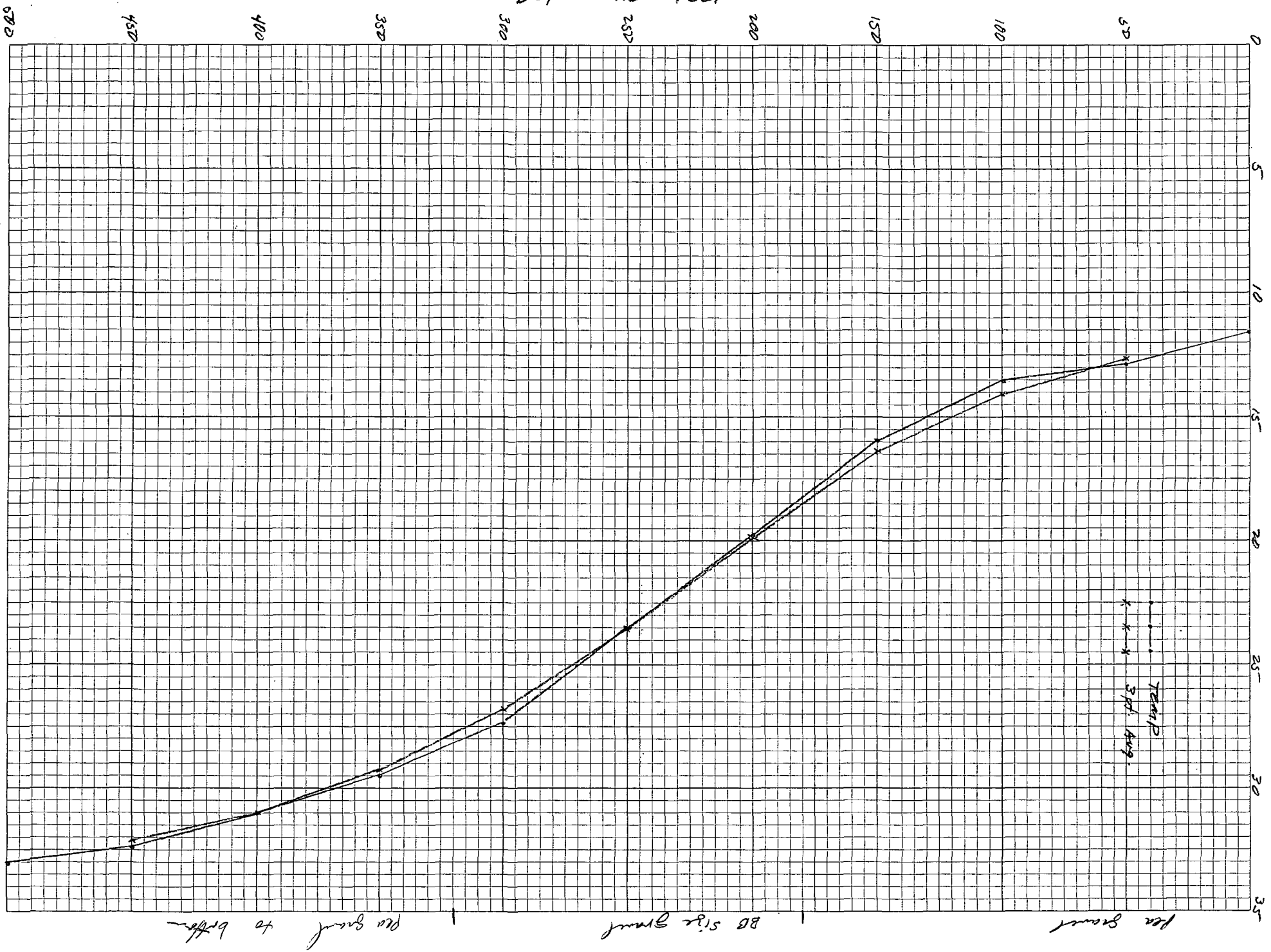
Ref to bottom

Temp
3/21/49

2.2°C/100'

Depth in feet

Colado (COC) DH-16



per ground
88 size ground
per ground to bottom

Depth in Feet

500

450

400

350

300

250

200

150

100

50

0

5

10

15

20

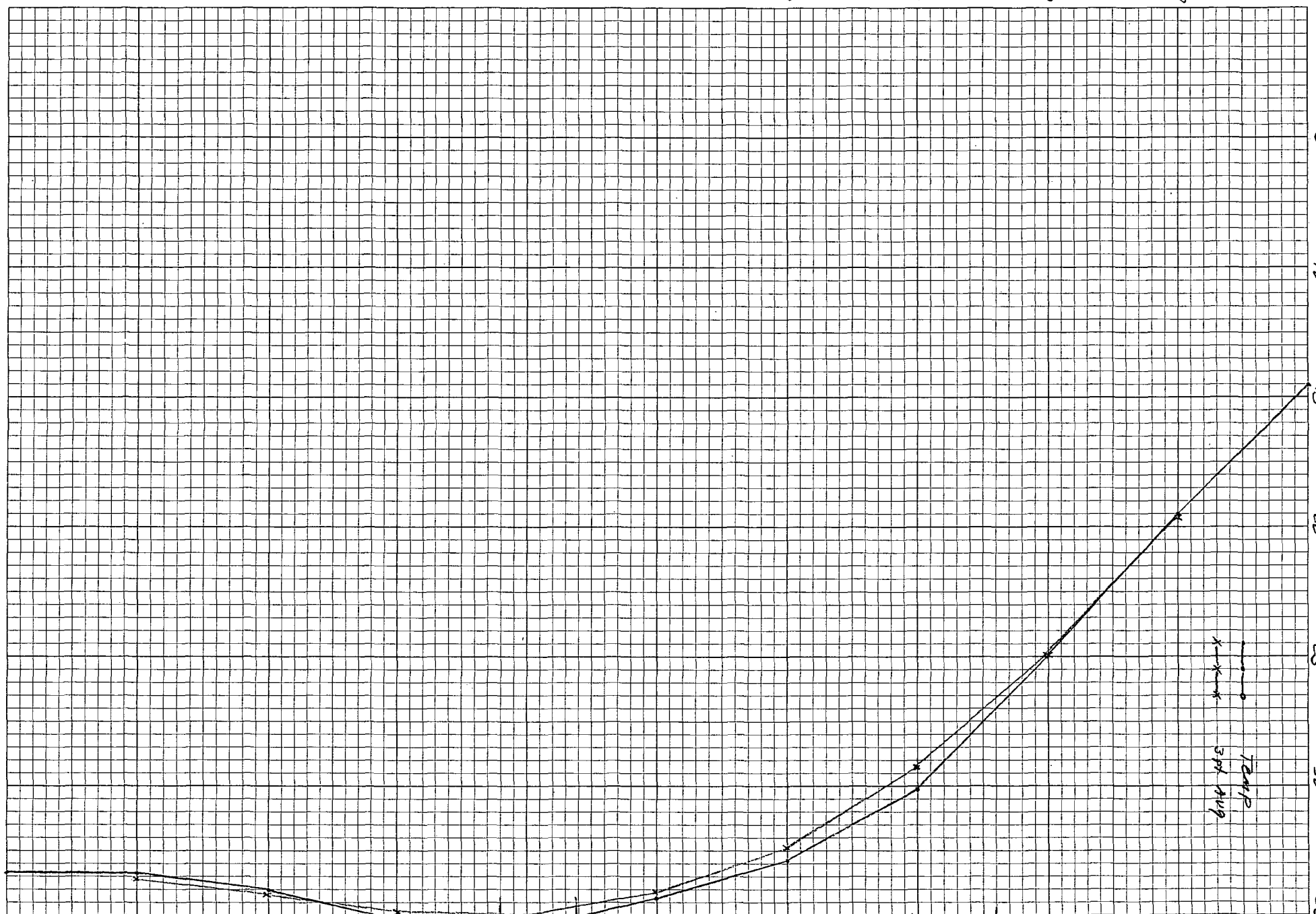
25

30

35

TEMP °C

TEMP
3rd Aug
x-x-x-x

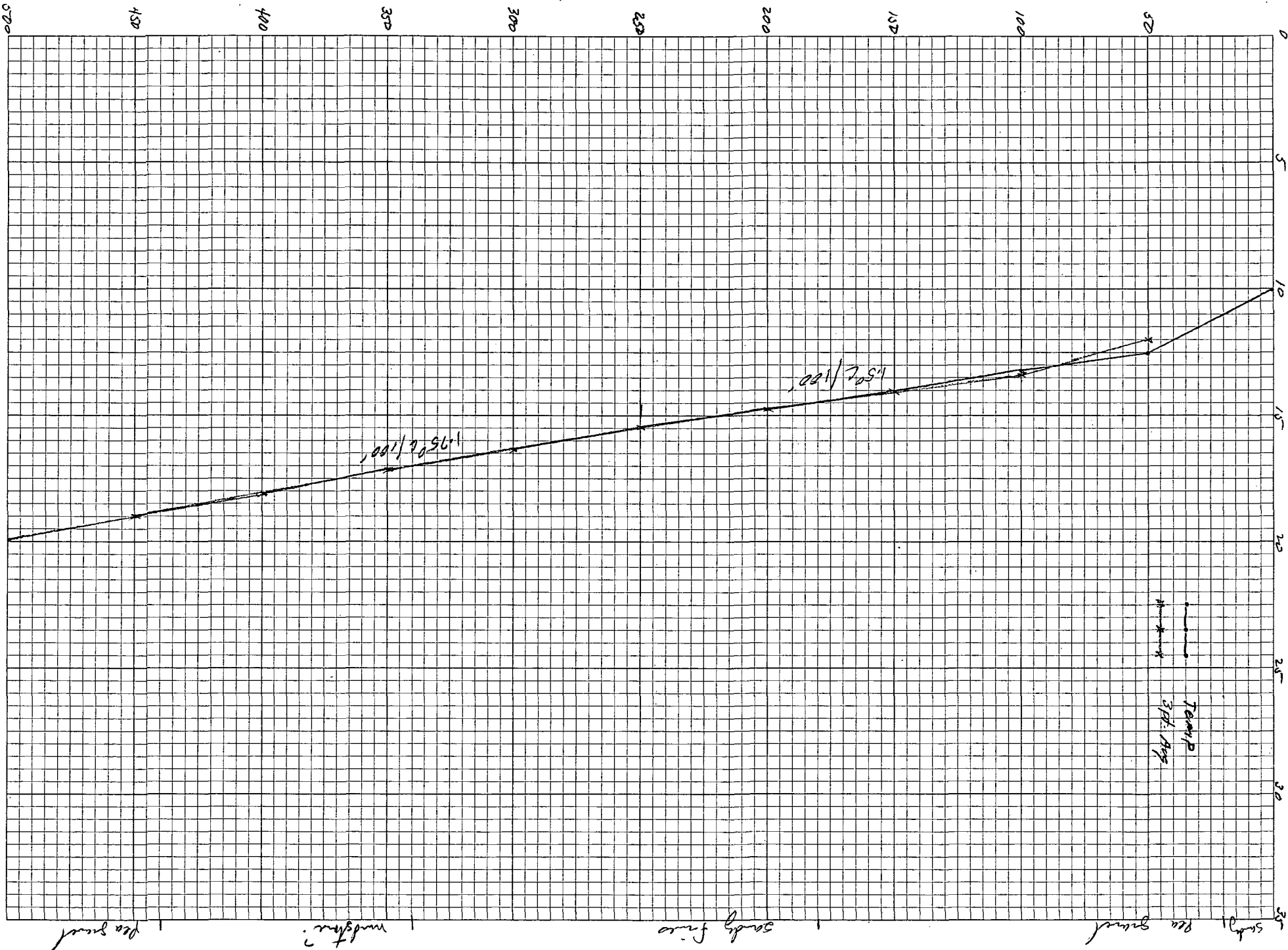


Colorado (600) DHS-8

alluvial sand w/ gravel frag. | fine gravel | sand | fine gravel to North

Depth in feet

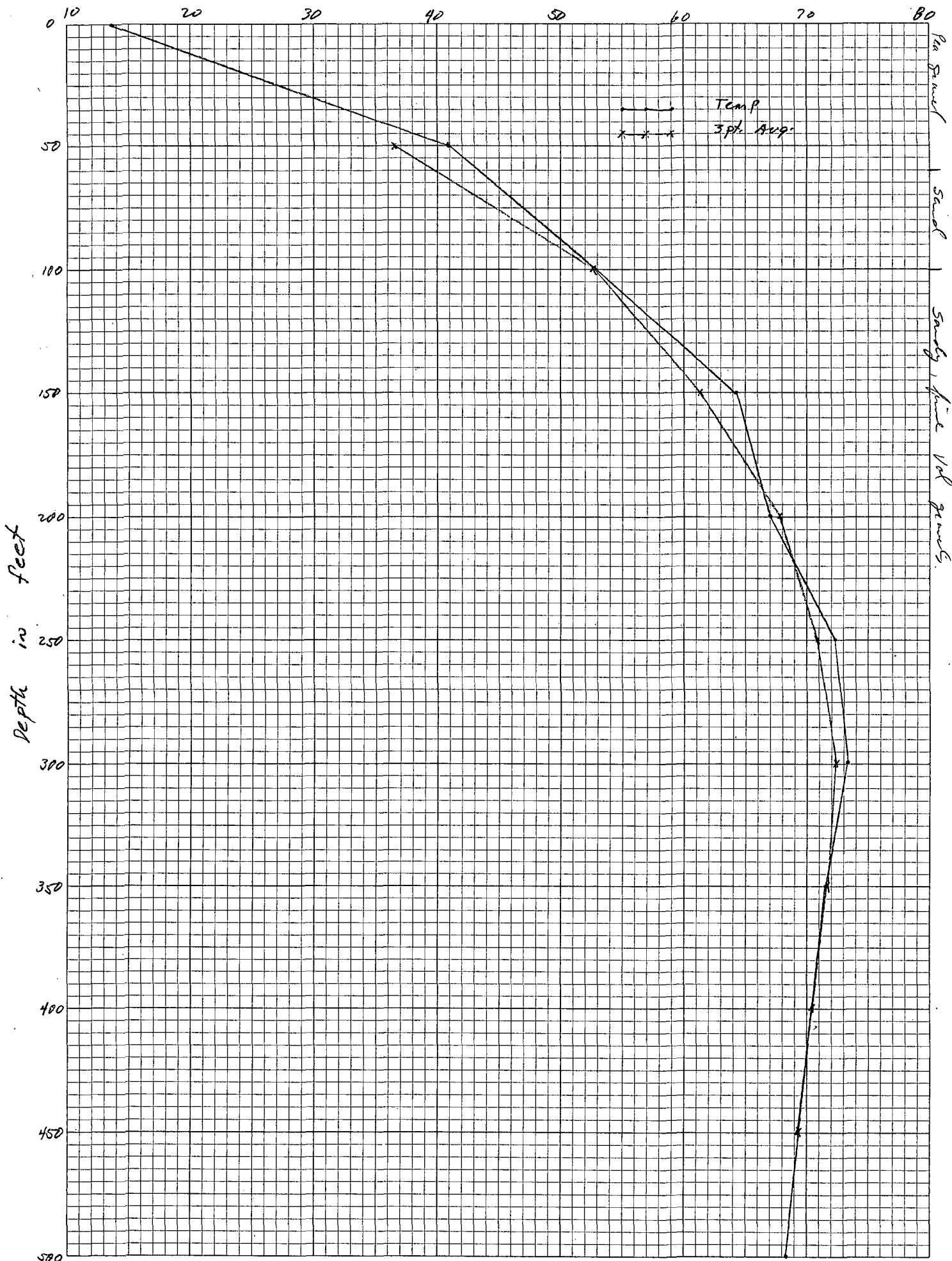
Colorado (GOC) DHG-6



DIETZGEN CORPORATION
MADE IN U.S.A.

