

USDW SEARCH

Utilizing the DNR website and SONRIS to perform an unofficial USDW search

(This discussion is provided as a companion to the USDW Search PowerPoint slide presentation.)

UNDERGROUND SOURCE OF DRINKING WATER

DEFINITION

(SLIDE NO. 2)

An Underground Source of Drinking Water is defined by the United States Environmental Protection Agency as:

- An aquifer or its portion which supplies any public water system; or
- An aquifer or its portion which contains a sufficient quantity of ground water to supply a public water system; and
- Currently supplies drinking water for human consumption; or Contains fewer than 10,000 mg/l total dissolved solids and which is not an exempted aquifer.

DETERMINING THE BASE OF THE USDW

(SLIDE NO. 3)

USING AN ELECTRIC LOG

- The IMD typically uses the deep induction curve on an e-log to define the base of the USDW. The following guidelines are used:
 - ▶ Ground surface to 1,000 feet: 3 ohms or greater is considered USDW;
 - ▶ 1,000 feet to 2,000 feet: 2 ½ ohms or greater is considered USDW; &
 - ▶ 2,000 feet and deeper: 2 ohms or greater is considered USDW
- The base of the USDW is established at the base of the sand unit that contains the lowermost USDW with an isolating shale beneath it.
- 100 feet of net shale must exist between the top of the zone and the base of the USDW.

SONRIS & DISCOVERER

IDENTIFYING THE COORDINATES OF AN EXISTING WELL

(SLIDE NOS. 26-32)

- Go to www.dnr.louisiana.gov & click on the SONRIS logo
- Select Data Access (NEW) from Left Menu
- Scroll down to Conservation and select Well Information
- Scroll down to Wells by Serial Number and select Lite link
- Enter the Serial Number of the well & click Submit Query
- Scroll down to WELL SURFACE COORDINATES & Locate the Lambert X, Lambert Y, Zone, and Datum fields

USDW SEARCH IN DISCOVERER

(SLIDE NOS. 33-40)

- In SONRIS, select Data Access (NEW) from Left Menu
- Scroll down to Conservation and select Injection Information
- Scroll down to UIC Appl: USDW Search By Lambert X/Y Coordinates & select ROD link
- Enter the location's X,Y Coordinates (do not use commas) from SONRIS Lite search
- Select the flashlight icon next to the Surface Coordinates Zone field and choose the appropriate Zone- N (North), S (South), O (Offshore)
- Select the flashlight icon next to the Surface Coordinates System field and choose the System/Datum- 1927 or 1983
- Select the OK button

MODIFIED SEARCH CRITERIA

(SLIDE NOS. 41-43)

If No Wells are retrieved in a 1-mile AOR -OR- If a USDW Value can not be identified from the Wells that are Retrieved

- Click on the 10th icon from the left. When you mouse-over the icon, it will say Refresh
- Increase the distance in the Radius (Ft) field and select the OK button

- If a well with an electric log can not be identified within 2 miles of the proposed location, please contact IMD

EXPORTING SPREADSHEET TO EXCEL

(SLIDE NOS. 44-52)

- Select File from the Menu bar, and Select Export from the dropdown menu
- Click on the Next button
- Click on the Browse button to select the location where you want to save the spreadsheet
- Click on the Location dropdown menu and select the appropriate drive
- Enter a File Name that is easily identifiable, and click on the Save button
- Click on the Next button
- Click on the Finish button

SPREADSHEET FORMAT

(SLIDE NOS. 53-63)

- **Distance from Lambert X/Y (Feet) Column**

Provides the distance of the well from the X/Y coordinate values that were searched. The table is sorted by this Column from closest to farthest. If the search was conducted based on the coordinates of an existing well, then the well in the first row should be the well itself.

Although a USDW Value may be confirmed for a well in the AOR, you must search the electric logs of all wells closer to the proposed well to find the most accurate USDW Value.

- **Log Reviewed Flag Column**

Indicates whether the log has been recently reviewed by an IMD Geologist.

- **Area USDW Value Column**

If a value is present, it indicates that the USDW value was determined from an electric log of an offset well. The SN of that well is usually indicated in the Source Area USDW field. "0" DOES NOT indicate that the USDW is not present at the wellbore or that the USDW is at the ground surface. It is a default value entered by SONRIS.

- **USDW Value Column**

If a value is present, then it indicates that the value was determined from the electric log of the well itself. Remember that “0” is a default value entered by SONRIS.

- **Source Area USDW Value Column**

If an entry is present, then it may be in one of the following formats:

- ▶ **USDW VALUE PER LCB XX/XX/XXXX**

Indicates the Geologist from IMD who identified the value in the USDW Value field and the date it was identified.

- ▶ **FROM E-LOG OF SN: XXXXX (~XXX' AWAY) PER LCB XX/XX/XXXX**

Indicates the SN of the offset well whose e-log was used to determine the value indicated in the Area USDW Value field, the distance of the offset well, the Geologist from IMD who identified the value, and the date it was identified.

- ▶ **NO LOG FOUND**

Means a search was conducted for a log with that Serial Number, but none was found.

- ▶ **TOL @ XXX'**

Is entered when a USDW is not present on the log and indicates the shallowest depth the log was recorded.

