MAR 19690009: POTTS LAKE

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RADEX MINERALS LIMITED

AIRBORNE RADIOMETRIC SURVEY
PERMIT NO. 31
POTTS LAKE, ALBERTA

Trigg, Woollett & Associates Ltd.

August, 1969

E. Lipsett

RADEX MINERALS LIMITED

AIRBORNE RADIOMETRIC SURVEY

PERMIT NO. 31

POTTS LAKE, ALBERTA

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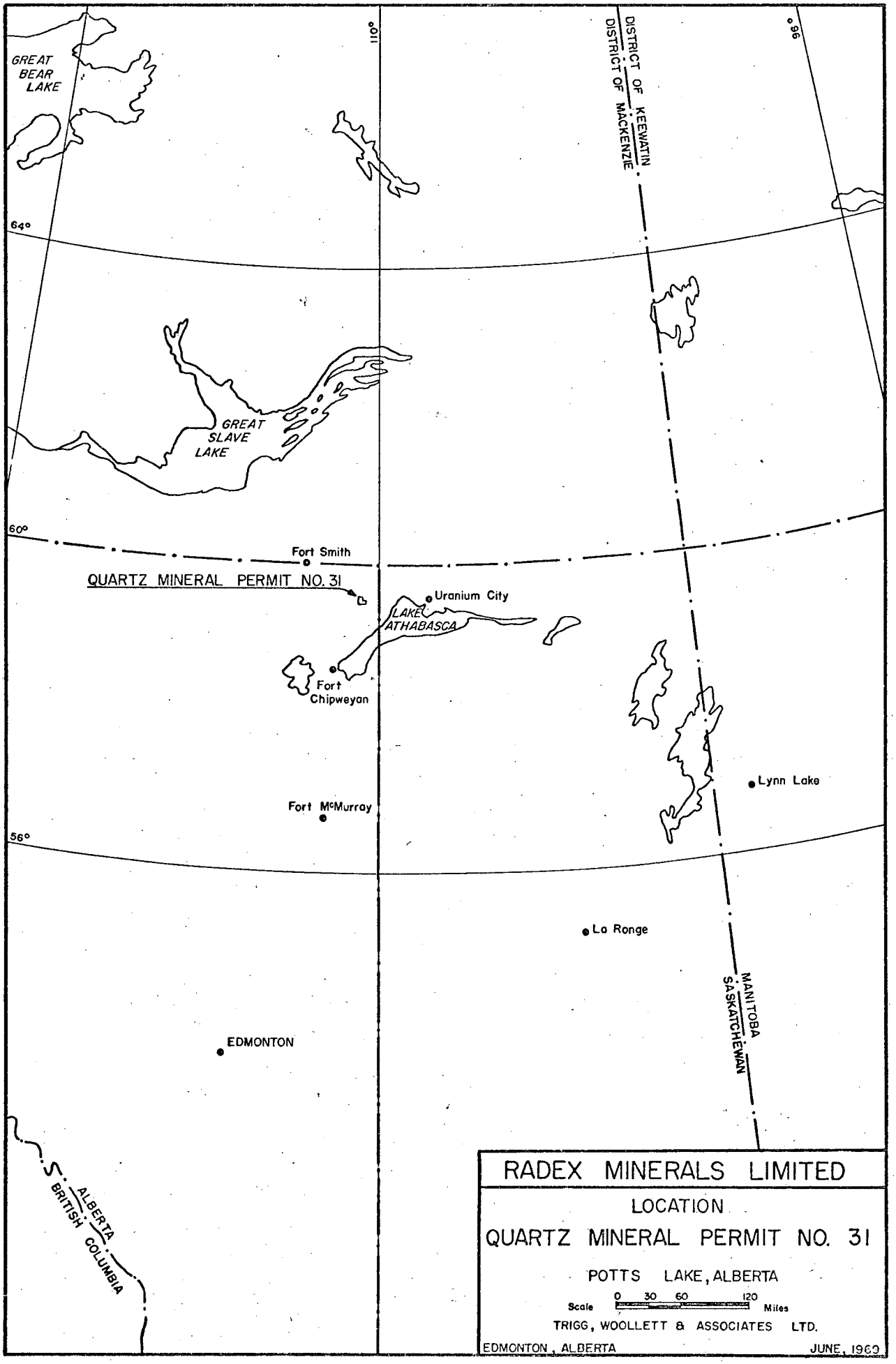