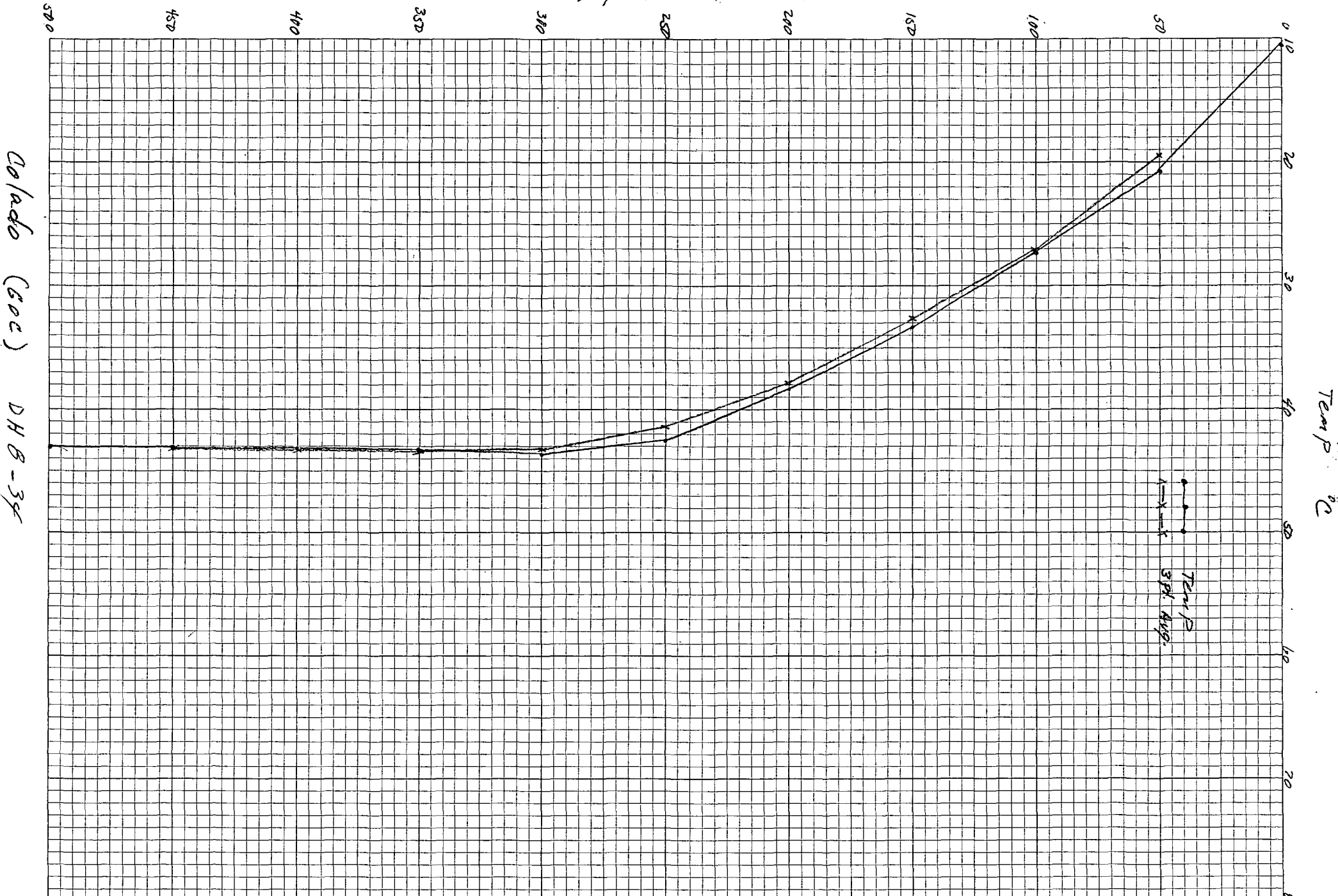
NO. 341-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