- If the USDW Value field contains a value and the Source Area USDW Value field is blank, then it indicates that the USDW Value was determined from an electric log of the well, but it has not been recently confirmed by current standards. The e-log of the well will need to be reviewed.
- If the USDW Value or Area USDW Value fields are blank or contain “0” and the Source Area USDW Value field is blank, then it indicates that a search has not been conducted to identify a USDW for the well.

ELECTRIC LOG SEARCH

DOCUMENT ACCESS SEARCH

(SLIDE NOS. 65-71)

- Go to www.dnr.louisiana.gov & click on the SONRIS logo
- Select Document Access from Left Menu

- Select Document Type from Left Menu
- Scroll down and select Well Log
- Enter the Well Serial Number in the field to the right and select the Search button
- If an electric log is available, a table will show the well log information. Click on the TIF image to download and save the file to your computer

VIEWING AND PRINTING ELECTRIC LOGS

(SLIDE NOS. 72)

DOWNLOAD A LOG VIEWING SOFTWARE

(SLIDE NOS. 73-78)

Example provided is of Blueview by Schlumberger

- Go to www.slb.com and enter BlueView Log Image in the search field at the top of the page
- Select the first result BlueView Log Image Manipulation Software, Schlumberger
- Under the Related Resources heading, click on the BlueView Log Image Manipulation Software link
- Save the `blueview_software.zip` file to your computer
- Double-click on the executable file and follow the download instructions to install BlueView to your computer

VIEWING A LOG

(SLIDE NOS. 79-83)

- Once the software is downloaded, locate the Blueview icon on your desktop and double-click to open
- Select File from the menu bar, and choose Open Image File(s) from the drop-down menu
- Locate the Elog file saved to your computer and open it in Blueview
- Make sure the FIT button is selected in the menu bar. Scroll down to view the entire log

PRINTING A LOG

(SLIDE NOS. 84-92)

- To print the log, select File from menu bar, and choose Print Preview from the drop-down menu
- Previewing large images takes a lot of memory. The program will ask if you want to view the

- ENTIRE IMAGE (Yes), or ONLY 3 PAGES (No). Select No
- Preview the log. If the width of the elog does not fit on the page, adjust the size of the image by selecting the Scale by Percentage button from the menu bar
- Enter a new Percentage in the Scale By (%) field, and select the Print Preview button from the menu bar
- Select No to preview only 3 pages
- When you are ready to Print, select File from the menu bar, and choose Print from the drop-down menu.
- Select the Printer, select the Preferences button to adjust the printer settings, select All under the Page Range section, and click the Print button when ready.
- Select the Close button to return to the main screen.

IMD CONTACT LIST

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Log Exercise No. 1

[1] Identify the Base of the USDW; [2] Color in 100 Feet of Net Shale below the Base of the USDW; [3] Mark the Shallowest Possible Depth of an Injection Zone below the Base of the USDW

G.R. Panel No.	-		
Caliper No.	B	126	
TTR No.	D	0885	
S.E.		210 <i>r</i>	
SBR		0.5	
Cent. Device		FIN	
Stand off-Inches		1 $\frac{1}{2}$ "	
Time Const.-Sec.		-	
Speed-F.P.M.		-	

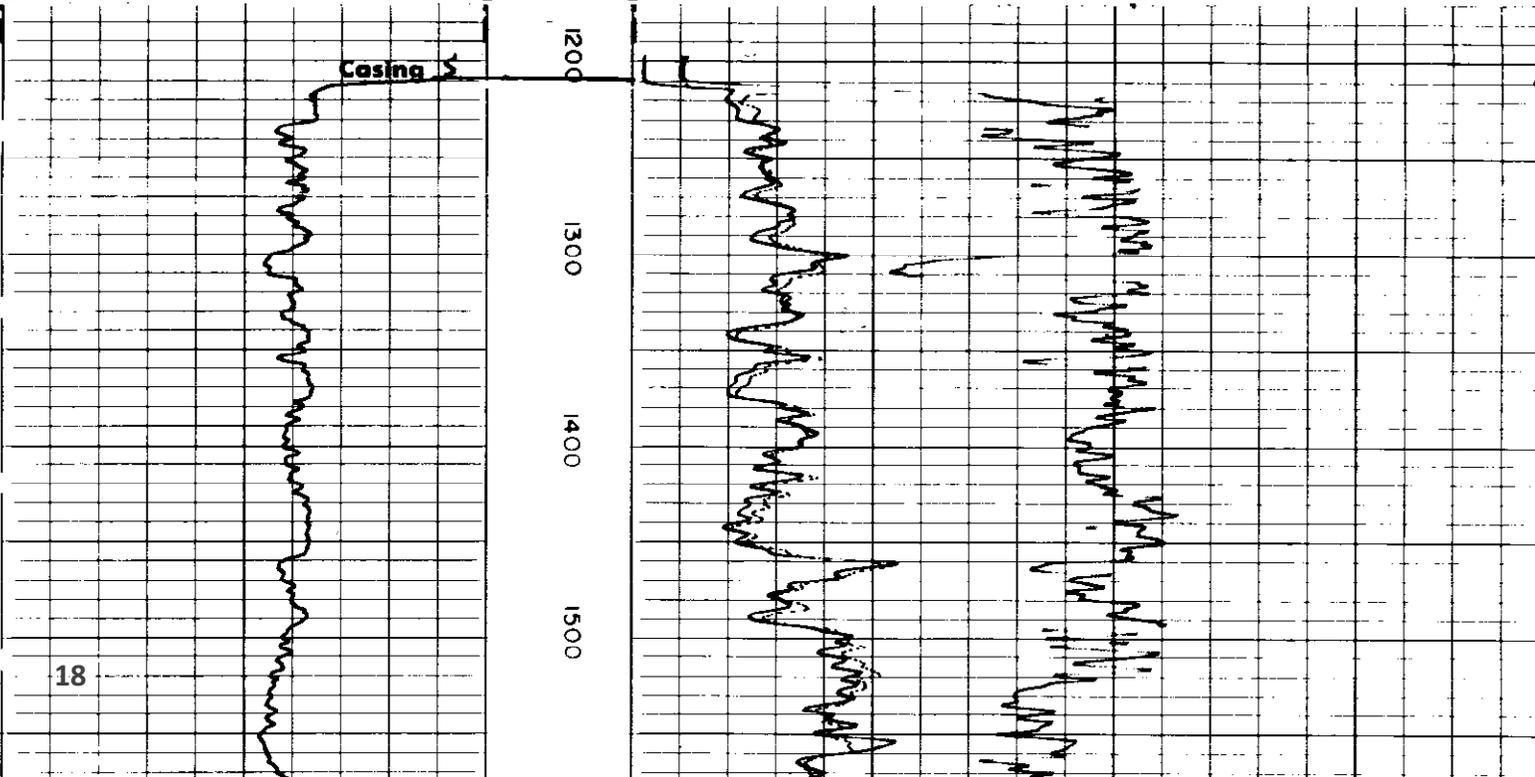
Velocity (feet per second)	1,000,000
Interval Transit Time (microseconds per foot)	
<input checked="" type="checkbox"/> Surface determined sonde errors used for 6FF40.	
<input type="checkbox"/> 6FF40 conde error corrected for _____ inch	
borehole signal at R_m ==	
<input type="checkbox"/> 6FF40 zero set in hole at depth of _____ feet.	