RADEX MINERALS LIMITED

LOCATION

QUARTZ MINERAL PERMIT NO. 31

POTTS LAKE, ALBERTA

Scale 0 30 60 120 Miles

TRIGG, WOOLLETT & ASSOCIATES LTD.

EDMONTON, ALBERTA JUNE, 1969

19690009 DWG. 9R31 – 1

RADEX MINERALS LIMITED

AIRBORNE RADIOMETRIC SURVEY

PERMIT NO. 31

POTTS LAKE, ALBERTA

SUMMARY

An airborne radiometric survey of Permit No. 31, Potts Lake, Alberta, was carried out between May 25 and May 27, 1969 and recorded a total of 26 radioactive occurrences. Ground investigation of these anomalies is recommended.

LOCATION AND PROPERTY

Permit No. 31 is located 65 miles west of Uranium City, Saskatchewan (Dwg. 9R31-1) in the Potts Lake area of northeast Alberta. The coordinates of the approximate centre of the permit are 59°45' north latitude, 110°20' west longitude. The permit containing an area of 36,480 acres is held under an option agreement by Radex Minerals Limited.

GEOLOGY

Permit No. 31 is underlain by metamorphic and igneous rocks of Archean age (Godfrey, 1966). Six rock groups are recognized by Godfrey: metasedimentary and associated rocks, porphyroblastic biotite granites, granite-gneiss, amphibolite, massive to foliated granites and pegmatites, and mylonites.

A major mylonite belt is present along the western edge of Permit No. 31. A less intense mylonite belt occurs on the east side of Whaleback Lake. Faults generally parallel the northerly trending mylonite belts. Two northeast transverse faults occur north and south of Camsell Lake.

Godfrey (1966) indicates that eight occurrences of radioactivity exist within Permit No. 31; five of these occurrences are adjacent to the mylonite belt along Charles Lake. The three other occurrences are near the south end of Potts Lake. Radioactivity is generally related to impure quartzite bands enclosed by biotite granite-gneiss.

SURVEY

An airborne radiometric survey of Permit No. 31 was carried out between May 25 and May 27, 1969 for Radex Minerals Limited by Trigg, Woollett & Associates Ltd. of Edmonton, Alberta and totalled 235 line miles. Survey flight lines were oriented west-east and spaced at intervals of 1320 feet. The actual flight path was recorded during flight on airphoto mosaics (scale two inches equals one mile) by a technician seated in the helicopter. Fiducial points were located, marked and numbered on the flight mosaic and on the recorder chart. Ground clearance was maintained at 100 feet but not recorded.

Flight lines were later reconstructed by transferring the fiducial points to a drainage base map (scale two inches equals one mile) constructed from the airphoto mosaics.

Flight recorder charts were examined and interpreted. All significant radioactive responses were located and plotted on the survey base map as anomalies (Dwg. 9R31-3). This survey was flown under the supervision of E. Lipsett, P.Geoph., with M. R. Hegge, B.Sc., as technician.

EQUIPMENT

The following equipment was used to perform this survey:

(a) Bell 47-G3B helicopter.
(b) Mount Sopris Airborne Scintillometer, Model 160-12A with one 5"x4" sodium iodide crystal detector.
(c) Moseley Electrowriting Recorder, Model 680.
(d) Bonzer Vertical Measuring Radar Instrument.