Temp °C



Colado (Goc) DH 7-4

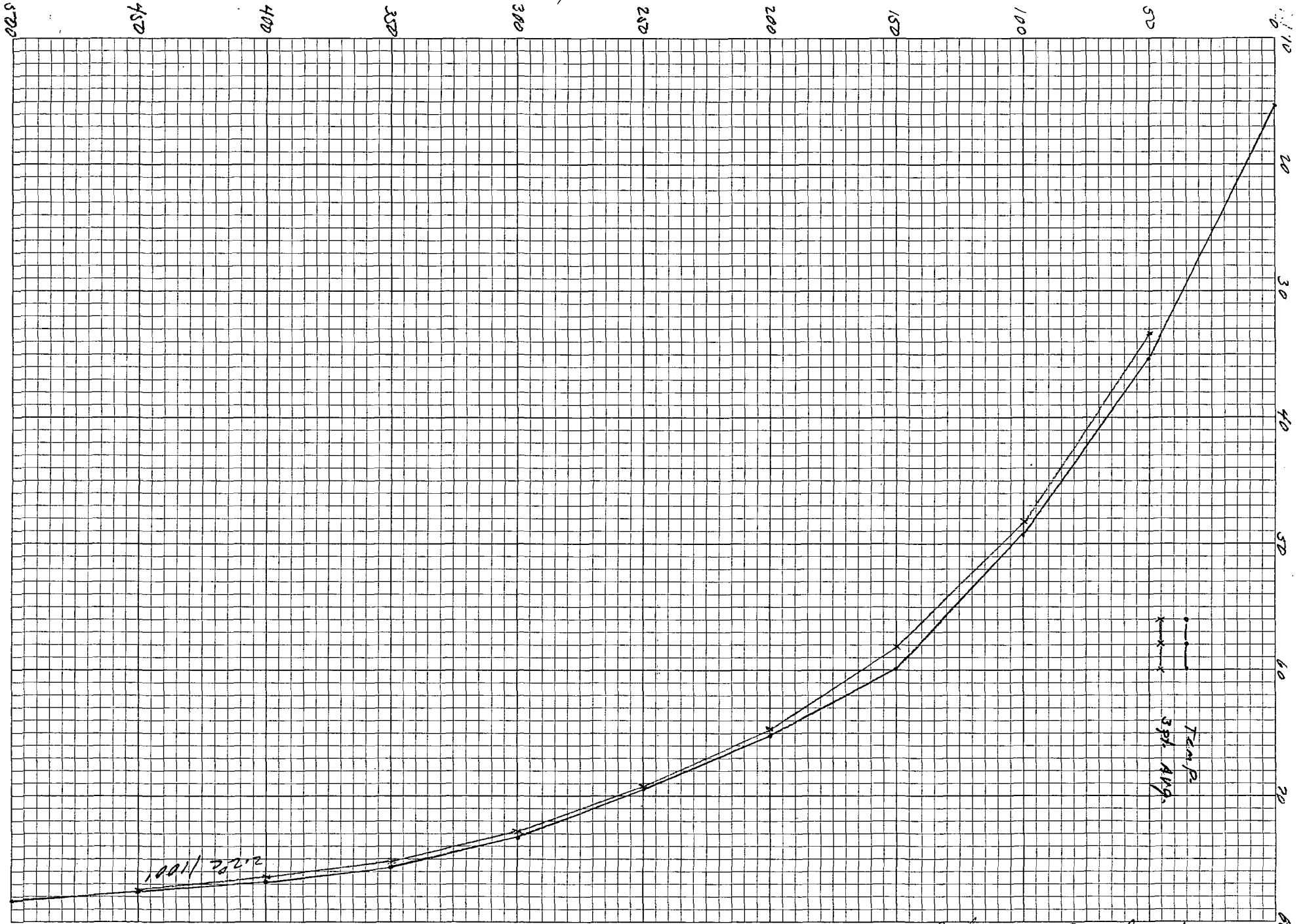
Depth 10 Feet



Colorado (600) DH 8-34

Free ground w/ud & ls frags. finer w/depth no obvious layering

Depth in feet

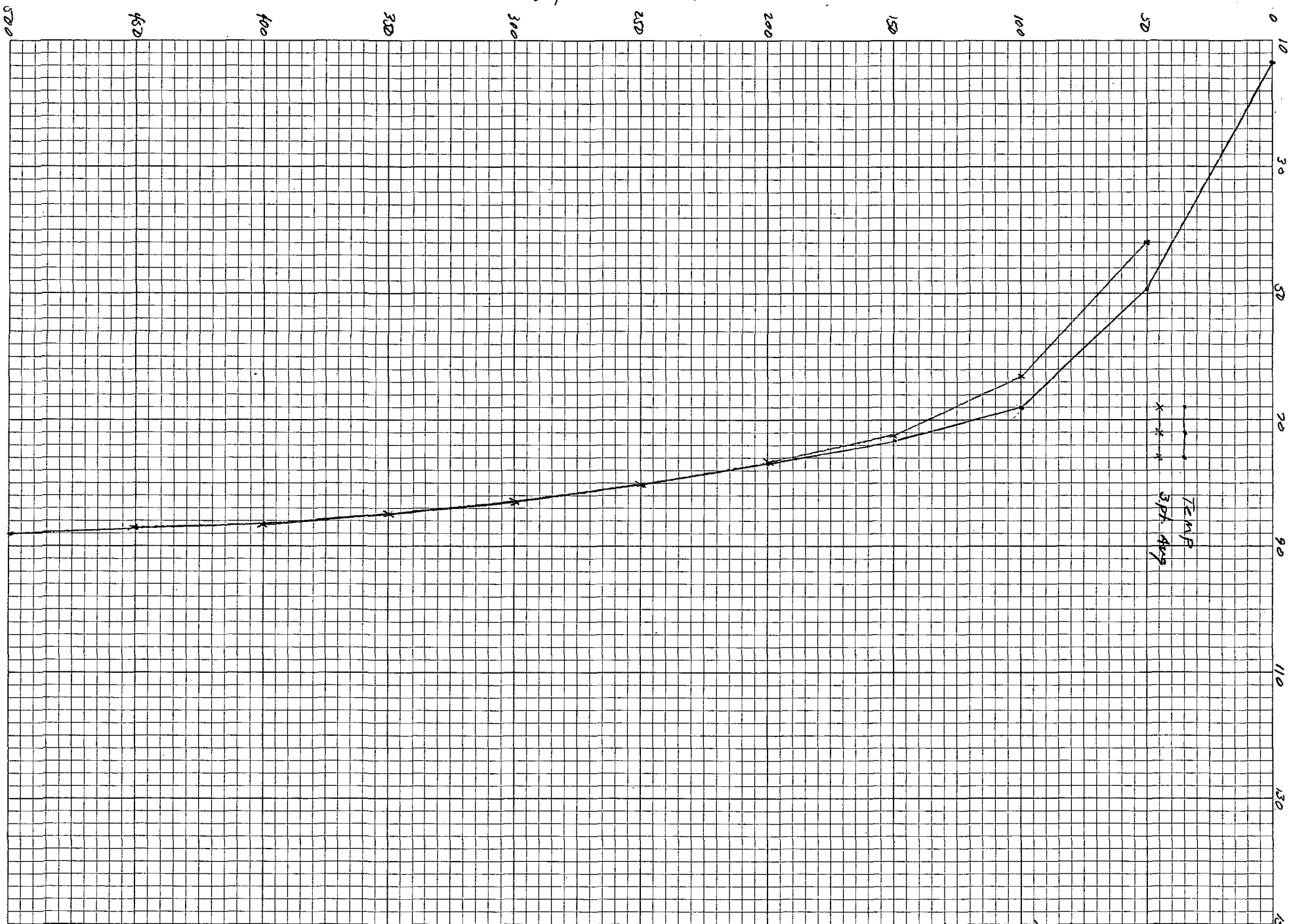


Colorado (GOC) DH 9-34

no thermometers

Depth in feet

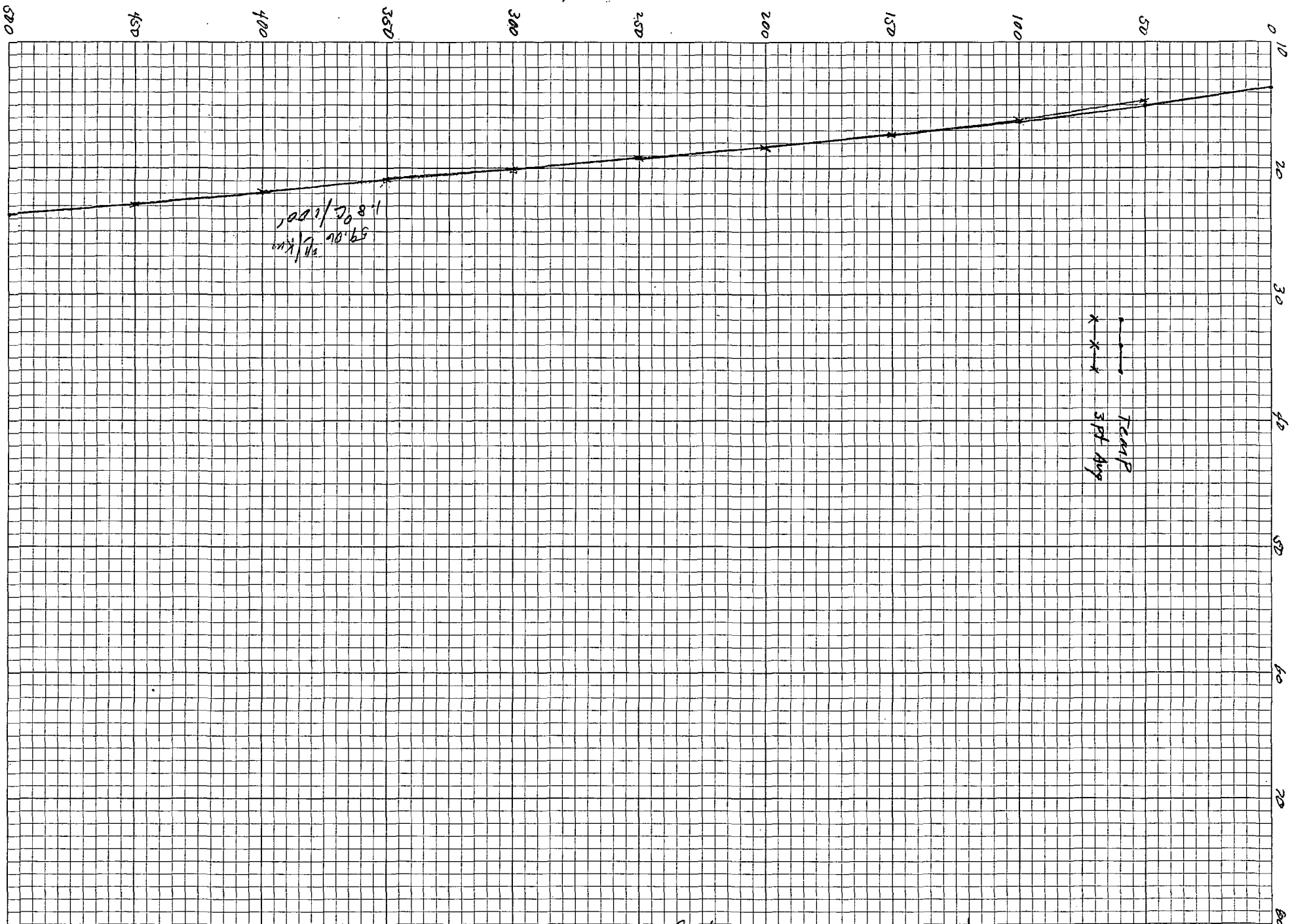
Colorado (GOC) DH10-34



TEMP
SPT. 4/29

1
fine
sands
w/ med
fine
x
medium
sands

Depth in feet



Temp
5 ft Avg

Core sample
All as used from the bottom

Colado (600) DH 11-36

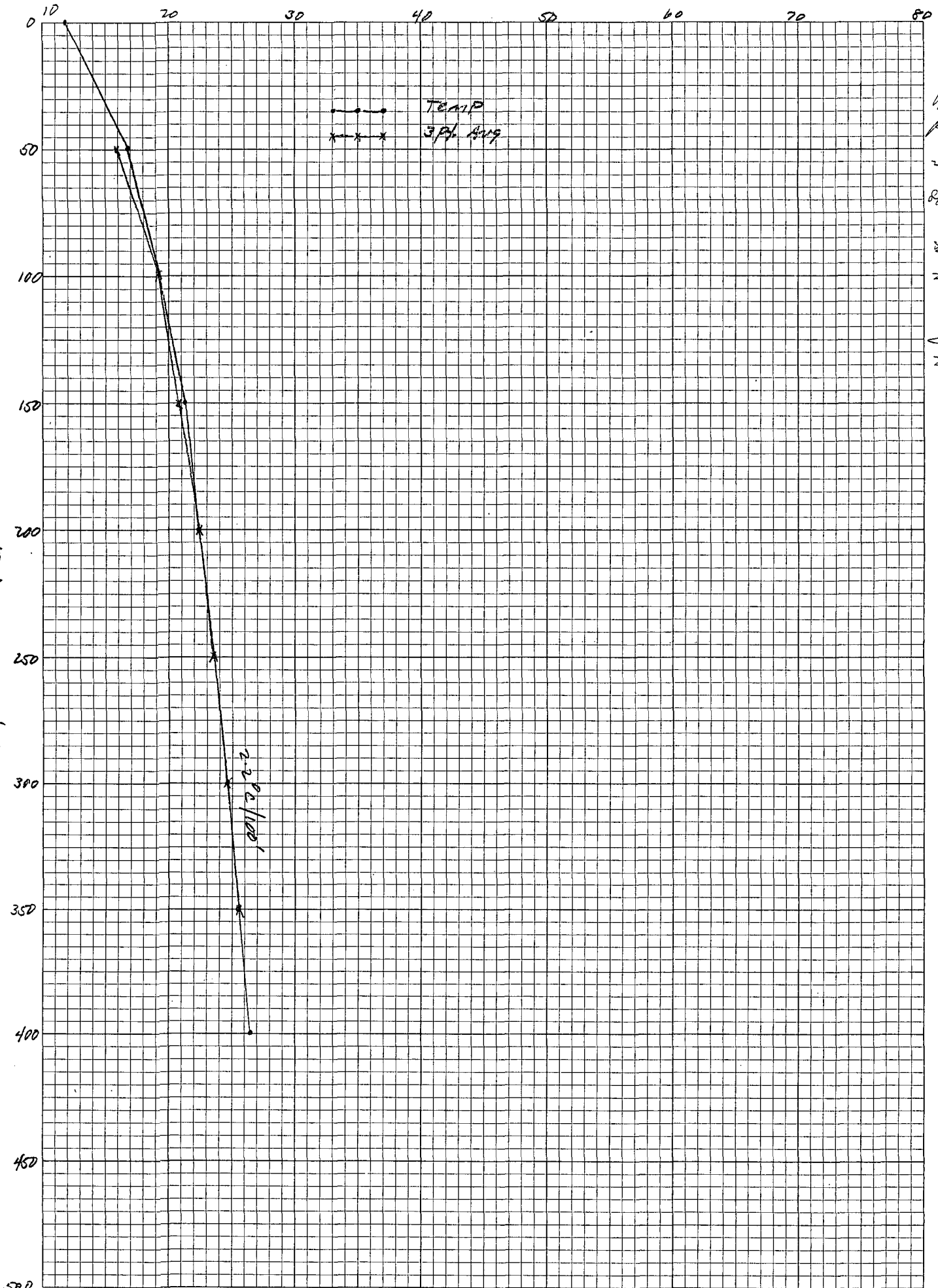
Temp °C

DIETZGEN CORPORATION
MADE IN U.S.A.

ND. 341-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

Depth in feet

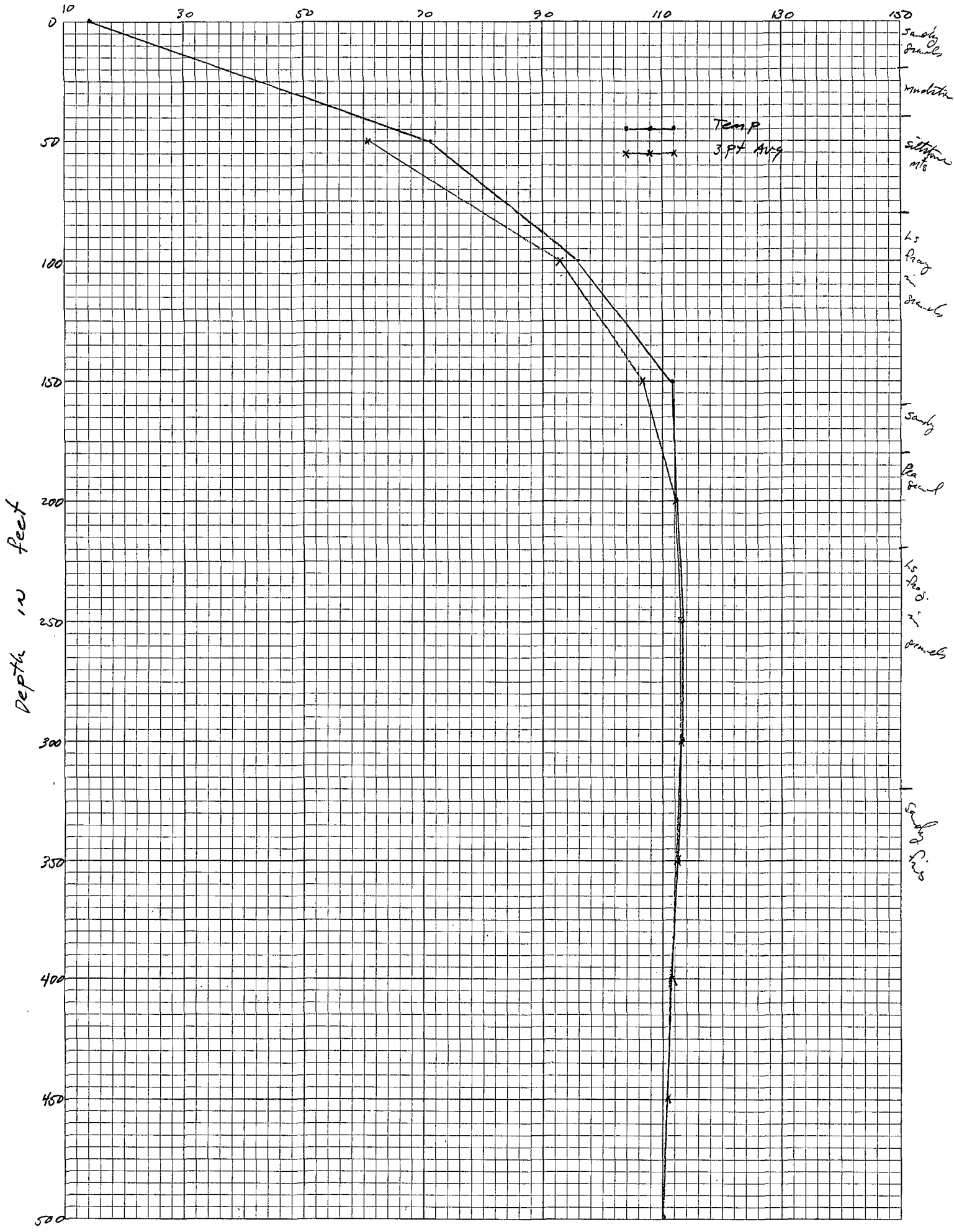
100 feet in
sands to
bottom of
hole



Colado (Goc) D.H. 12-26

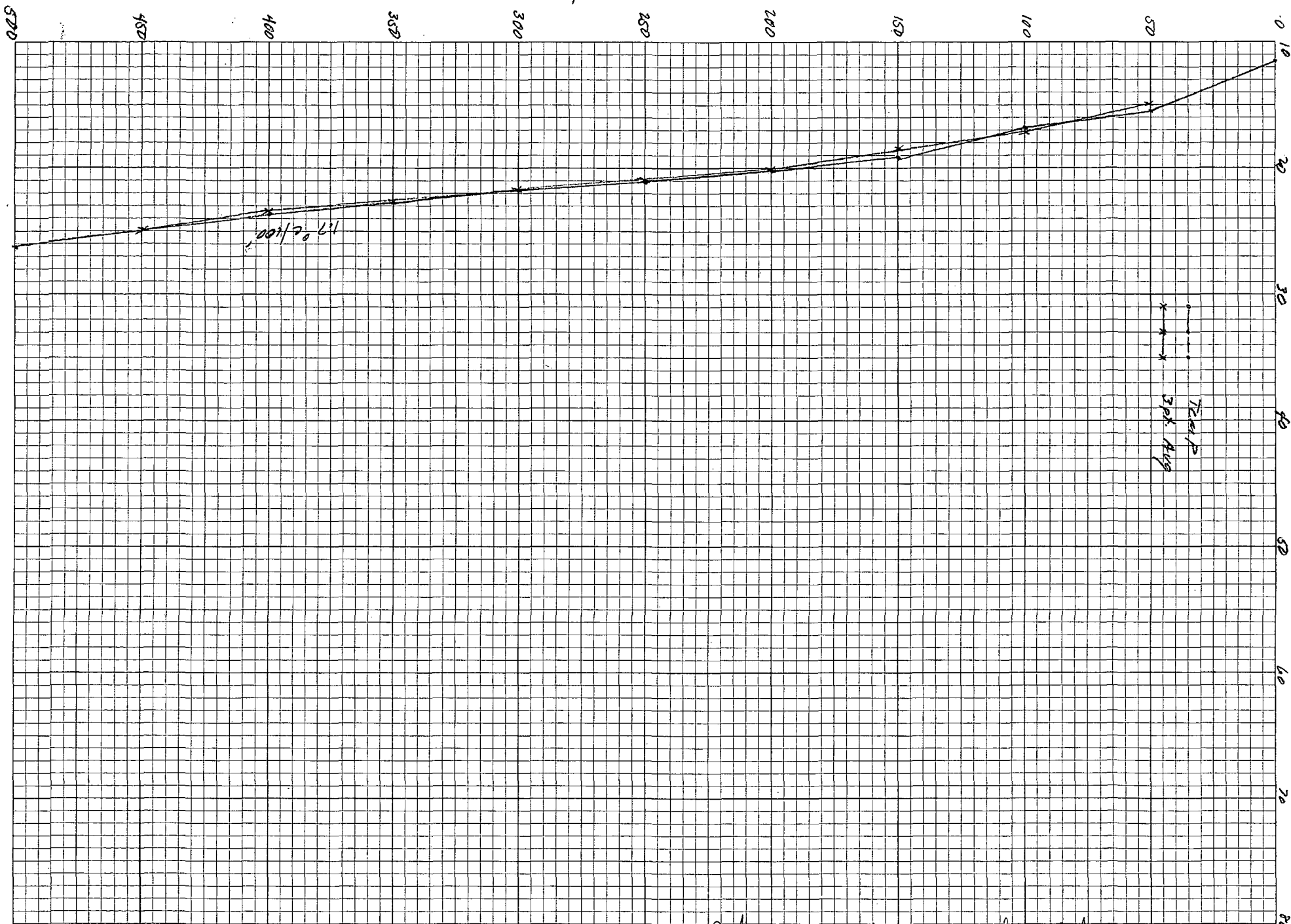
DIETZGEN CORPORATION
MADE IN U.S.A.
NO. 341-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