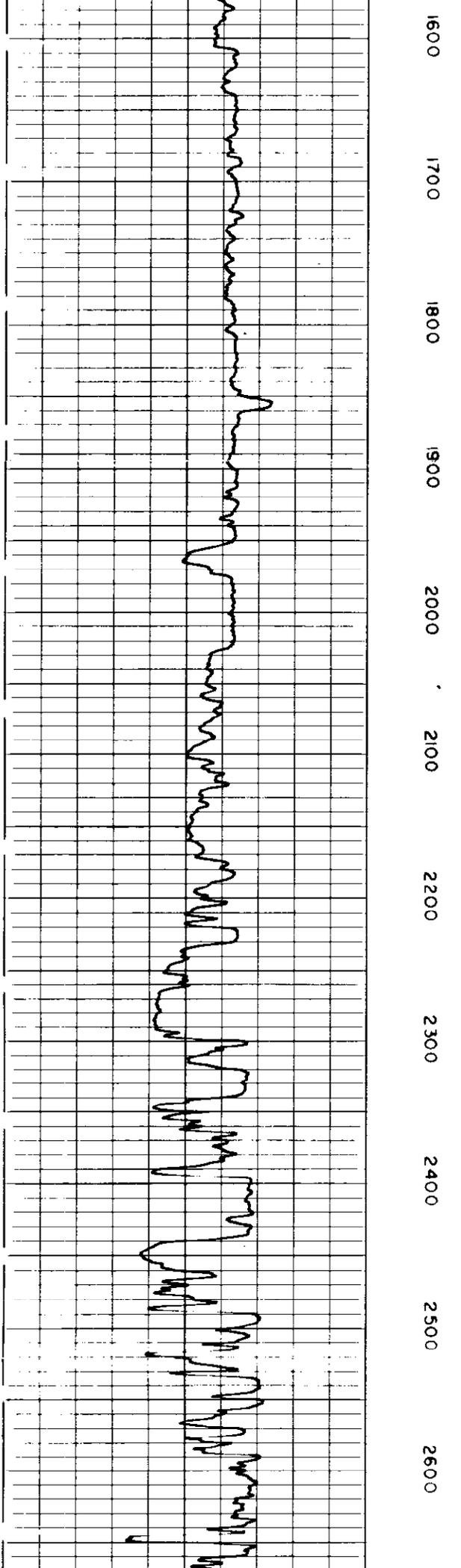
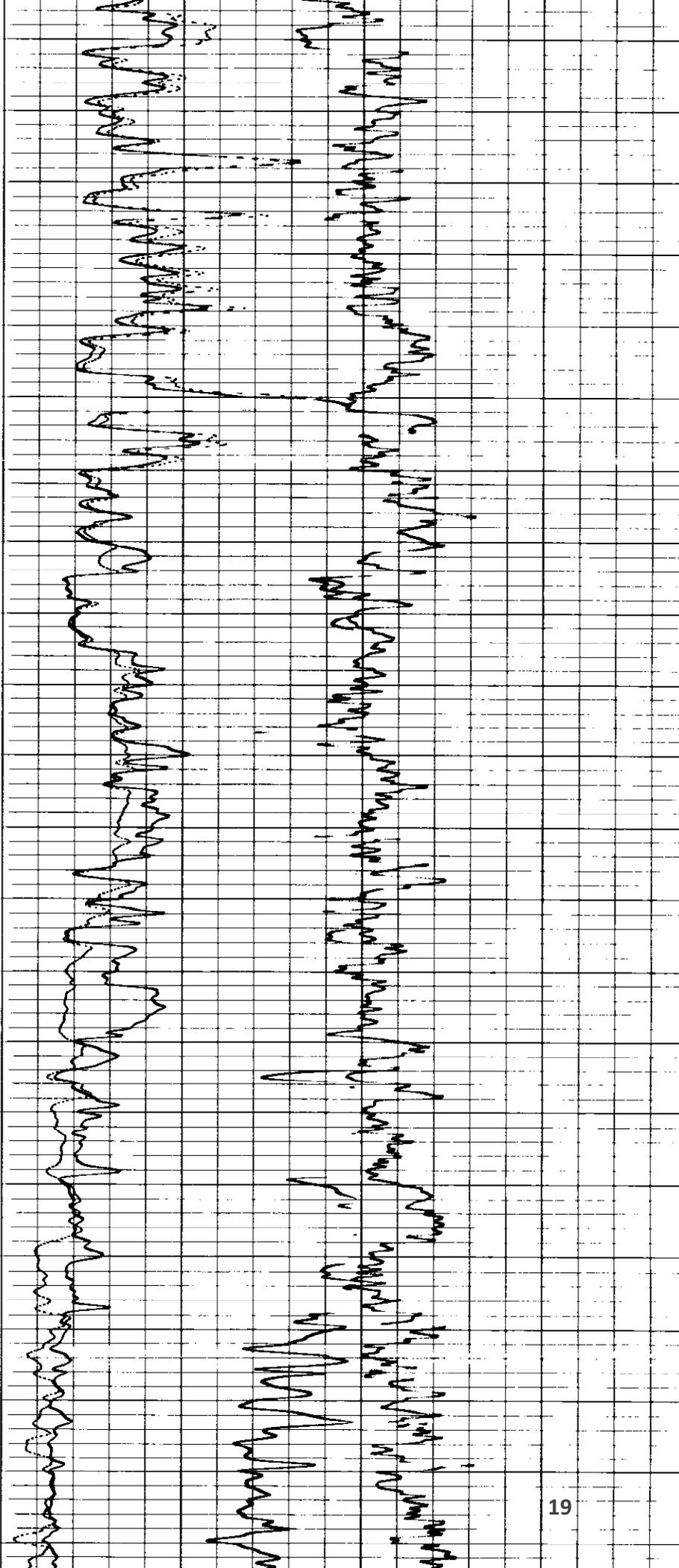
CALIBRATION DATA

