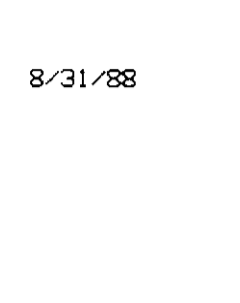


PHOTON LOG
GRAVEL PACK SURVEY

FILE NO. _____ COMPANY: OREGON NATURAL GAS CORP
 WELL NAME: IW 22D-10
 FIELD: HIST STATE OR: _____
 COUNTY: DALLAM
 LOCATION: 285' N. & 2516' E. OF W/4 CORNER
 SEC 18 T14P14 R3E29N
 ELEVATIONS: PERMANENT BOUNDARY: 11.5' ELEV: 787.3' DRILLING MEASURED FROM: 08' 11.5' FT. ABOVE P.O. DRILLING MEASURED FROM: 08' 11.5' FT. ABOVE P.O.
 OTHER SERVICES: VERT

DATE: 8/27/88
 RUN: 1
 SERVICE ORDER: 15946
 DEPTH-DRILLER: 2153
 DEPTH-LOGGER: 2152
 BOTTOM-LOGGER: 2146
 TOP-LOGGED INTERVAL: 1948
 TYPE FLUID IN HOLE: WATER
 SALINITY LB/QT. _____
 DENSITY LB/QT. _____
 LEVEL: _____