Temp °C



Colado (GOC) DH 14-22

Depth in feet



17°C/1000

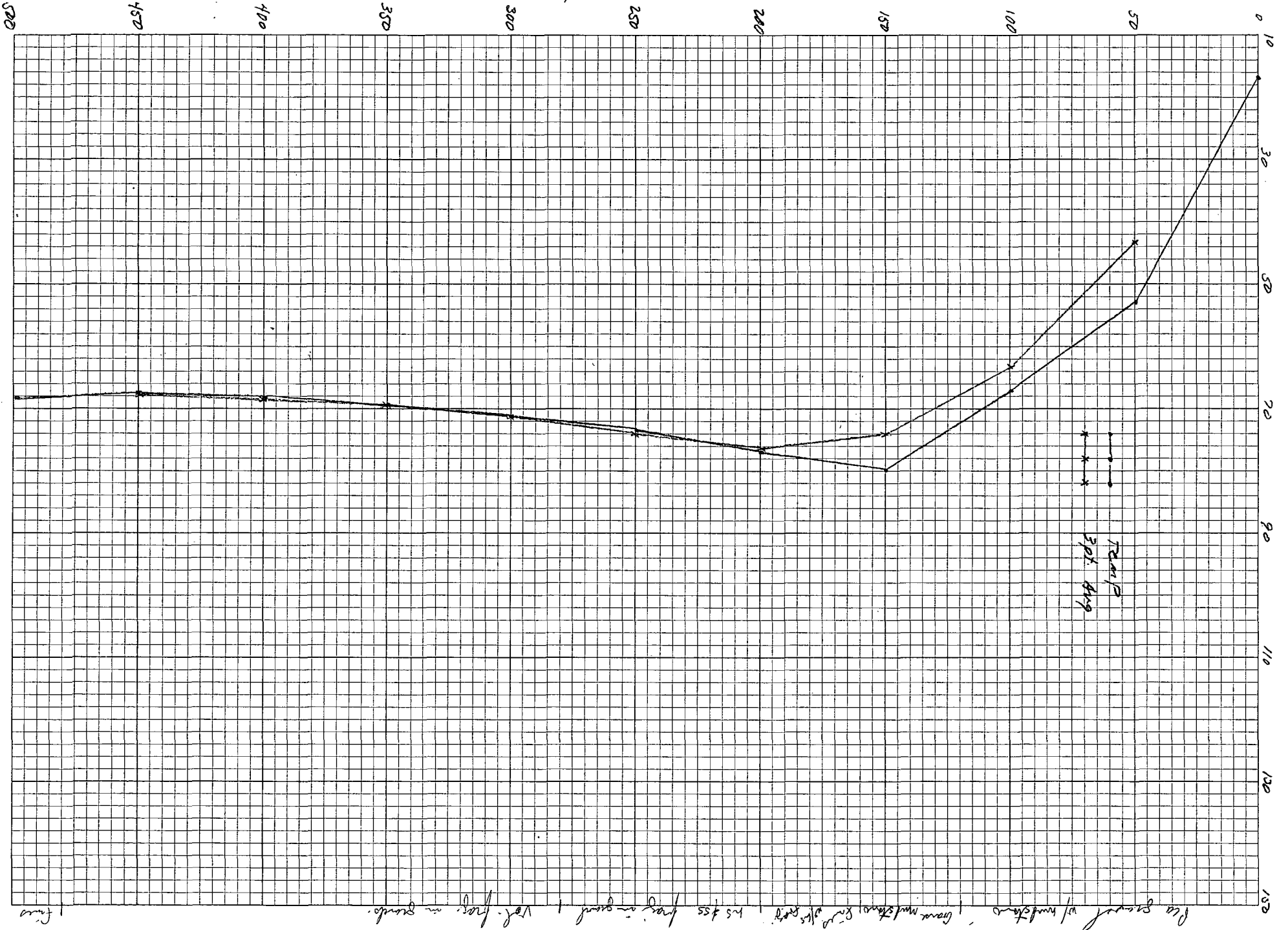
Temp
3pk Aug

15 feet in ground
mudstone part in ground

Colorado (60c) DHS-21

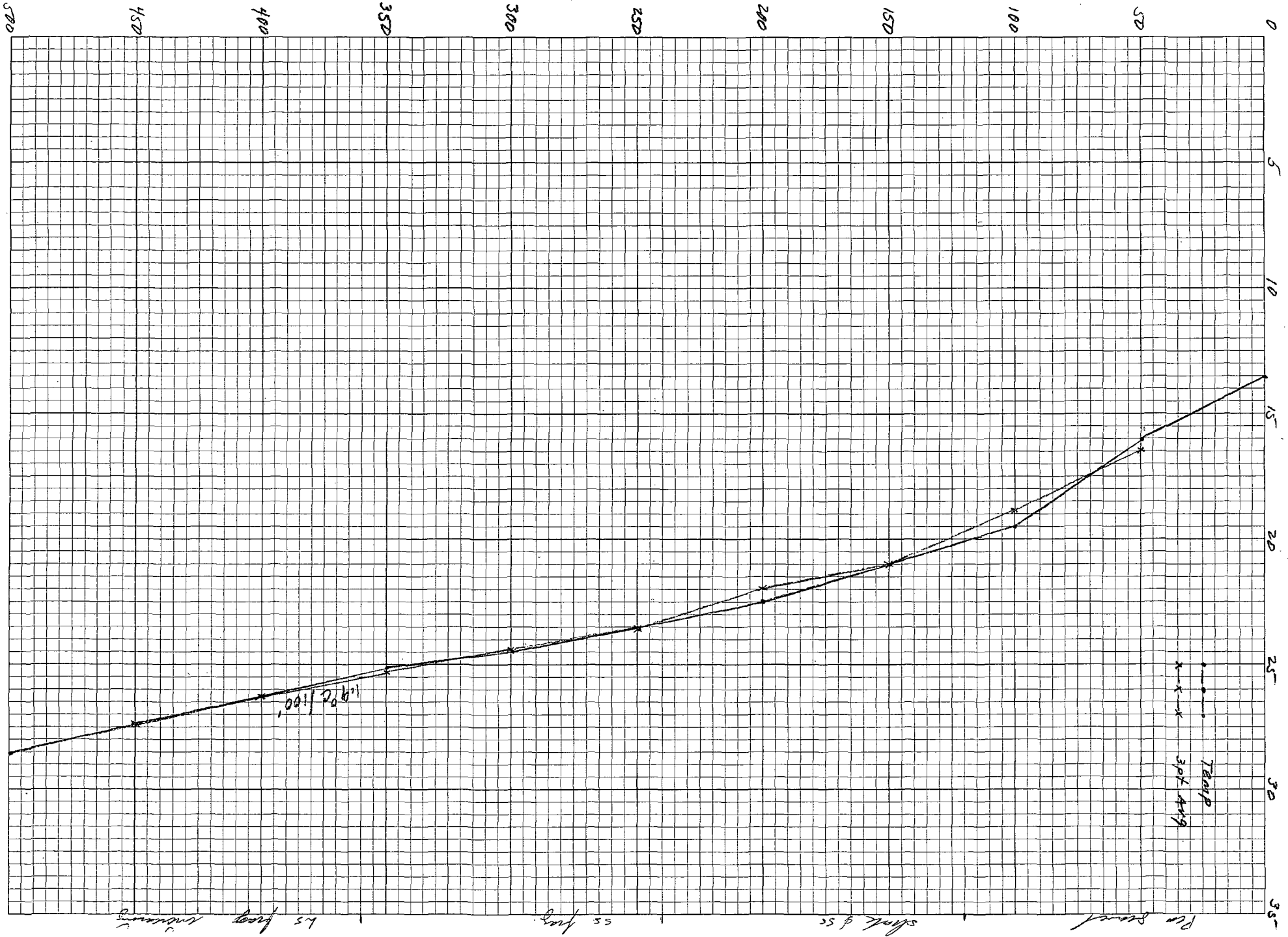
Depth in feet

Colorado (800) DH16-22



Ice ground w/ mudstone, coarse mudstone, sandstone, ls. fss. frag. in ground, Vol. frag. in sands.

Depth in feet

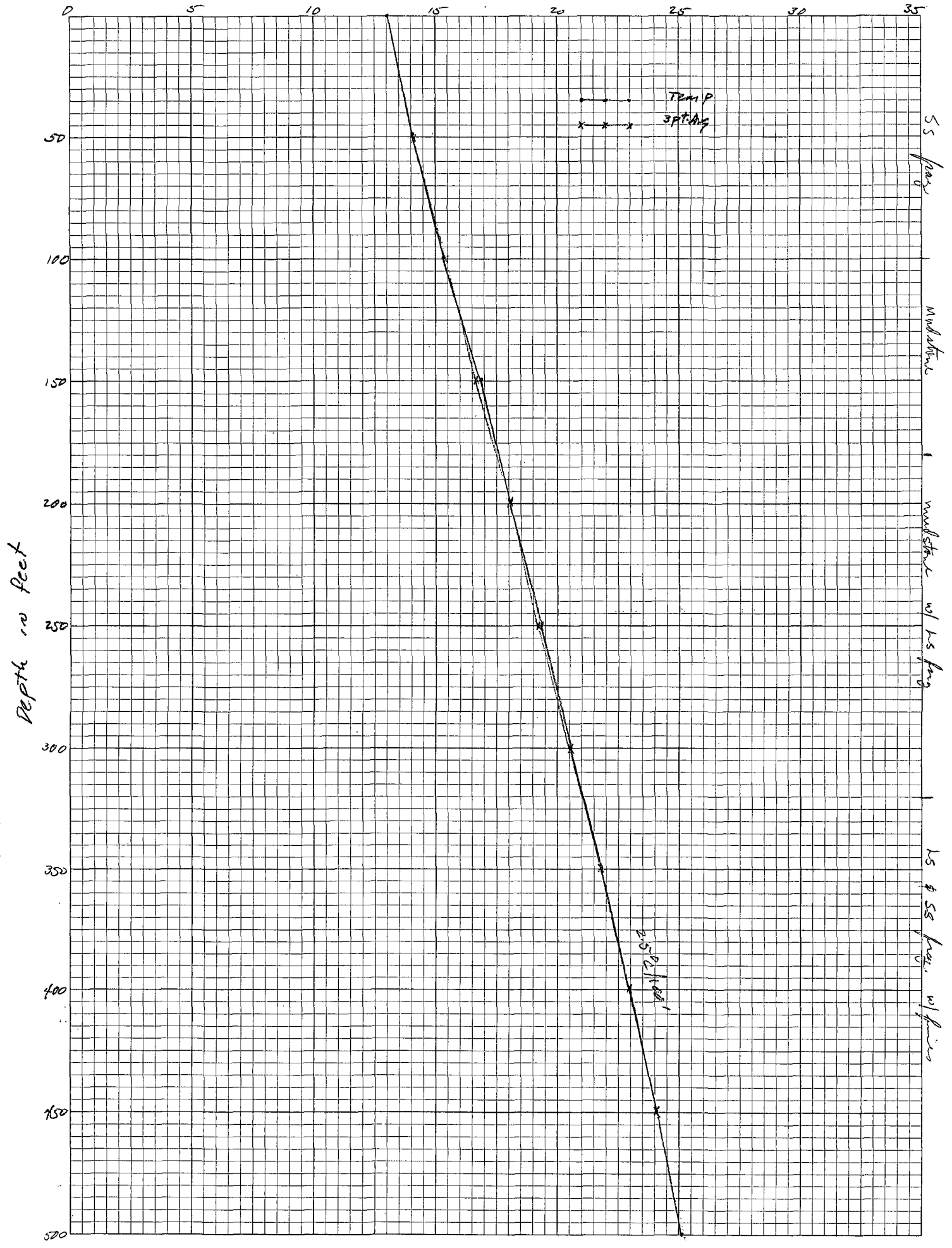


Colorado (600) DH 17-24

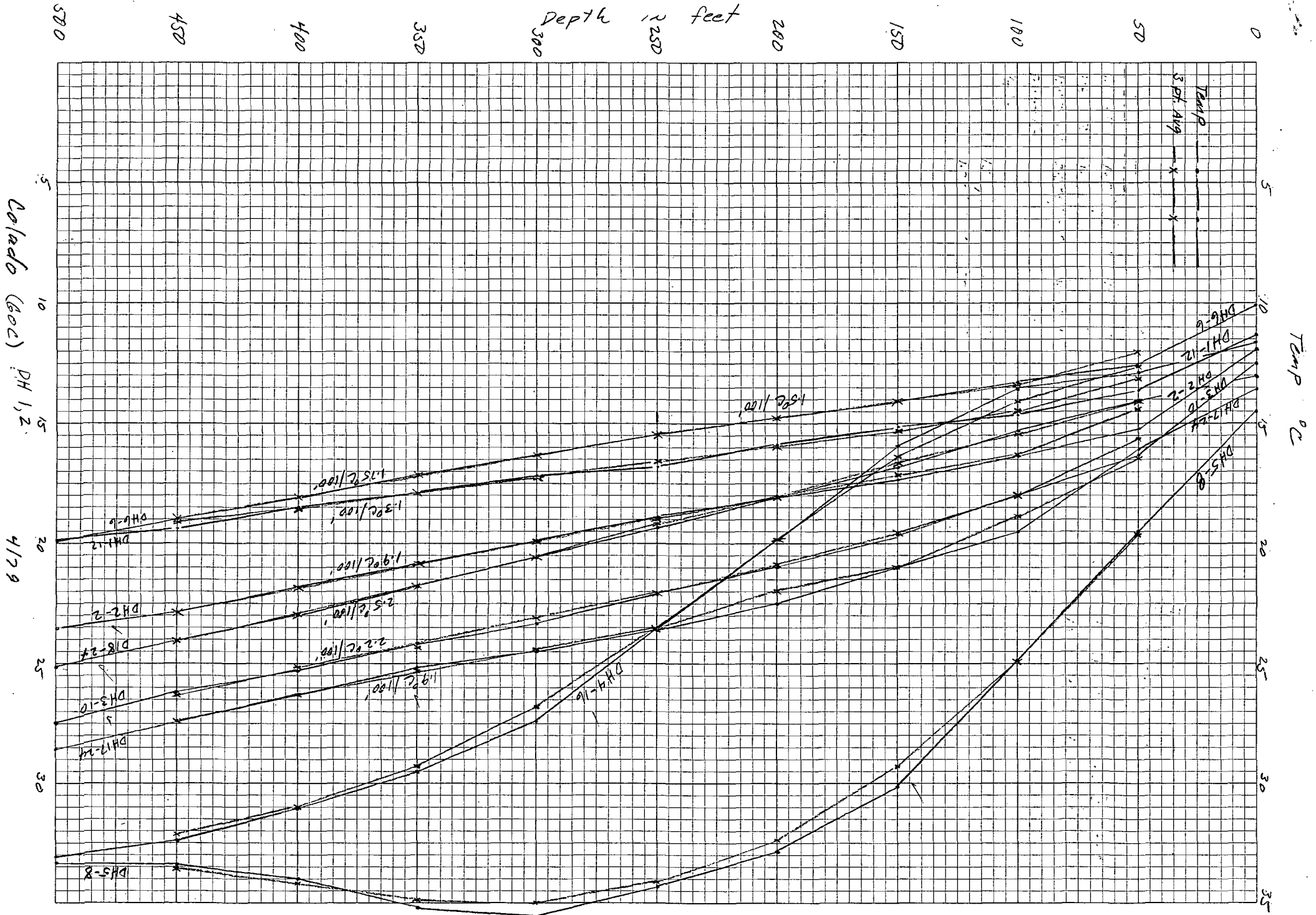
DIETZGEN CORPORATION
MADE IN U.S.A.