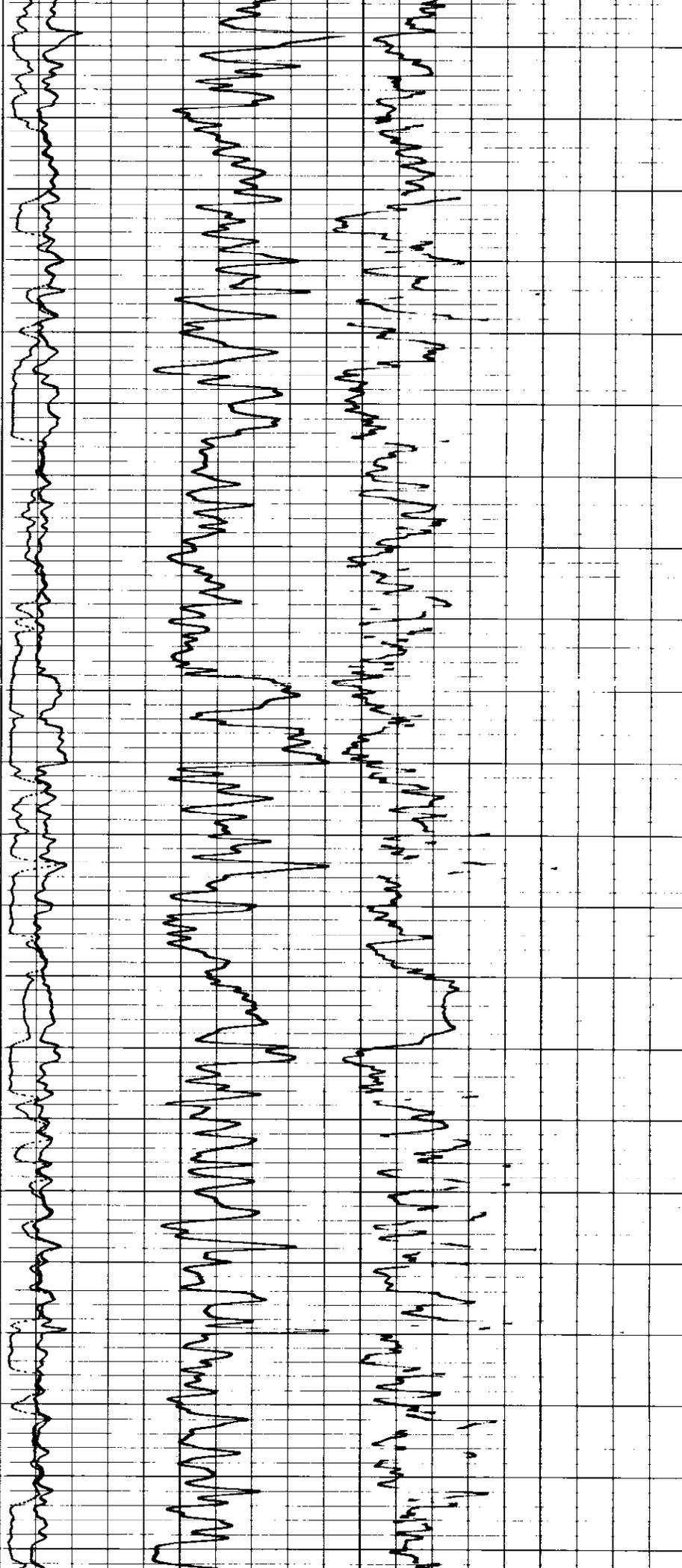
CALIBRATION:	BACKGND.	SOURCE	GALV. INCR.	SENS. TAP	SENS. TAP	TIME
	CPS.	CPS.	DIVISION	(FOR CAL.	(RECORD)	CONST.
GAMMA RAY:						