 PREP. REC. TEMP. DEG. F: _____
 ORG. RIG TIME: 1 HR
 EQUIP. NO. / LOC.: H. 6406 / SPOKANE
 RECORDED BY: B. HELSH
 WITNESSED BY: HR. THOMAS
 BROCHURE RECORD: _____
 NO. BIT FROM TO

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGMENT, BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INTERFERENCES FROM ELECTRICITY OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE, THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES OR OTHER DAMAGES INCURRED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.



FOLD HERE

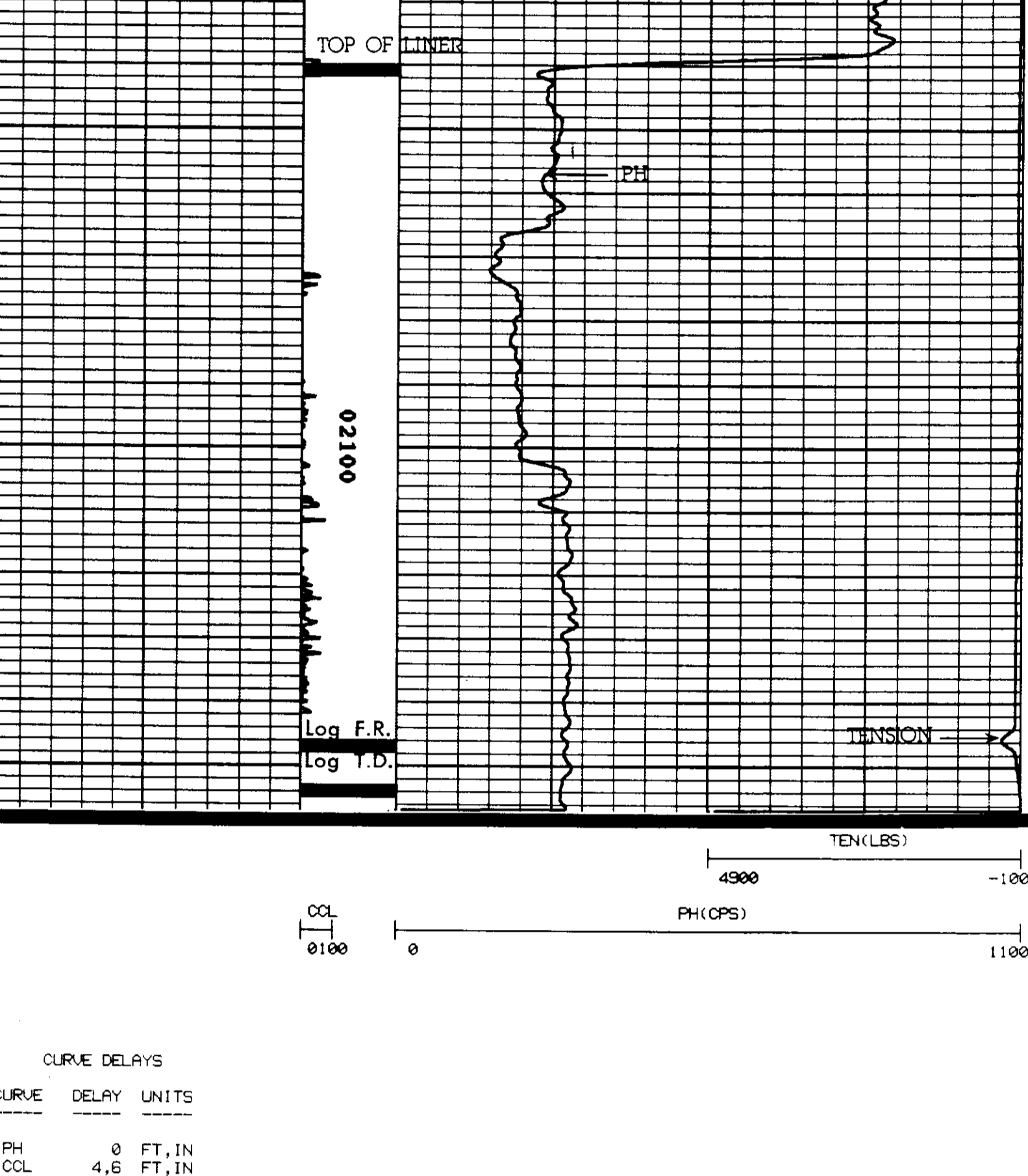
SIZE	MCIT	FROM	TO
1 3/8"	7	502'	452'
1 1/2"	32	502'	2100'
5 1/2"	2048	2100'	2153'