NO. 341-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

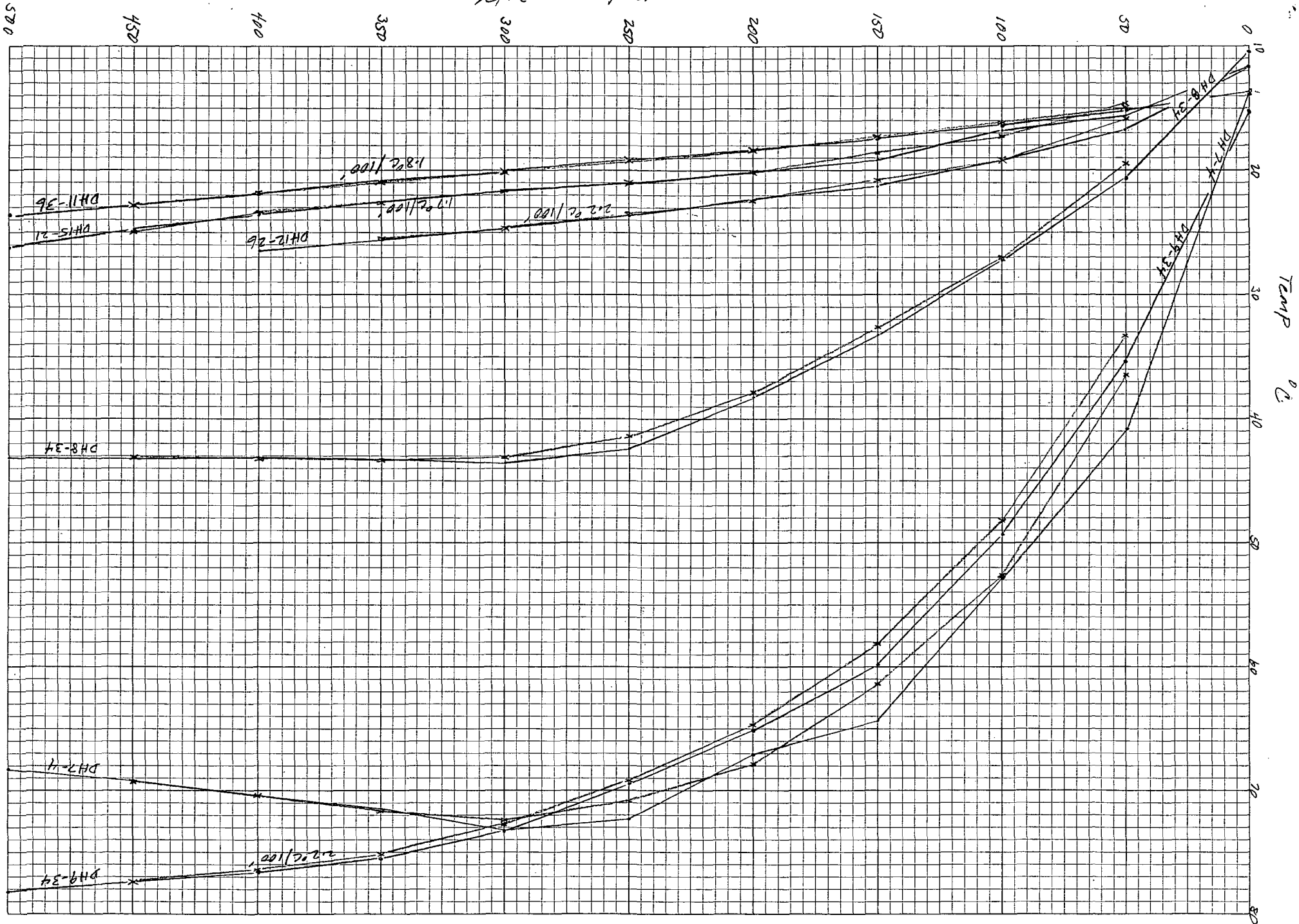
Temp °C



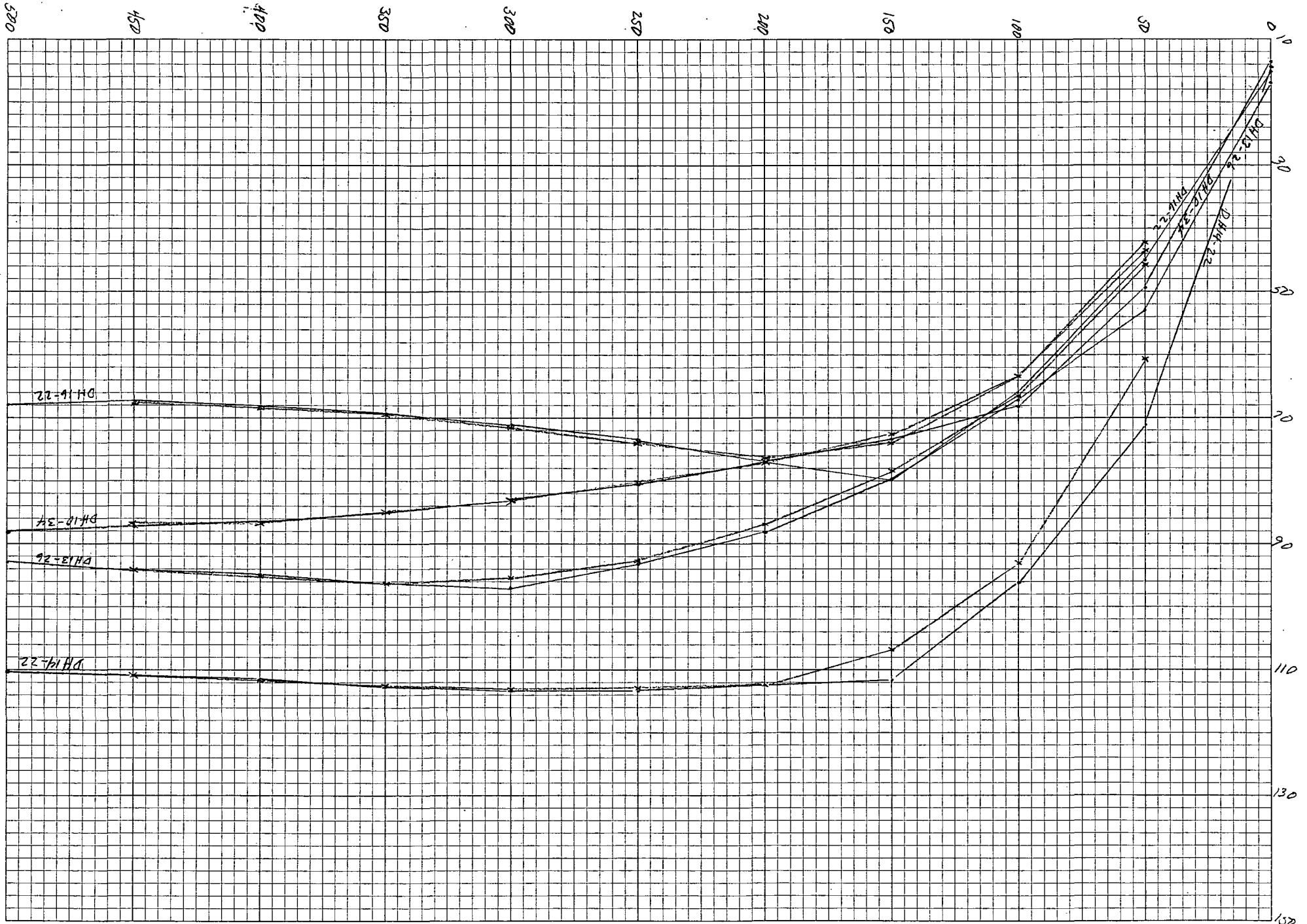
Colado (60c) DH 18-24

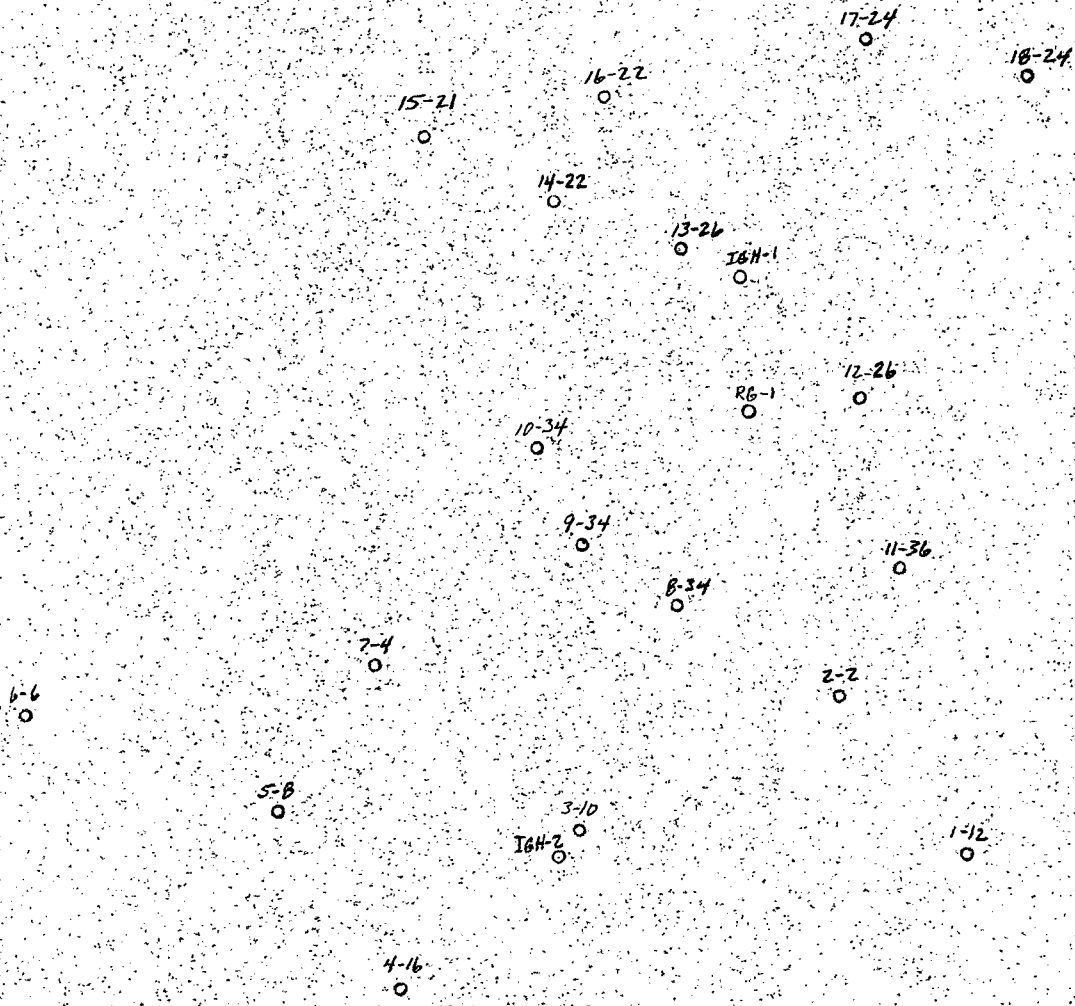


Depth in feet



Depth in feet

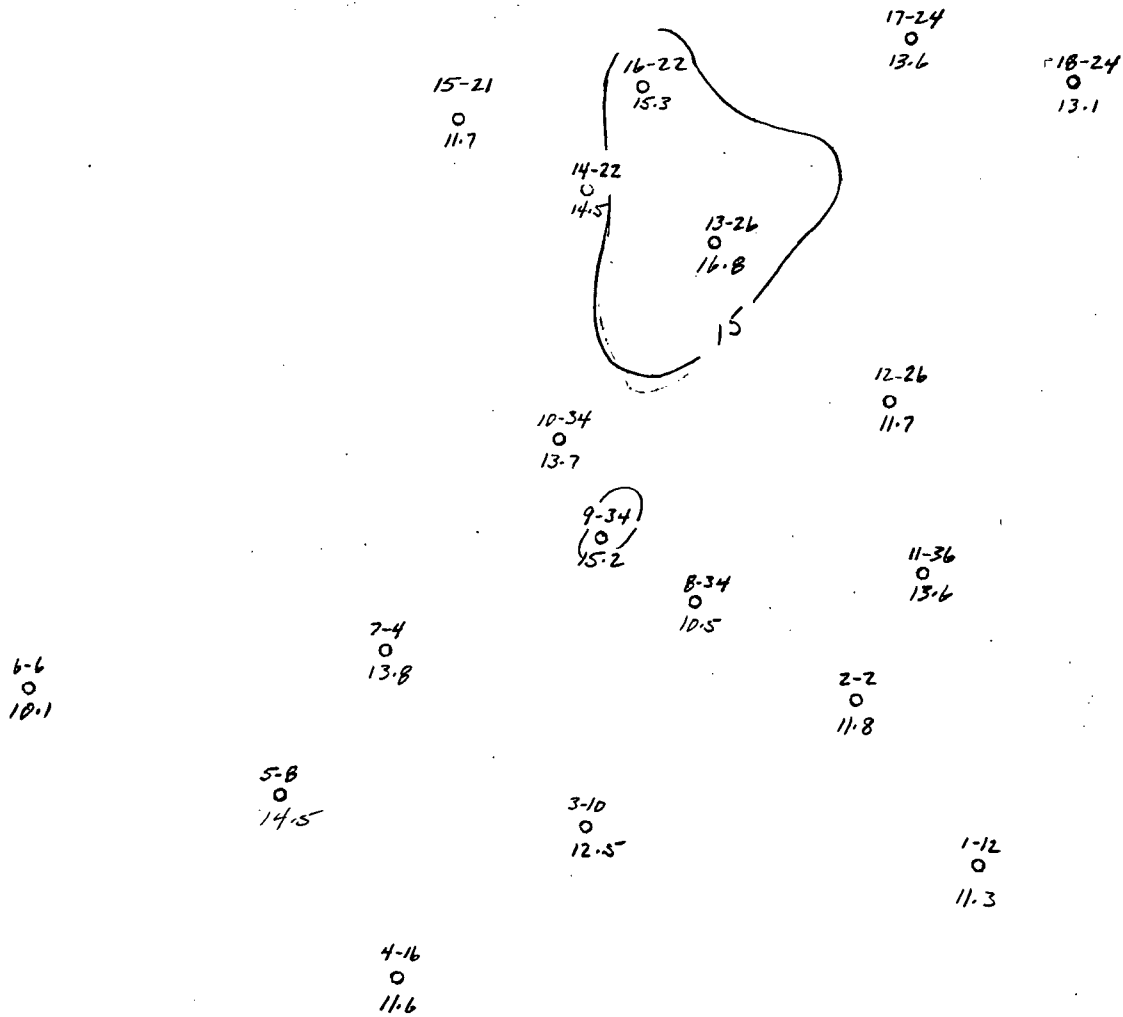