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 7 of our General Terms and Conditions as set out in our current Price Schedule.

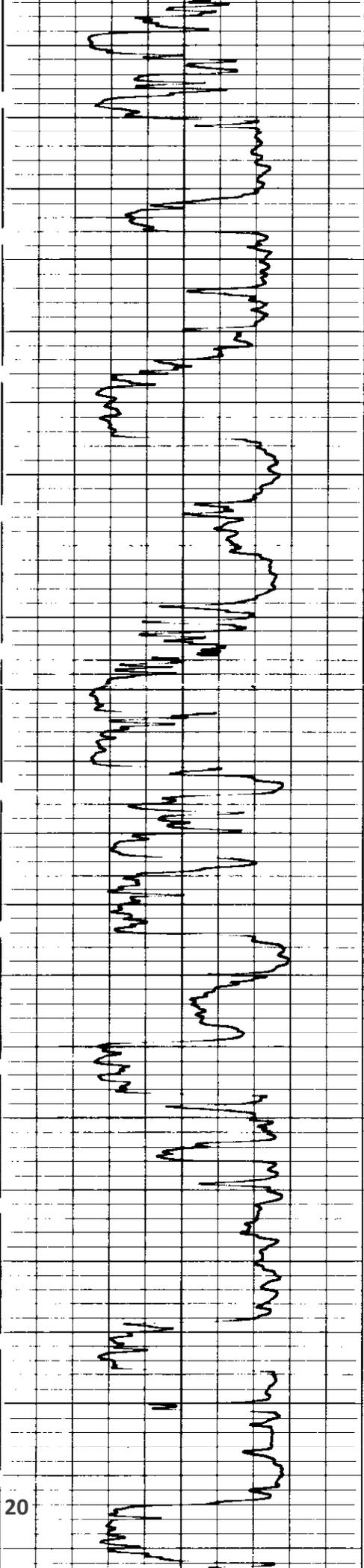
SPONTANEOUS POTENTIAL MILLIVOLTS	DEPTHS	RESISTIVITY OHMS. M ² /M	INTERVAL TRANSIT TIME MICROSECONDS PER FOOT
		DEEP INDUCTION R_{ILD} 0 10	
		FOCUSED RESISTIVITY (SFL) $R_{SFL Av.}$ 10 150	
		AMP. FOCUSED RESISTIVITY $R_{SFL Av.}$ 2	







2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700



Log Exercise No. 2

[1] Identify the Base of the USDW; [2] Color in 100 Feet of Net Shale below the Base of the USDW; [3] Mark the Shallowest Possible Depth of an Injection Zone below the Base of the USDW