REMARKS RUN (1)

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	PH	50196	1305	CENT
1	1	CCL	47491	2318	CENT

COMPANY: OREGON NATURAL GAS CORP RUN: 1
 WELL NAME: IW 22D-10 TRIP: 1
 SERVICE: KC451B FILE: 5 DATE: 8/31/88 TIME: 10:53:32
 REVISION: FSYSL REV GS08 VER+2 MODE: PLAYBACK

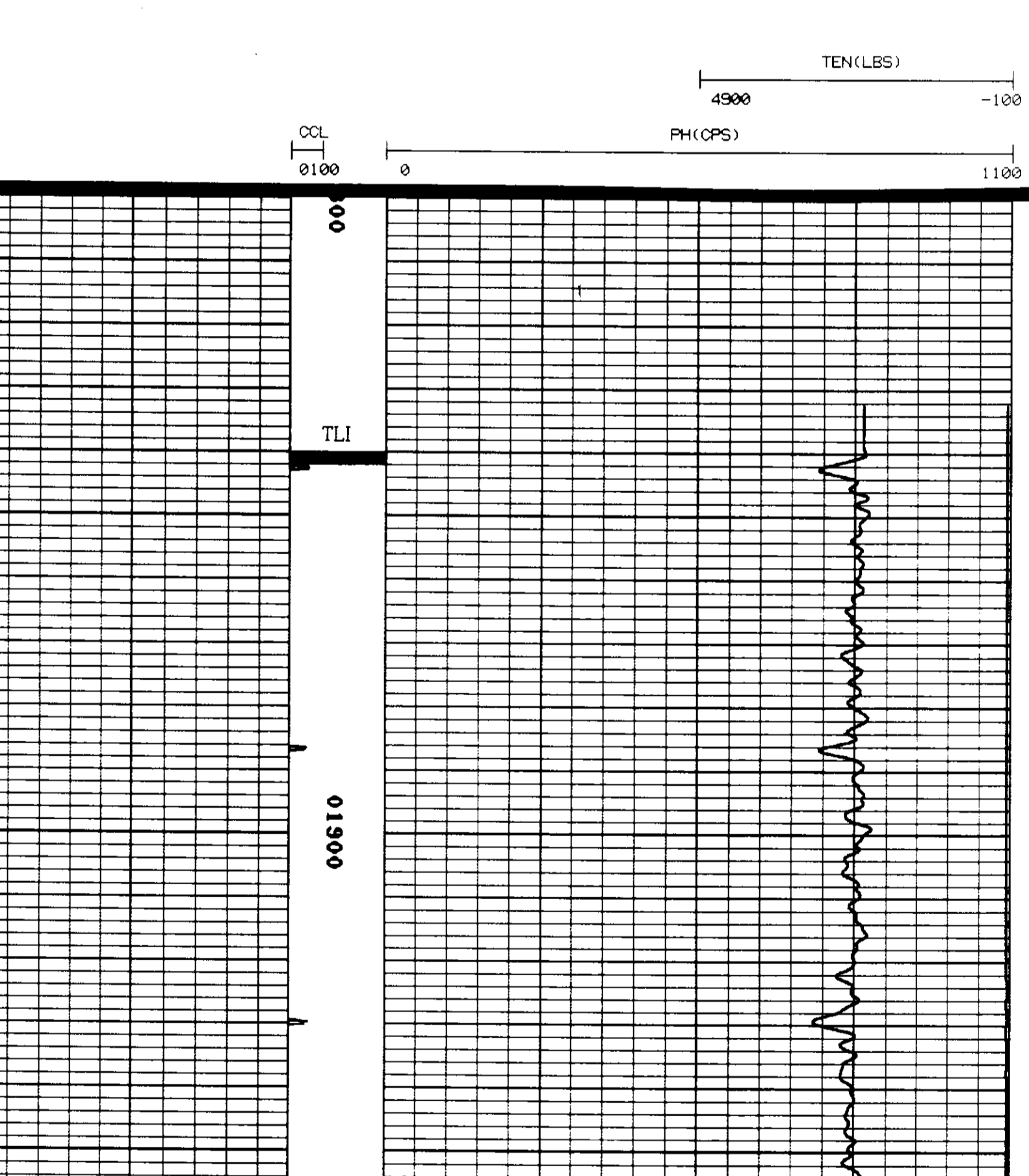


CURVE DELAYS

CURVE	DELAY	UNITS
PH	0	FT, IN
CCL	4,6	FT, IN
CCL1	8,6	FT, IN

PARAMETERS
 *** NONE ***
 DISPLAY SCALE CHANGES
 *** NONE ***

COMPANY: OREGON NATURAL GAS CORP RUN: 1
 WELL NAME: IW 22D-10 TRIP: 1
 SERVICE: KC451B FILE: 6 DATE: 08/31/88 TIME: 10:59:24
 REVISION: FSYSL REV GS08 VER+2 **REPEAT SECTION** MODE: RECORD