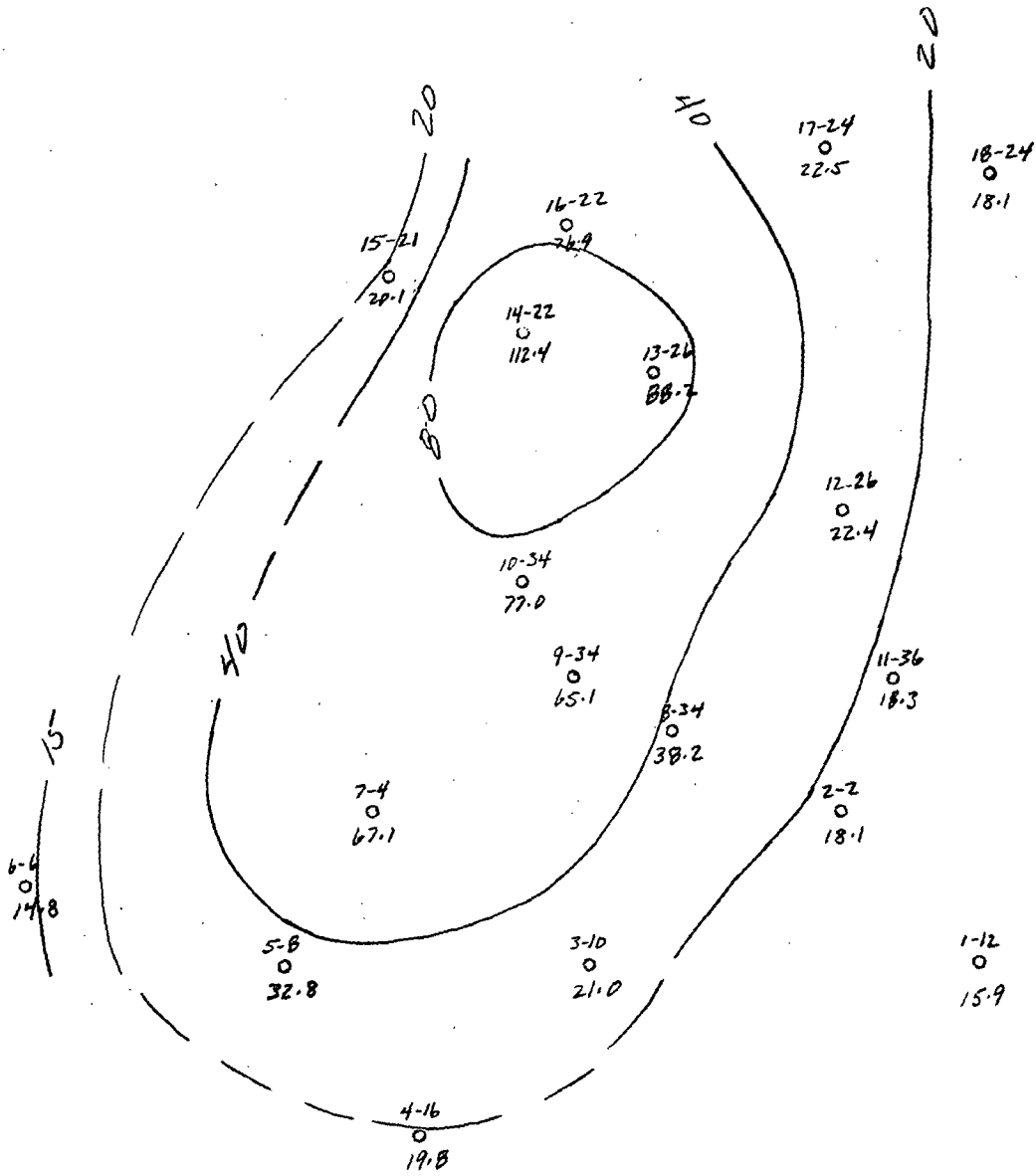
GRADIENT DRILL HOLE LOCATIONS
COLORADO KGRA
PERSHING COUNTY, NEVADA

scale 1:62,500

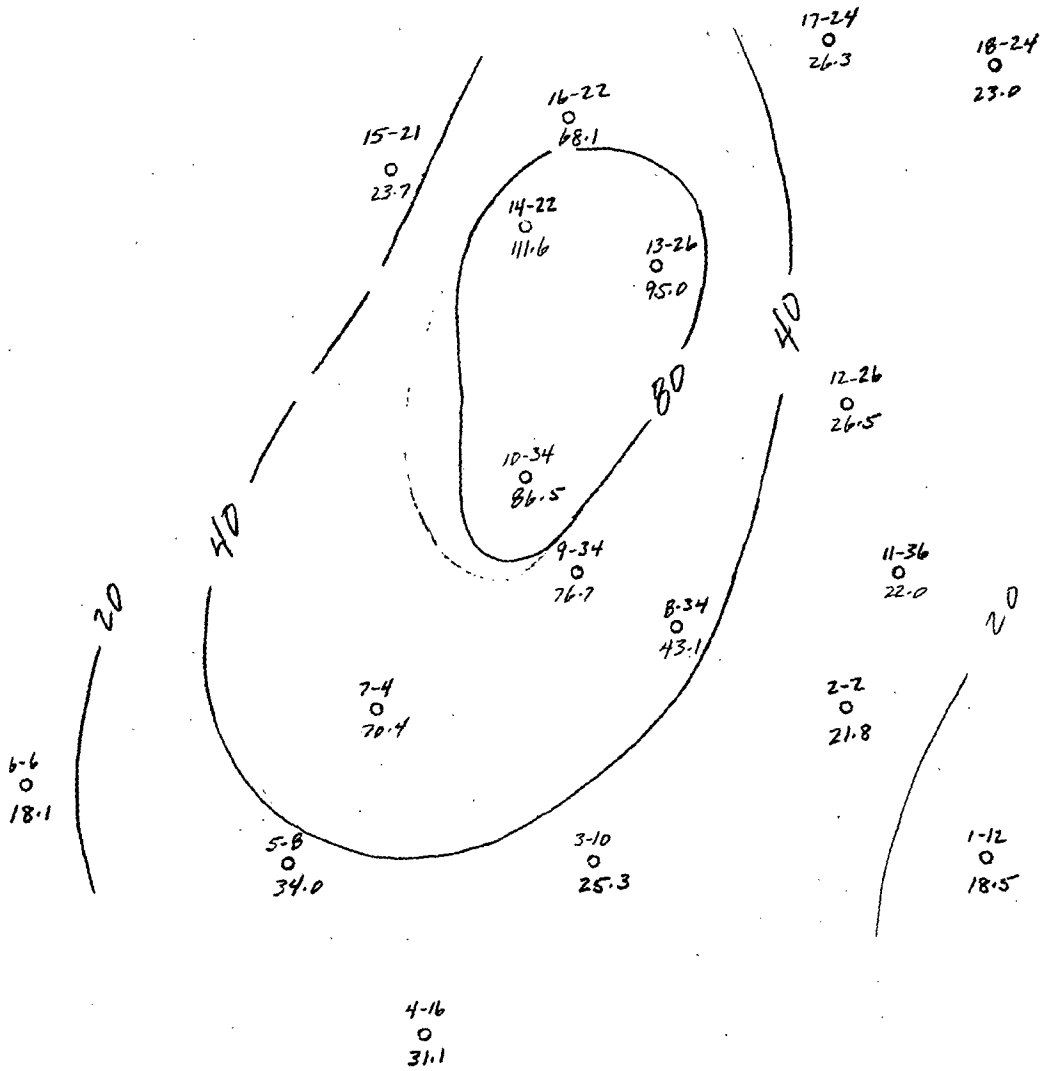




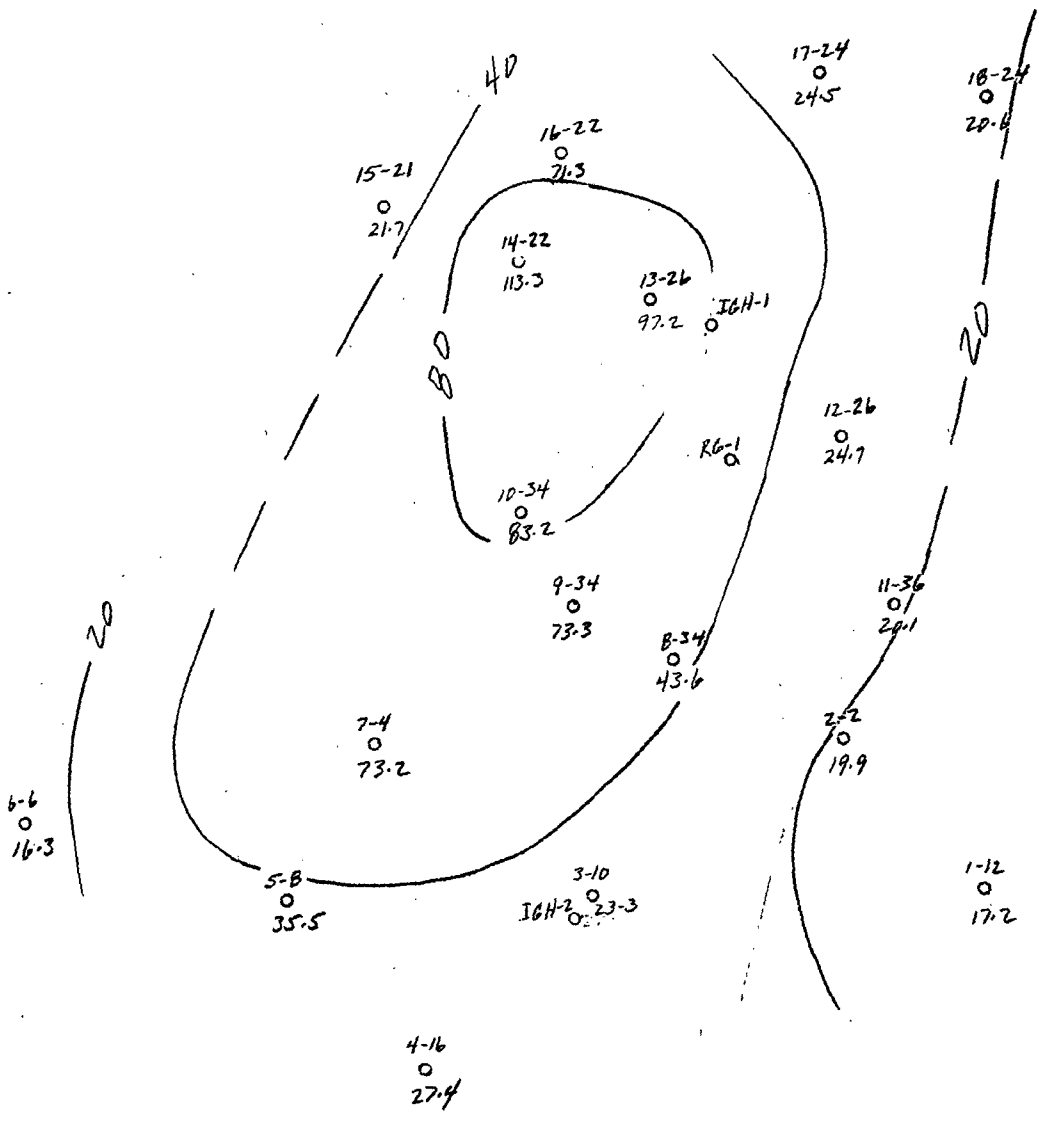
Colorado Temp °C. @ surface
4/79



Colado 417A TEMP '2 @ 280'