DATE May 9, 1940

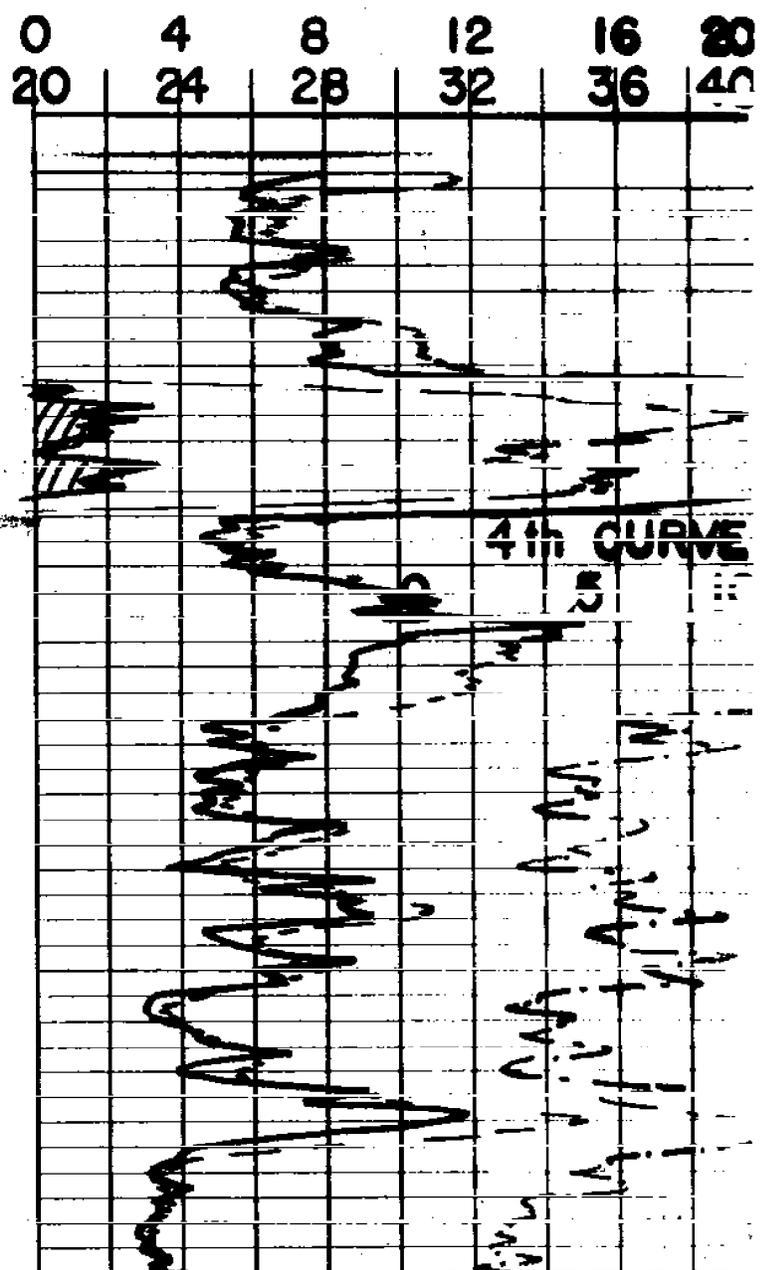
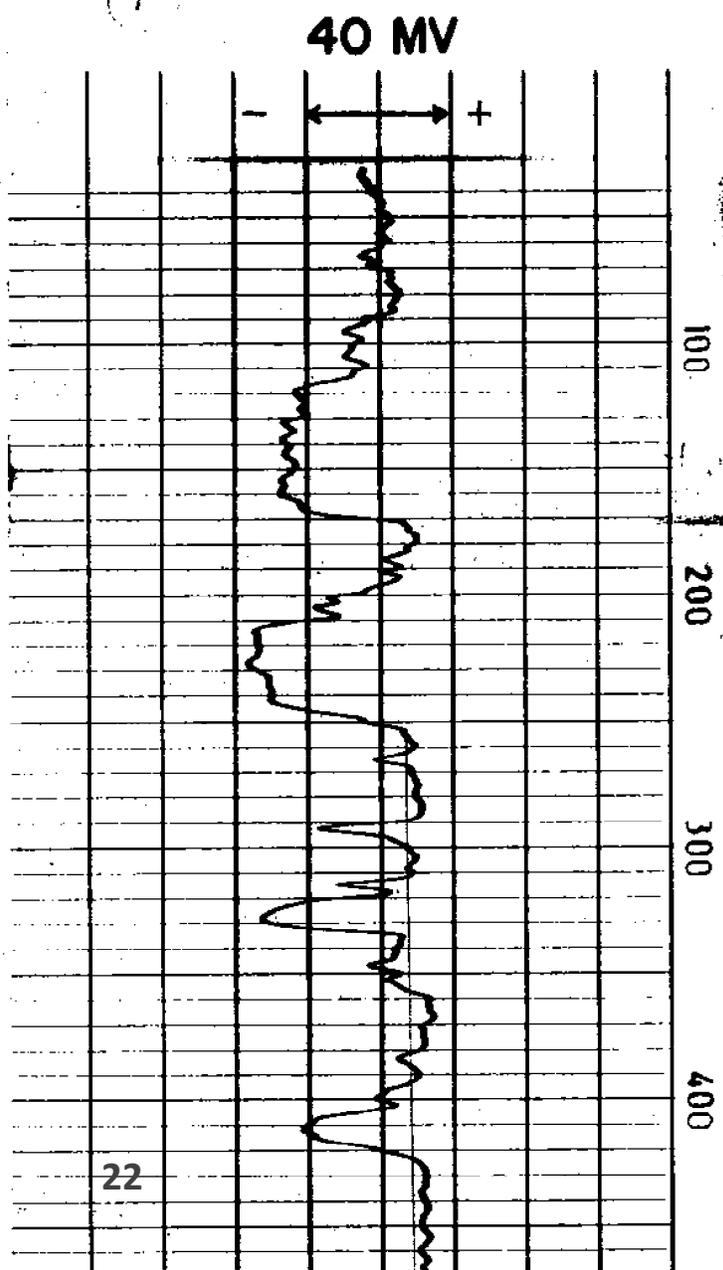
OBSERVERS F. H. Yeagers

