

4-1/2" CALIPER LOG

FILE NO. _____
 COMPANY _____
 WELL _____
 FIELD _____
 COUNTY _____
 LOCATION: _____
 LOCATION: 1500 95' N. & 2519.6' W. FROM E/4 CORNER OF _____
 SEC. 18 T. 14 N. R. 30 E. S. 4
 PERMIT NO. _____
 ELEVATIONS _____
 LOCATION MEASURED FROM _____
 DRILLING MEASURED FROM _____

DATE _____
 RUN _____
 SERVICE ORDER _____
 OPERATOR _____
 OTHER SERVICES _____
 BIT SIZE _____
 TYPE FLUID IN HOLE _____
 DENSITY / VISCOSITY _____
 RI / FLUID LOSS _____
 SOURCE OF SUPPLY _____
 RMC BIT MEAS. TEMP. _____
 RMC BIT MEAS. TEMP. _____
 RMC BIT MEAS. TEMP. _____
 RMC BIT MEAS. TEMP. _____
 TIME SINCE CIRCULATION _____
 WKB. REC. TEMP. DEG. F _____
 EQUIP. NO. / LOC. _____
 RECORDED BY _____
 WITNESSED BY _____

IN MAKING INTERPRETATIONS OF LOGS, OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGMENT, BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON EXPERIENCE, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

FINAL PRINT

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	4CAL	52959	4202XA	4/ARM
1	1	GR			

REMARKS RUN (1)
 VOL COMPUTED FOR 5.5" CASING.

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	4CAL	52959	4202XA	4/ARM
1	1	GR			