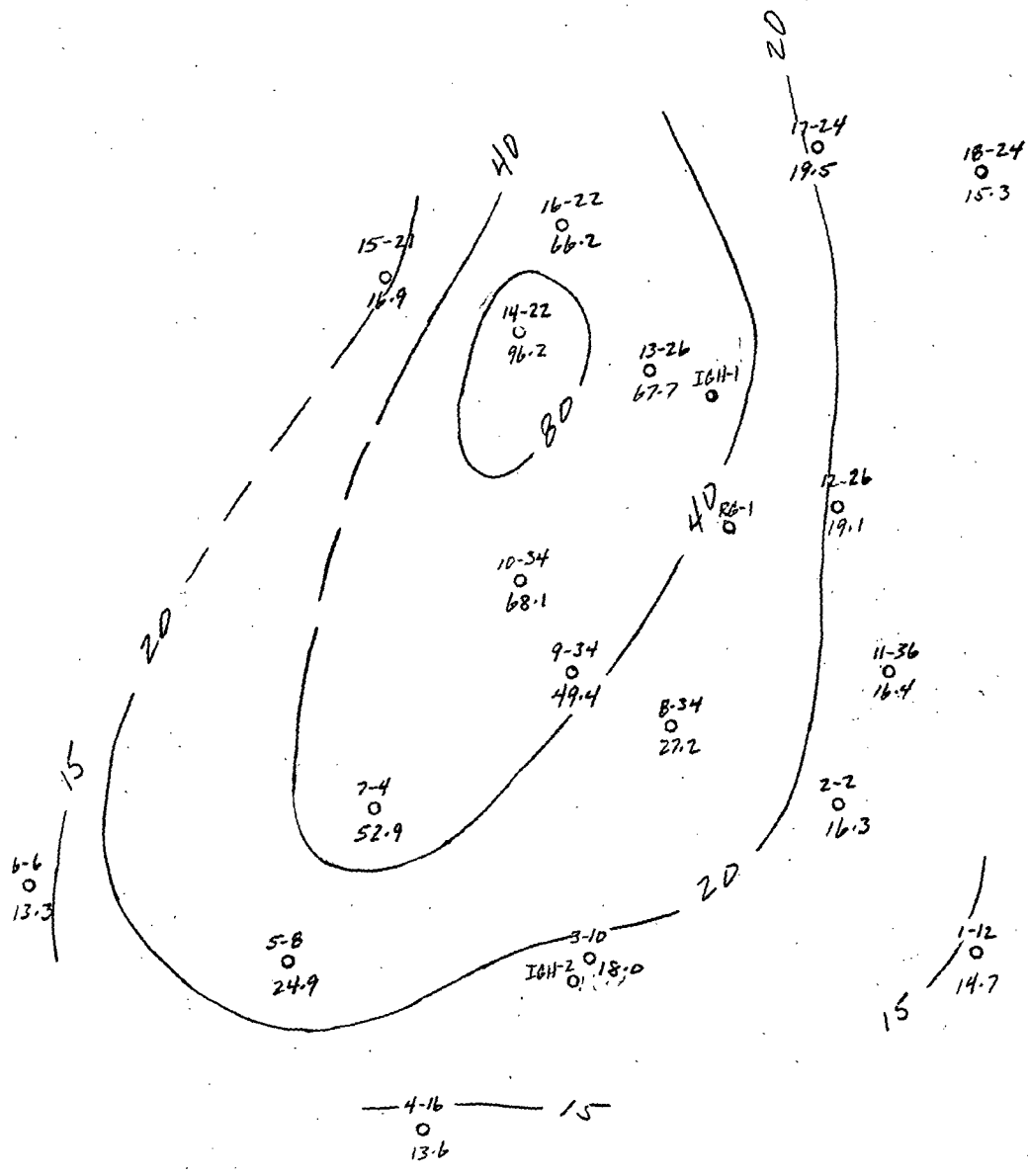


Colado Temp, cc @
4/79



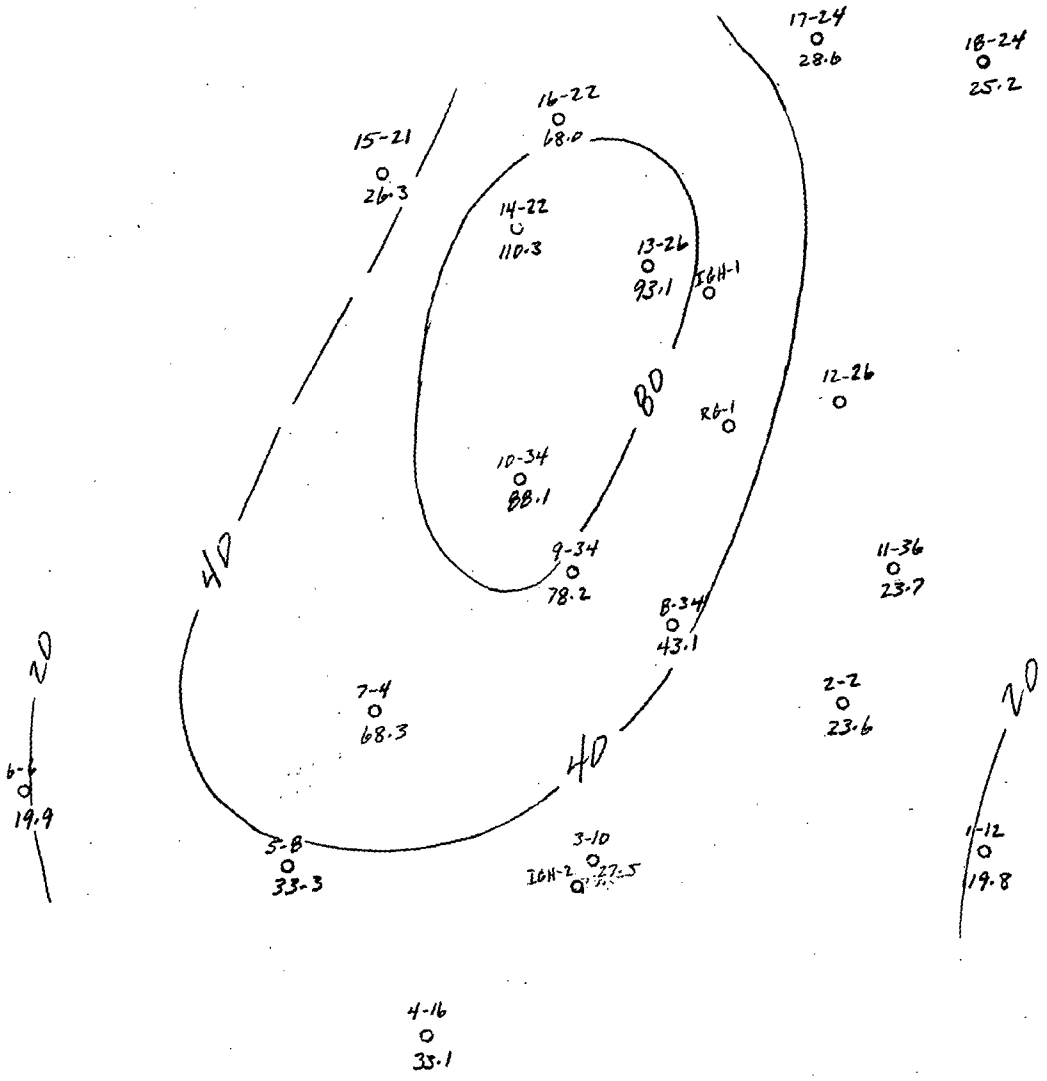
scale 1:62,500

Colado Temp °C @
4/79



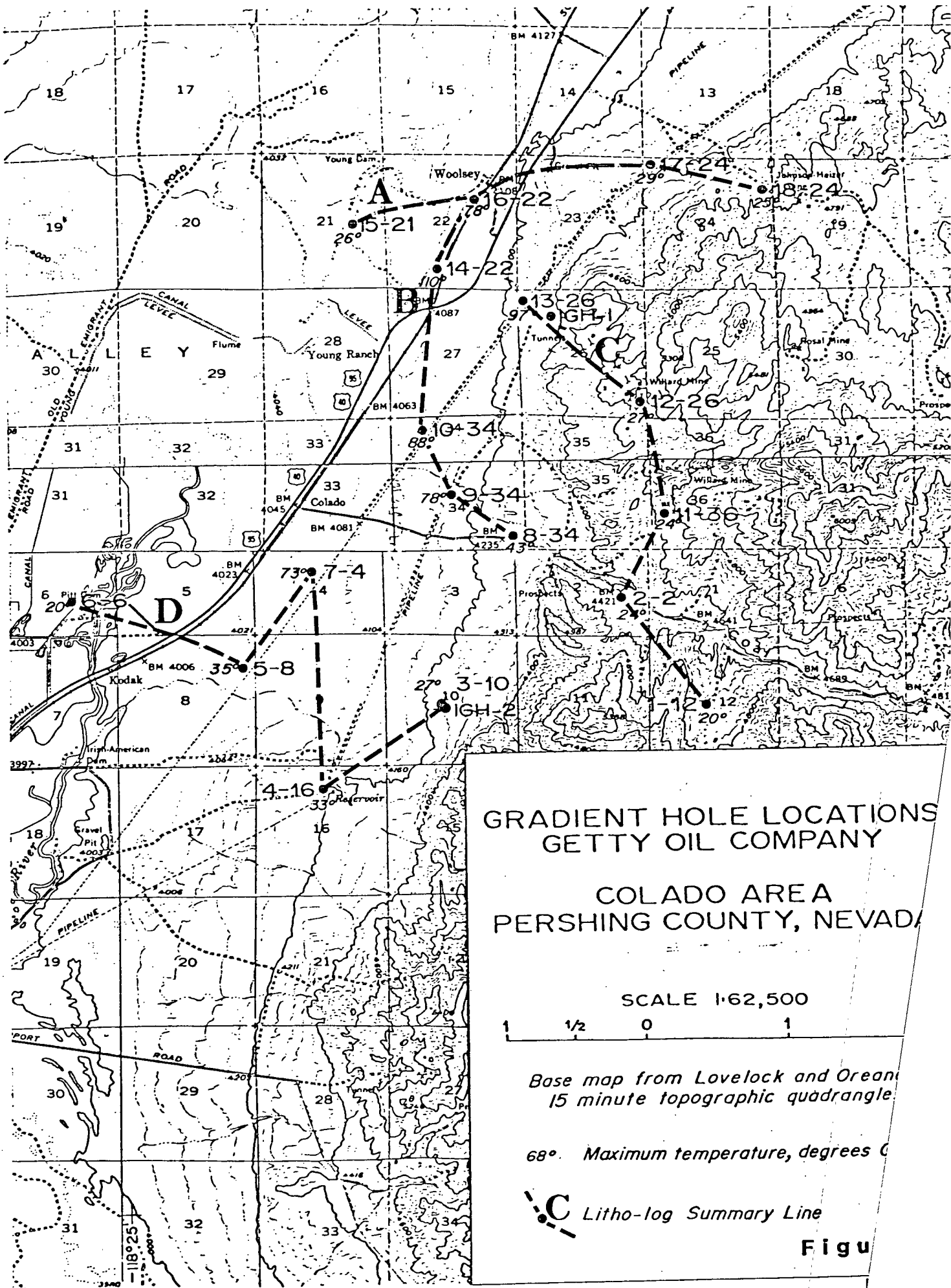
Colado Temp °C @ 100'
 4/79

scale 1:62,500



Colado Temp °C @
4/29

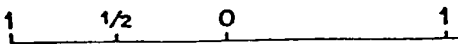
Scale 1:62,500



GRADIENT HOLE LOCATIONS
GETTY OIL COMPANY

COLADO AREA
PERSHING COUNTY, NEVADA

SCALE 1:62,500



Base map from Lovelock and Orono
15 minute topographic quadrangle

68° Maximum temperature, degrees C

C Litho-log Summary Line

Figur

Search

Colorado Area, Pershing Co.
topo maps
Oreana 15'
Lovelock 15'

Johnson, M.G. (1977). Geol. & min dep. of
Pershing Co. NBMG Bull 89. 115p. 4 pl. (II)

Stewart, J.H., Carlson, J.E. (1976) Geol. rks. of Nev.
NBMG map 52 sheet 2: Distribution &
lithologic char. of 17-6 my sedy. & ign rks of
Nev., showing centers of volcanism

sheet 4 a/a 2-6 my
Includes abstract (in library as Map 11)

Everett & Rush (1965): concerning temp. (reference
in NBMG Bull 91 to be published 1/79)

Pruss et al (1961): concerning temp (a/a)

GETTY OIL COMPANY

Operator

1-12

Well No.

Section: 12 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 4-18-79

Depth (ft.)

Temperature (°F)

Surface	11.3°C	52.3°
50 . . .	13.6°C	56.5°
100 . . .	14.7°C	58.5°
150 . . .	15.2°C	59.4°
200 . . .	15.9°C	60.6°
250 . . .	16.8°C	62.2°
300 . . .	17.2°C	63.0°
350 . . .	17.9°C	64.2°
400 . . .	18.5°C	65.3°
450 . . .	19.4°C	66.9°
500 . . .	19.8°C	67.6°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

2-2

Well No.

Section: 2 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 4-18-79

Depth (ft.)

Temperature (°F)

Surface	11.8°C	53.2°
50 . . .	15.2°C	59.4°
100 . . .	16.3°C	61.3°
150 . . .	17.3°C	63.1°
200 . . .	18.1°C	64.6°
250 . . .	18.9°C	66.0°
300 . . .	19.9°C	67.8°
350 . . .	20.8°C	69.4°
400 . . .	21.8°C	71.2°
450 . . .	22.9°C	73.2°
500 . . .	23.6°C	74.5°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

3-10
Well No.

Section: 10 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 4-19-79

Depth (ft.) Temperature (°F)

Surface	12.5°C	54.5°
50 . . .	16.3°C	61.3°
100 . . .	18.0°C	64.4°
150 . . .	19.7°C	67.5°
200 . . .	21.0°C	69.8°
250 . . .	22.1°C	71.8°
300 . . .	23.3°C	73.9°
350 . . .	24.2°C	75.6°
400 . . .	25.3°C	77.5°
450 . . .	26.2°C	79.2°
500 . . .	27.5°C	81.5°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

4-16

Well No.

Section: 16 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 4-20-79

Depth (ft.)

Temperature (°F)

Surface	11.6°C	52.9°
50 . . .	12.9°C	55.2°
100 . . .	13.6°C	56.5°
150 . . .	15.9°C	60.6°
200 . . .	19.8°C	67.6°
250 . . .	23.6°C	74.5°
300 . . .	27.4°C	81.3°
350 . . .	29.5°C	85.1°
400 . . .	31.1°C	88.0°
450 . . .	32.4°C	90.3°
500 . . .	33.1°C	91.6°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

5-8

Well No.

Section: 8 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 4-19-79

Depth (ft.)

Temperature (°F)

Surface	14.5°C	58.1°
50 . . .	19.5°C	67.1°
100 . . .	24.9°C	76.8°
150 . . .	30.2°C	86.4°
200 . . .	32.8°C	91.0°
250 . . .	34.3°C	93.7°
300 . . .	35.5°C	95.9°
350 . . .	35.2°C	95.4°
400 . . .	34.0°C	93.2°
450 . . .	33.4°C	92.1°
500 . . .	33.3°C	91.9°

Survey By: Wayne A Shaw

GETTY OIL COMPANY

Operator

6-6

Well No.

Section: 6 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 4-20-79

Depth (ft.)

Temperature (°F)

Surface	10.1°C	50.1°
50 . . .	12.7°C	54.9°
100 . . .	13.3°C	55.9°
150 . . .	14.1°C	57.4°
200 . . .	14.8°C	58.6°
250 . . .	15.5°C	59.9°
300 . . .	16.3°C	61.3°
350 . . .	17.2°C	63.0°
400 . . .	18.1°C	64.6°
450 . . .	19.0°C	66.2°
500 . . .	19.9°C	67.8°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

7-4

Well No.