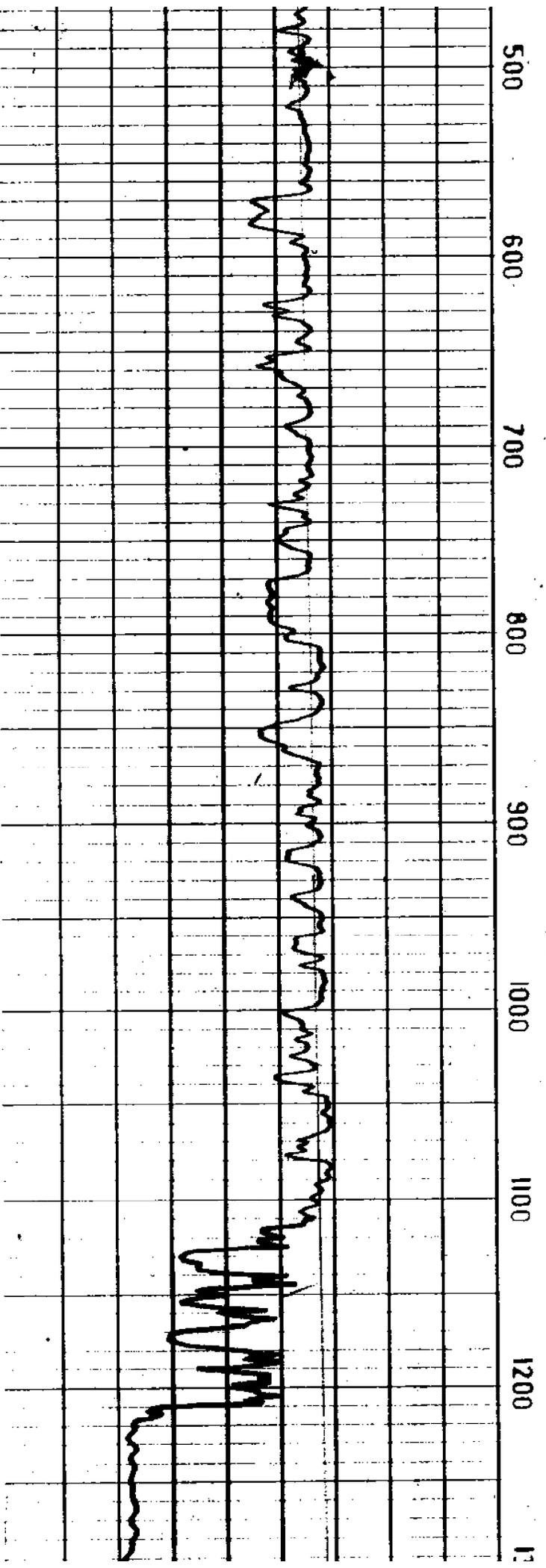
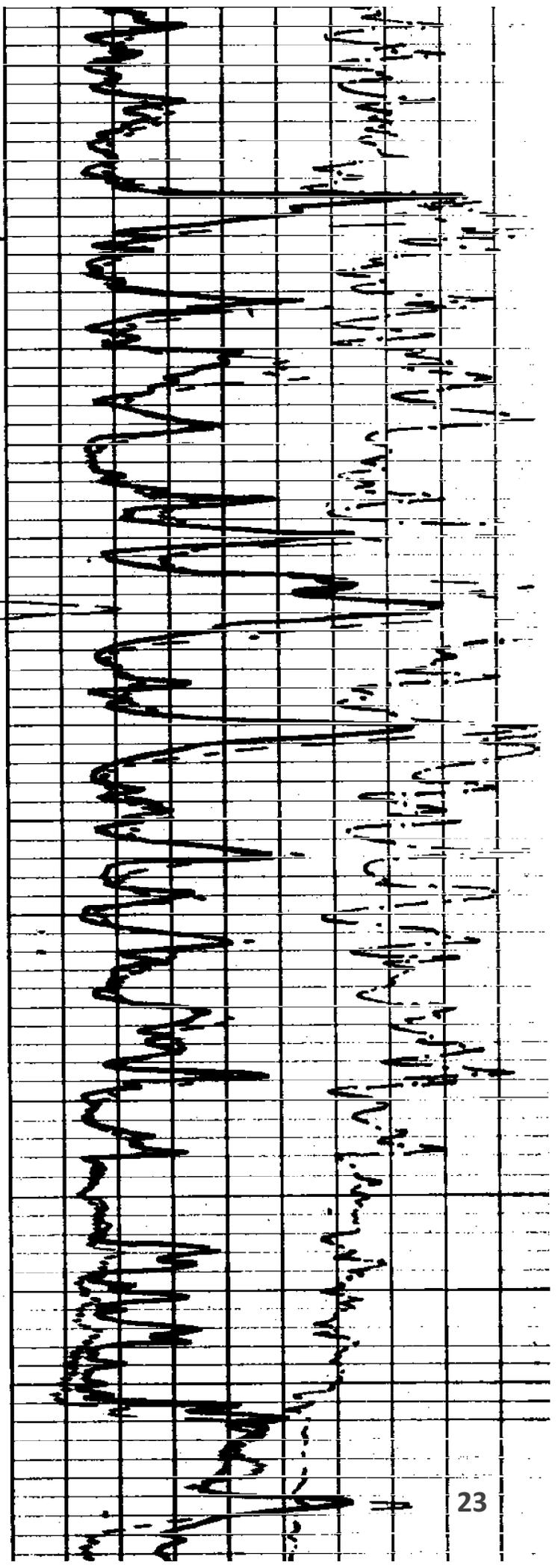
SELF-POTENTIAL