FILE: 2

CURVE DELAY REPORT

CURVE	PHYS. DELAY	UNITS
C13	0.9	FT. IN
C24	0	FT. IN
GR	10.0	FT. IN

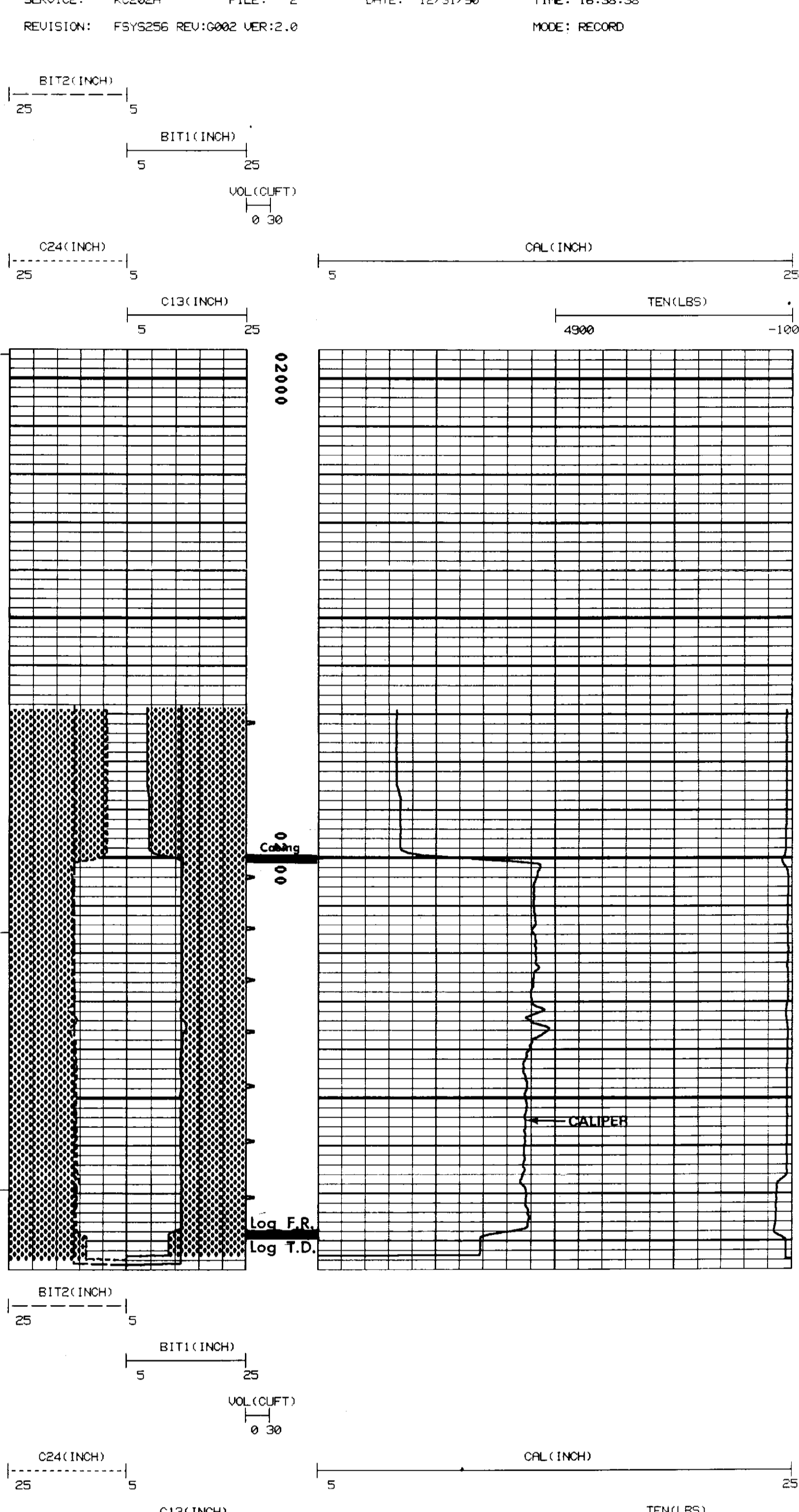
PARAMETERS

NAME	DEPTH INTERVAL	VALUE	UNITS
O.D.	2186 TO 2060	5.500	INCH

DISPLAY SCALE CHANGES

*** NONE ***

COMPANY: OREGON NATURAL GAS DEVELOPMENT CORP. RUN: 1
 WELL NAME: IW 320-10 TRIP: 1
 SERVICE: KC202A FILE: 2 DATE: 12/31/90 TIME: 16:38:38
 REVISION: FSYS256 REV:0002 VER:2.0 MODE: RECORD