Section: 4 TWP. 27N RNGE. 32E County: Pershing State: Nevada

Date: 4-19-79

Depth (ft.)

Temperature (°F)

Surface	13.8°C	56.8°
50 . . .	40.8°C	105.4°
100 . . .	52.9°C	127.2°
150 . . .	64.3°C	147.7°
200 . . .	67.1°C	152.8°
250 . . .	72.3°C	162.1°
300 . . .	73.2°C	163.8°
350 . . .	71.6°C	160.9°
400 . . .	70.4°C	158.7°
450 . . .	69.2°C	156.6°
500 . . .	68.3°C	154.9°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

8-34

Well No.

Section: 34 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-19-79

Depth (ft.)

Temperature (°F)

Surface	10.5°C	50.9°
50 . . .	20.7°C	69.3°
100 . . .	27.2°C	81.0°
150 . . .	33.2°C	91.8°
200 . . .	38.2°C	100.8°
250 . . .	42.4°C	108.3°
300 . . .	43.6°C	110.5°
350 . . .	43.2°C	109.8°
400 . . .	43.1°C	109.6°
450 . . .	43.2°C	109.8°
500 . . .	43.1°C	109.6°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

9-34

Well No.

Section: 34 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: April 18, 1979

Depth (ft.)

Temperature (°F)

Surface	15.2°C	59.4°
50	35.4°C	95.7°
100	49.4°C	120.9°
150	59.9°C	139.8°
200	65.1°C	149.2°
250	69.5°C	157.1°
300	73.3°C	163.9°
350	75.6°C	168.1°
400	76.7°C	170.1°
450	77.4°C	171.3°
500	78.2°C	172.8°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

10-34

Well No.

Section: 34 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-18-79

<u>Depth (ft.)</u>	<u>Temperature (°^C/_F)</u>	
	<u>C</u>	<u>F</u>
Surface	13.7°	56.7°
50	49.4°	120.9°
100	68.1°	154.6°
150	73.4°	164.1°
200	77.0°	170.6°
250	80.5°	176.9°
300	83.2°	181.8°
350	85.2°	185.4°
400	86.5°	187.7°
450	87.4°	189.3°
500	88.1°	190.6°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

11-36

Well No.

Section: 36 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-18-79

Depth (ft.)

Temperature (°F)

Surface	13.6°C	56.5°
50	15.1°C	59.2°
100	16.4°C	61.5°
150	17.5°C	63.5°
200	18.3°C	64.9°
250	19.2°C	66.6°
300	20.1°C	68.2°
350	20.9°C	69.6°
400	22.0°C	71.6°
450	22.9°C	73.2°
500	23.7°C	74.7°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

12-26

Well No.

Section: 34 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-18-79

Depth (ft.)

Temperature (°F)

Surface	11.7°C	53.1°
50 . . .	16.9°C	62.4°
100 . . .	19.1°C	66.4°
150 . . .	21.3°C	70.3°
200 . . .	22.4°C	72.3°
250 . . .	23.7°C	74.7°
300 . . .	24.7°C	76.5°
350 . . .	25.7°C	78.3°
400 . . .	26.5°C . . . T.D. . . .	79.7°
450	
500	

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

13-26

Well No.

Section: 26 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-20-79

Depth (ft.) Temperature (°F)

Surface	16.8°C	62.2°
50 . . .	53.0°C	127.4°
100 . . .	67.7°C	153.9°
150 . . .	79.7°C	175.5°
200 . . .	88.2°C	190.8°
250 . . .	93.4°C	200.1°
300 . . .	97.2°C	206.7°
350 . . .	96.5°C	205.7°
400 . . .	95.0°C	203.0°
450 . . .	94.2°C	201.6°
500 . . .	93.1°C	199.6°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

14-22

Well No.

Section: 22 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-19-79

<u>Depth (ft.)</u>		<u>Temperature (°F)</u>
Surface	14.5°C	58.1°
50 . . .	71.2°C	160.2°
100 . . .	96.2°C	205.2°
150 . . .	111.7°C	233.1°
200 . . .	112.4°C	234.3°
250 . . .	113.4°C	236.1°
300 . . .	113.3°C	235.9°
350 . . .	112.8°C	235°
400 . . .	111.6°C	232.9°
450 . . .	111.0°C	231.8°
500 . . .	110.3°C	230.5°

Survey By: Wayne A. Shay

Getty Oil Company

Operator

15-21
Well No.

Section: 21 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: April 19, 1979

<u>Depth (ft.)</u>		<u>Temperature (°F)</u>
Surface	11.7°C	53.1°
50	15.7°C	60.3°
100	16.9°C	63.4°
150	19.2°C	66.6°
200	20.1°C	68.2°
250	21.1°C	70.0°
300	21.7°C	71.1°
350	22.7°C	72.9°
400	23.7°C	74.7°
450	24.9°C	76.8°
500	26.3°C	79.3°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

16-22

Well No.

Section: 22 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-20-79

Depth (ft.) Temperature (°F)

Surface	15.3°C	59.5°
50	45.3°C	113.6°
100	66.2°C	151.2°
150	78.9°C	174.0°
200	76.9°C	170.4°
250	73.8°C	164.8°
300	71.3°C	160.3°
350	69.3°C	156.7°
400	68.1°C	154.6°
450	67.7°C	153.9°
500	68.0°C	154.4°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

17-24

Well No.

Section: 24 TWP. 28N RNGE. 32E County: Pershing State: Nevada

Date: 4-20-79

Depth (ft.)

Temperature (°F)

Surface	13.6°C	56.5°
50	16.1°C	61.0°
100	19.5°C	67.1°
150	21.0°C	69.8°
200	22.5°C	72.5°
250	23.6°C	74.5°
300	24.5°C	76.1°
350	25.2°C	77.4°
400	26.3°C	79.3°
450	27.4°C	81.3°
500	28.6°C	83.5°

Survey By: Wayne A. Shaw

GETTY OIL COMPANY

Operator

18-24

Well No.

Section: 24 TWP. 28N RNGE. 32E County: Pershing State: Nevada

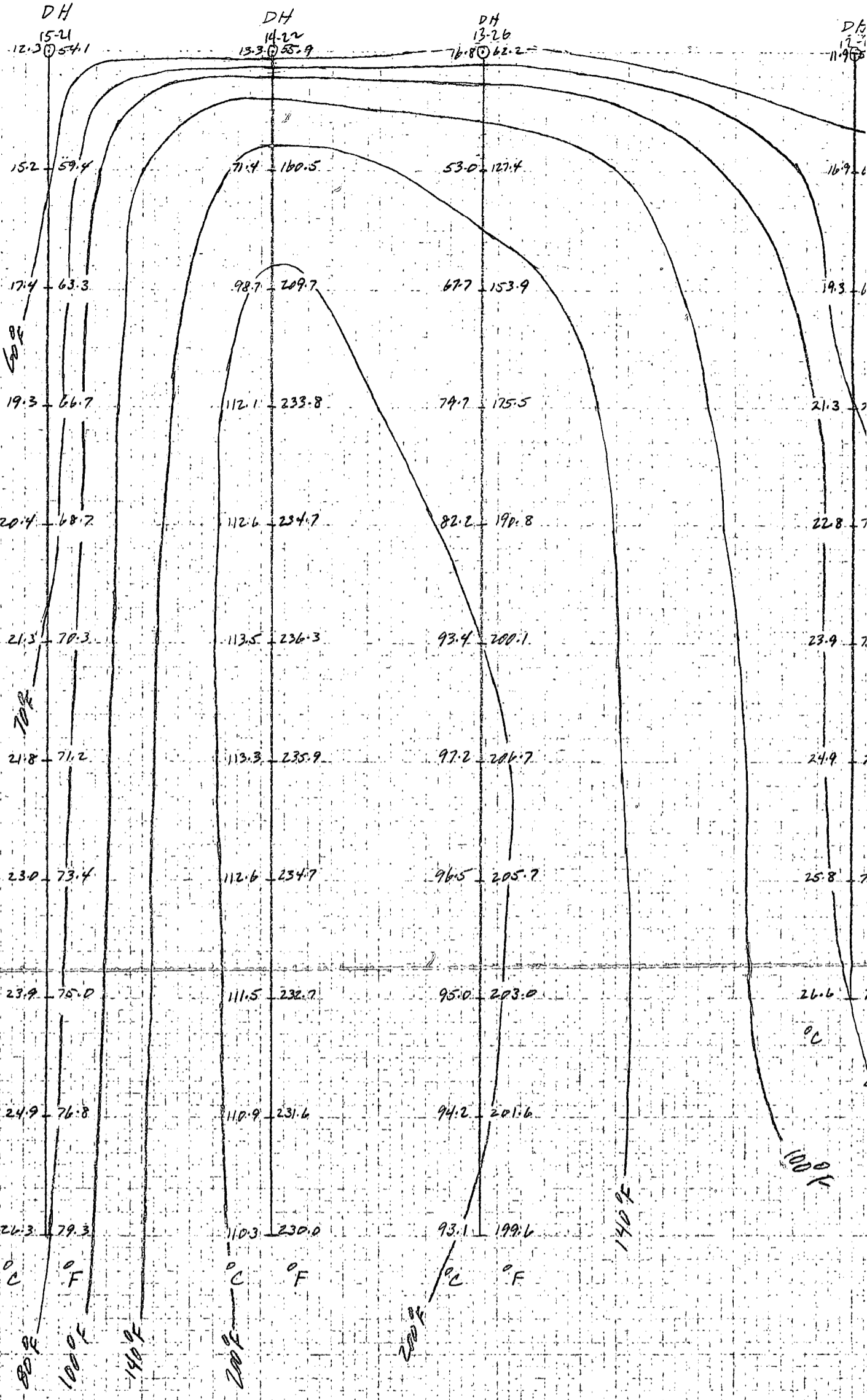
Date: 4-19-79

Depth (ft.)

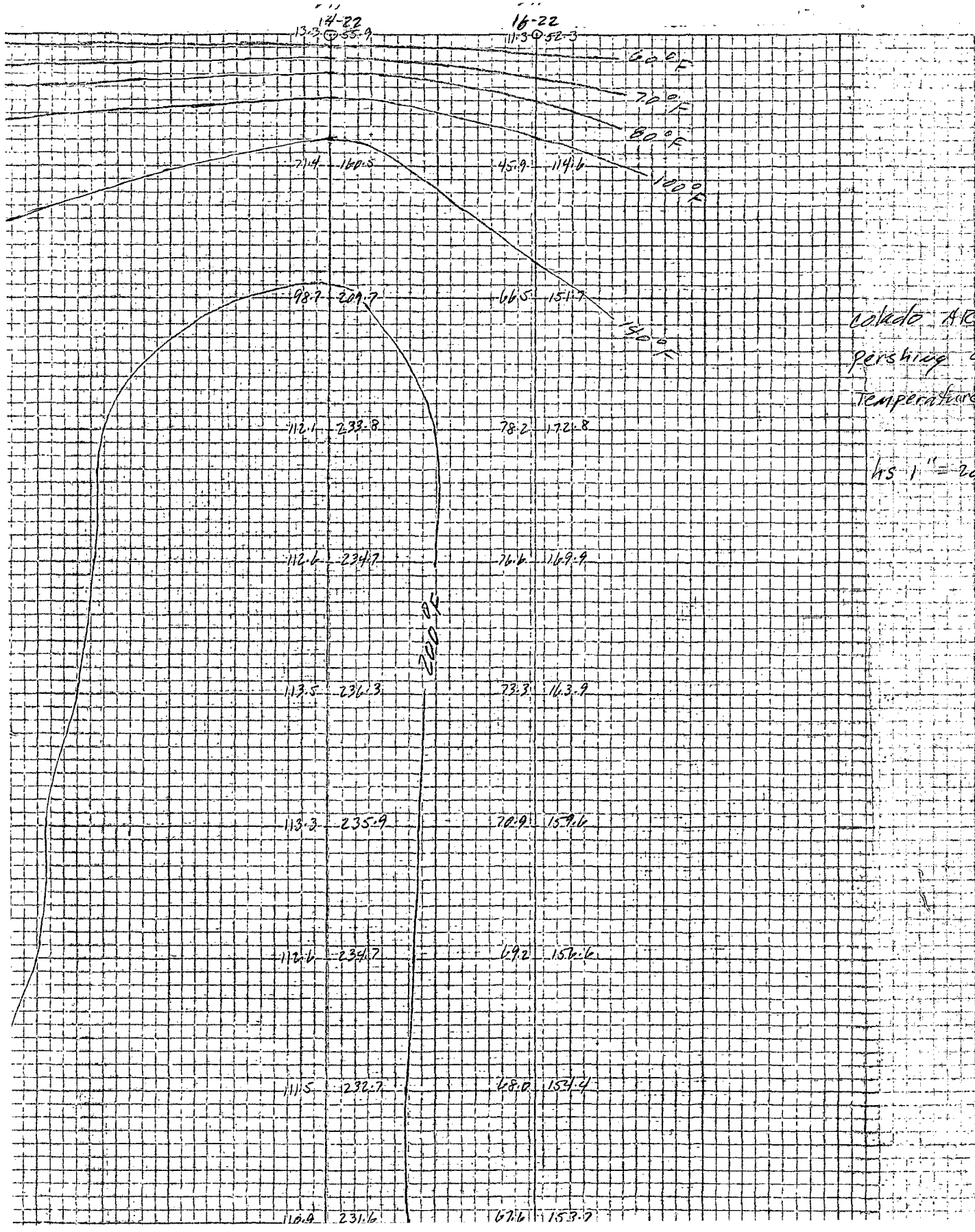
Temperature (°F)

Surface	13.1°C	55.6°
50 . . .	14.0°C	57.2°
100 . . .	15.3°C	59.5°
150 . . .	16.8°C	62.2°
200 . . .	18.1°C	64.6°
250 . . .	19.3°C	66.7°
300 . . .	20.6°C	69.1°
350 . . .	21.8°C	71.2°
400 . . .	23.0°C	73.4°
450 . . .	24.1°C	75.4°
500 . . .	25.2°C	77.4°

Survey By: Wayne A. Shaw



Colado AREA, Pershing Co., Nevada
 Temperature Profile
 1" = 2000'



Colorado AREA
 Pershing Co., NEVADA
 Temperature Profile

hrs 1" = 2000

1000 ft

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