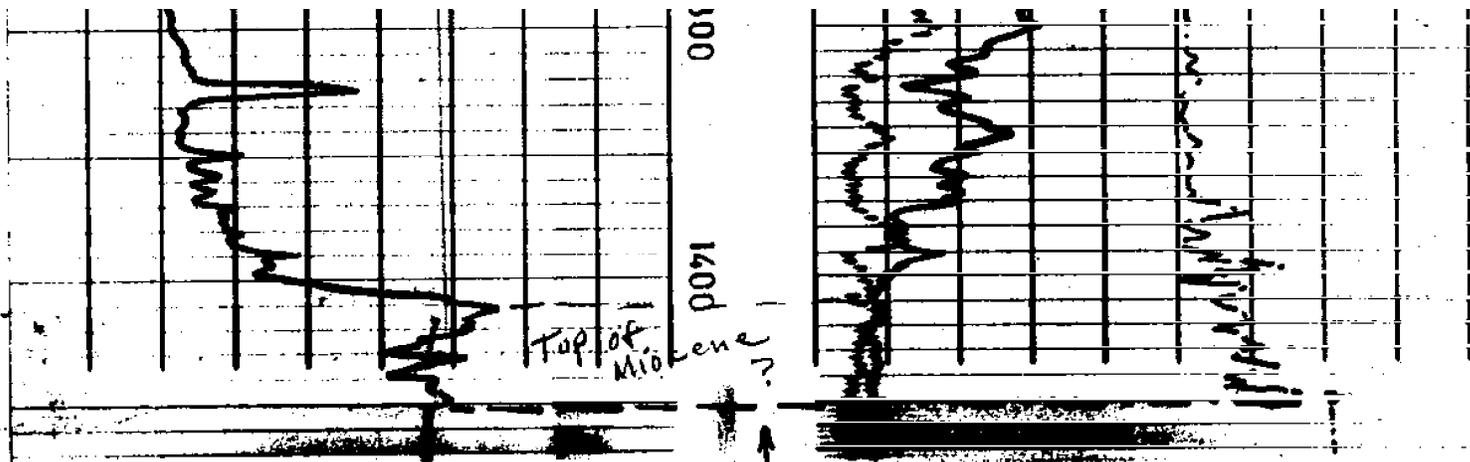
DEPTH

RESISTIVITY -ohms. m²m.

— NORMAL CURVE THIRD CURVE







No. 1 to Water Bottom

Schl. T.D. 1451
 Drillers 1450

AMERADA
 Iron 4
 Eolo

DATE May 27-28, 1940

OBSERVERS F. H. Yeagers

SELF-POTENTIAL

millivolts

DEPTHS

RESISTIVITY -ohms. m²m.

— NORMAL CURVE

--- THIRD CURVE

--- FOURTH CURVE

1"=100'

40

0

4

8

12

16

20

1434 Casing

1451 Last Reading

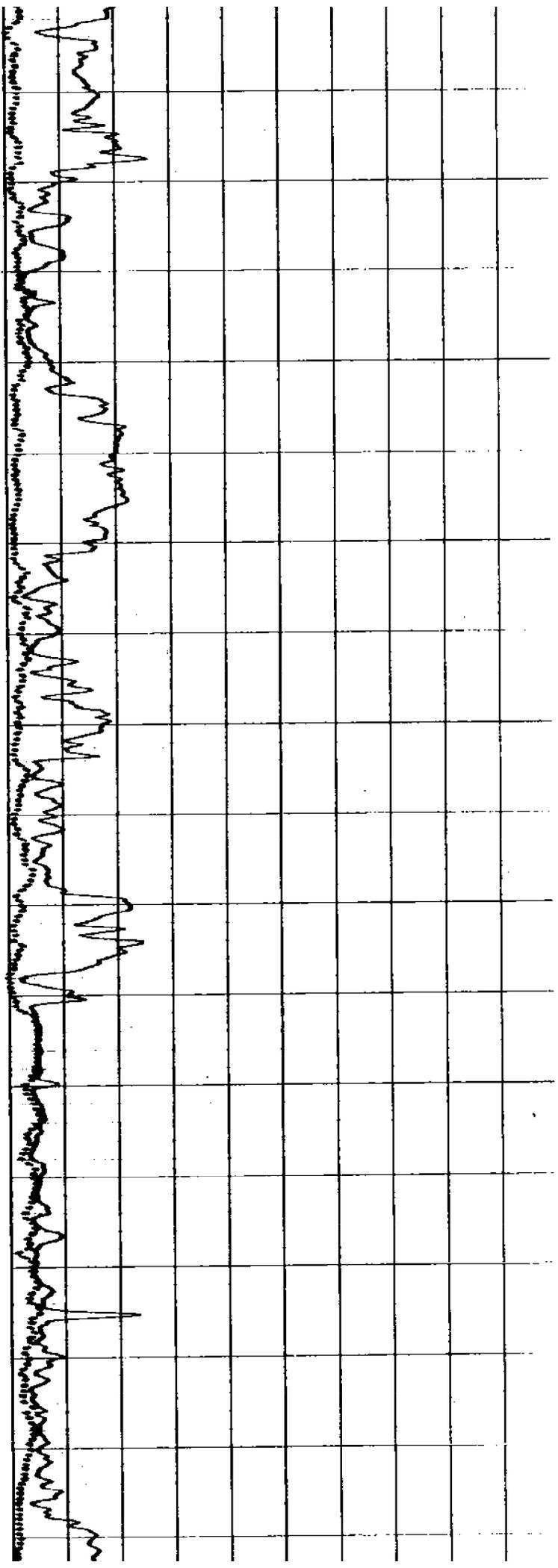
1500

1600

1700

1800

1900



2000 2100 2200 2300 2400 2500 2600 2700