FILE: 2

REPEAT SECTION

FILE: 1

CURVE DELAY REPORT

CURVE	PHYS. DELAY	UNITS
C13	0.9	FT. IN
C24	0	FT. IN
GR	10.0	FT. IN

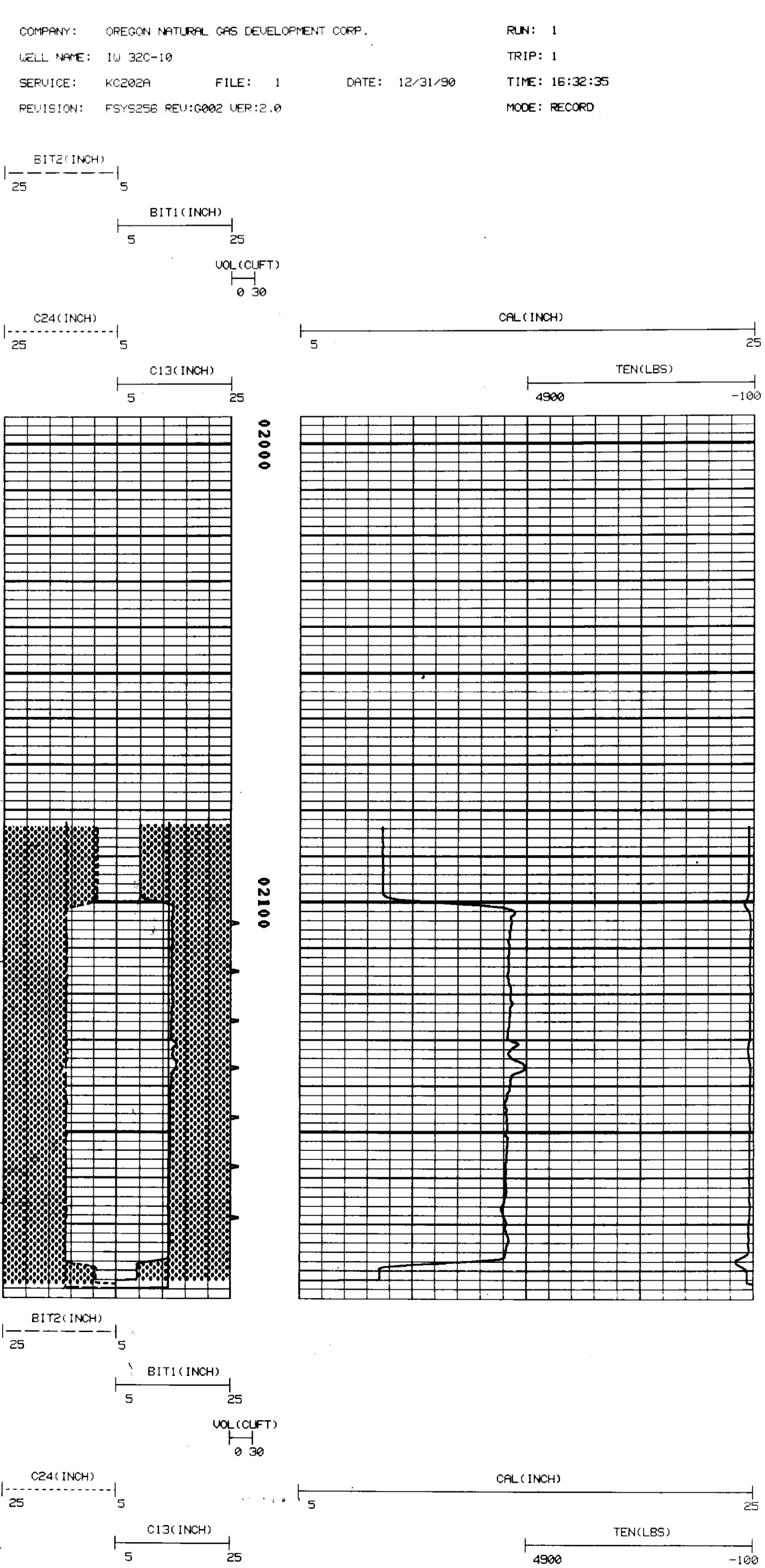
PARAMETERS

NAME	DEPTH INTERVAL	VALUE	UNITS
O.D.	2185 TO 2074	5.500	INCH

DISPLAY SCALE CHANGES

*** NONE ***

COMPANY: OREGON NATURAL GAS DEVELOPMENT CORP. RUN: 1
 WELL NAME: IW 320-10 TRIP: 1
 SERVICE: KC202A FILE: 1 DATE: 12/31/90 TIME: 16:32:35
 REVISION: FSYS256 REV:0002 VER:2.0 MODE: RECORD



FILE: 1

- CALIBRATION/VERIFICATION SUMMARIES •
- DATE 12/31/90 TIME 16:57:30 •
- RUN 1 TRIP 1 •

LOG NAME 4CAL ASSET NO. 52959 UNIT NO. 6399
 CALIBRATION ENTERED ON 12/31/90 AT 16:14:07

CURVE MILLIVOLTS SCALING FACTORS ENGINEERING VALUES UNITS
 LOW HIGH APP. MULT. LOW HIGH

DATE 12/31/90 CALIBRATION TIME 16:14:07

C13	585.4	1130.8	-0.439	0.0268	6.000	12.000	INCH
C24	662.5	1244.4	-0.830	0.0252	6.000	12.000	INCH

PRIMARY VERIFICATION NOT DONE

DATE 12/31/90 BEFORE LOG VERIFICATION TIME 16:28:49

C13	E	761.6	-0.439	0.0268	E	7.939	INCH
C24	E	902.6	-1.330	0.0252	E	7.975	INCH

DATE 12/31/90 AFTER LOG VERIFICATION TIME 16:43:35

C13	E	784.5	-0.439	0.0268	E	8.190	INCH
C24	E	908.0	-1.330	0.0252	E	8.032	INCH

*** GR NOT CALIBRATED ***