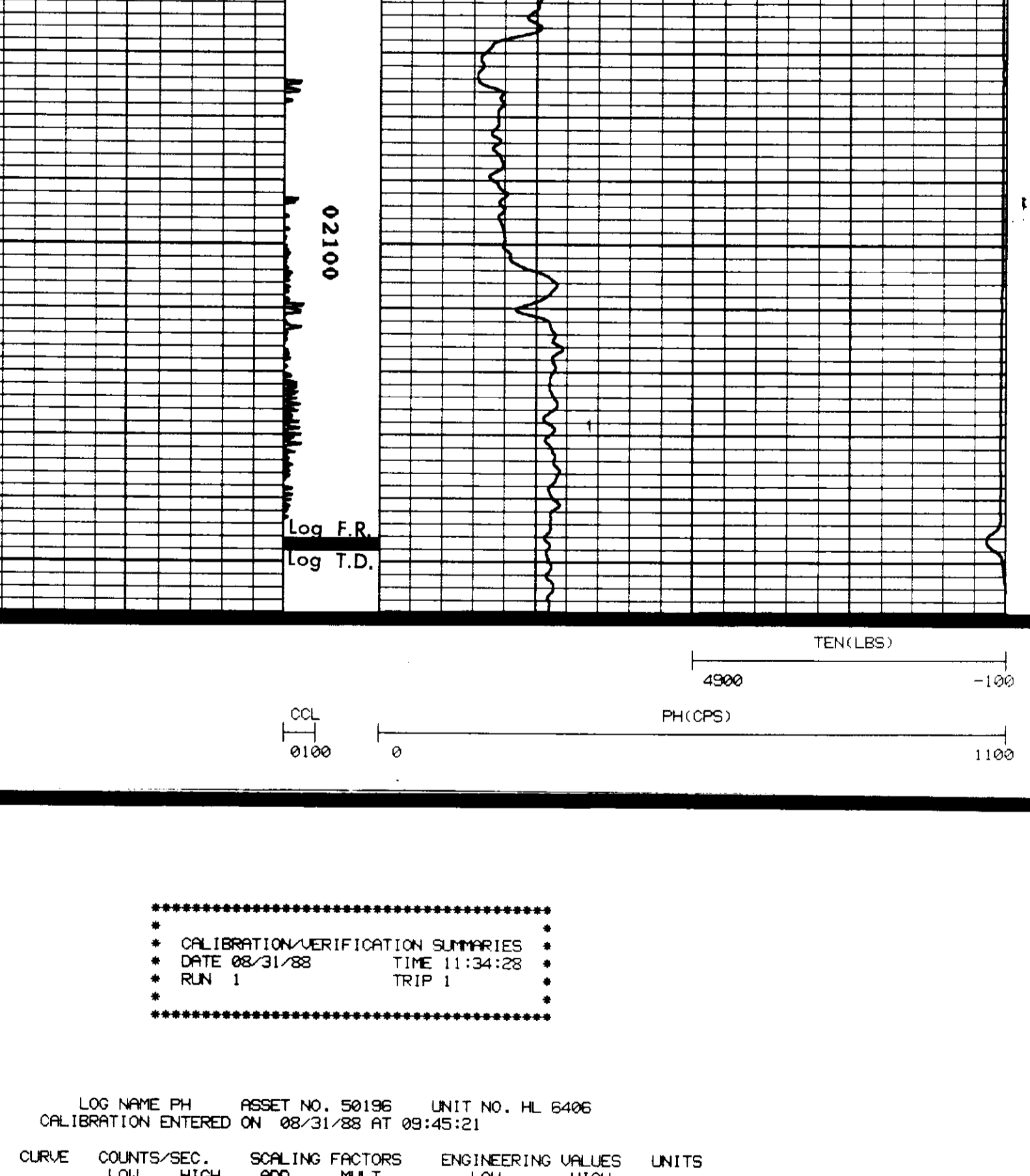


CURVE DELAYS

CURVE	DELAY	UNITS
PH	0	FT, IN
CCL	4,6	FT, IN
CCL1	8,6	FT, IN

PARAMETERS
 *** NONE ***
 DISPLAY SCALE CHANGES
 *** NONE ***

COMPANY: OREGON NATURAL GAS CORP RUN: 1
 WELL NAME: IW 22D-10 TRIP: 1
 SERVICE: KC451B FILE: 6 DATE: 08/31/88 TIME: 11:34:23
 REVISION: FSYSL REV GS08 VER+2 **REPEAT SECTION** MODE: RECORD



CURVE DELAYS

CURVE	DELAY	UNITS
PH	0	FT, IN
CCL	4,6	FT, IN
CCL1	8,6	FT, IN

PARAMETERS
 *** NONE ***
 DISPLAY SCALE CHANGES
 *** NONE ***

LOG NAME PH ASSET NO. 50196 UNIT NO. HL 6406
 CALIBRATION ENTERED ON 08/31/88 AT 09:45:21

CURVE	COUNTS/SEC.	LOW	HIGH	SCALING FACTORS	ADD.	MULT.	ENGINEERING VALUES	LOW	HIGH	UNITS
PH	38.1	157.0	0.000	1.5512	0.000	200.000	API			

DATE 08/31/88 CALIBRATION TIME 09:45:21
 PRIMARY VERIFICATION NOT DONE
 BEFORE LOG VERIFICATION NOT DONE
 DATE 08/31/88 AFTER LOG VERIFICATION TIME 11:30:29
 PH 43.6 174.7 0.000 1.5512 67.580 270.993 API

* *** CCL NOT CALIBRATED ***