Details of the instrument setting used for this survey are as follows:

Time Constant	0.45 seconds
Per Cent Probable Error	1 per cent
Range Scale	0-5000 counts per second
Energy Discrimination	nil
Ground Clearance	100 feet
Air Speed	45 miles per hour
Recorder Chart Speed	4 inches per minute
Instrument Sensitivity	200 counts per second per microroentgen per hour

CONCLUSIONS

Twenty-six radioactive occurrences were recorded in Permit No. 31 by the airborne radiometric survey (Dwg. 9R31-3). Anomalous radioactivity responses were classified as those exceeding 1200 counts per second. The majority of the anomalous

CONCLUSIONS (cont'd)

responses were between 1300 and 1500 counts per second; one anomaly in the northeast corner of the permit peaked at 1700 counts per second.

The anomaly characteristics suggest that the anomalies may have resulted from broad response sources such as specific rock types. Anomalies that might have been produced by uranium vein type sources were not evident among the anomalies recorded.

The broad response source and rock type relationship is typified through the concentration of anomalies occurring on the east side of Whaleback Lake in an area of impure quartzites enclosed by biotite granite-gneiss. Although these occurrences are coincident with particular rock types, the anomalies warrant further investigation.

RECOMMENDATIONS

A detailed ground investigation of all anomalies is warranted to determine the nature of the radioactive occurrences.

E. Lipsett, B.Sc., P.Geoph.

G. N. Woollett, P.Eng.

August 29, 1969.
Edmonton, Alberta.

REFERENCES

Godfrey, J. D. (1966) Geology of the Bayonet, Ashton, Potts and Charles Lakes District, Alberta; Research Council of Alberta, Preliminary Report 65-6.

CERTIFICATION

I, E. LIPSETT, OF [redacted] EDMONTON, ALBERTA, CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF ALBERTA WITH A B.SC. DEGREE IN PHYSICS AND CHEMISTRY. I AM REGISTERED AS A PROFESSIONAL GEOPHYSICIST WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF ALBERTA.

MY EXPERIENCE INCLUDES SERVICE AS FIELD GEOPHYSICIST, PARTY CHIEF AND INTERPRETATION SUPERVISOR, CANADIAN EXPLORATION CO. LTD., CALGARY; SENIOR GEOPHYSICIST, PAN AMERICAN PETROLEUM CORPORATION, CALGARY; HEAD, EXPLORATION DEPARTMENT, NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY, EDMONTON.

I HAVE NO INTEREST DIRECT OR INDIRECT IN RADEX MINERALS LIMITED OR ANY OF THEIR PROPERTIES NOR DO I EXPECT TO RECEIVE ANY SUCH INTEREST.

E. Lipsett

E. LIPSETT, B.SC., P.GEOPH.

APPENDIX I

PERMIT NO. 31 - POTTS LAKE

Anomaly No.	Location	Nature	Comments
P31 - 7A	3/4 mile north of Potts Lake.	Broad 1330 cps	Background 1000 cps
P31 - 7B	"	Broad 1400 cps	Background 1000 cps
P31 - 9A	1/4 mile north of Potts Lake.	Broad 1310 cps	Background 1200 cps
P31 - 25A	1 mile north of Whale-back Lake.	Broad 1310 cps	Background 1200 cps
P31 - 26A	2 miles northeast of Whaleback Lake.	Broad, pro-nounced 1570 cps	Background 1000 cps
P31 - 26B	1 mile north of Whale-back Lake.	Broad 1250 cps	Background 1100 cps
P31 - 27A	Northeast of Whale-back Lake.	Broad 1320 cps	Background 1000 cps
P31 - 27B	"	Broad, pro-nounced 1700 cps	Background 1000 cps
P31 - 28A	"	Broad 1400 cps	Background 1200 cps
P31 - 28B	"	Broad 1450 cps	Edge of sand covered area. Background 1200 cps.
P31 - 29A	"	Broad 1390 cps	Background 900 cps
P31 - 29B	"	Broad 1300 cps	Background 900 cps
P31 - 30A	"	Broad 1580 cps	Area of known radio-activity. Background 1150 cps
P31 - 31A	West of Camsell Lake.	Broad 1550 cps	Area of known radio-activity. Background 1100 cps

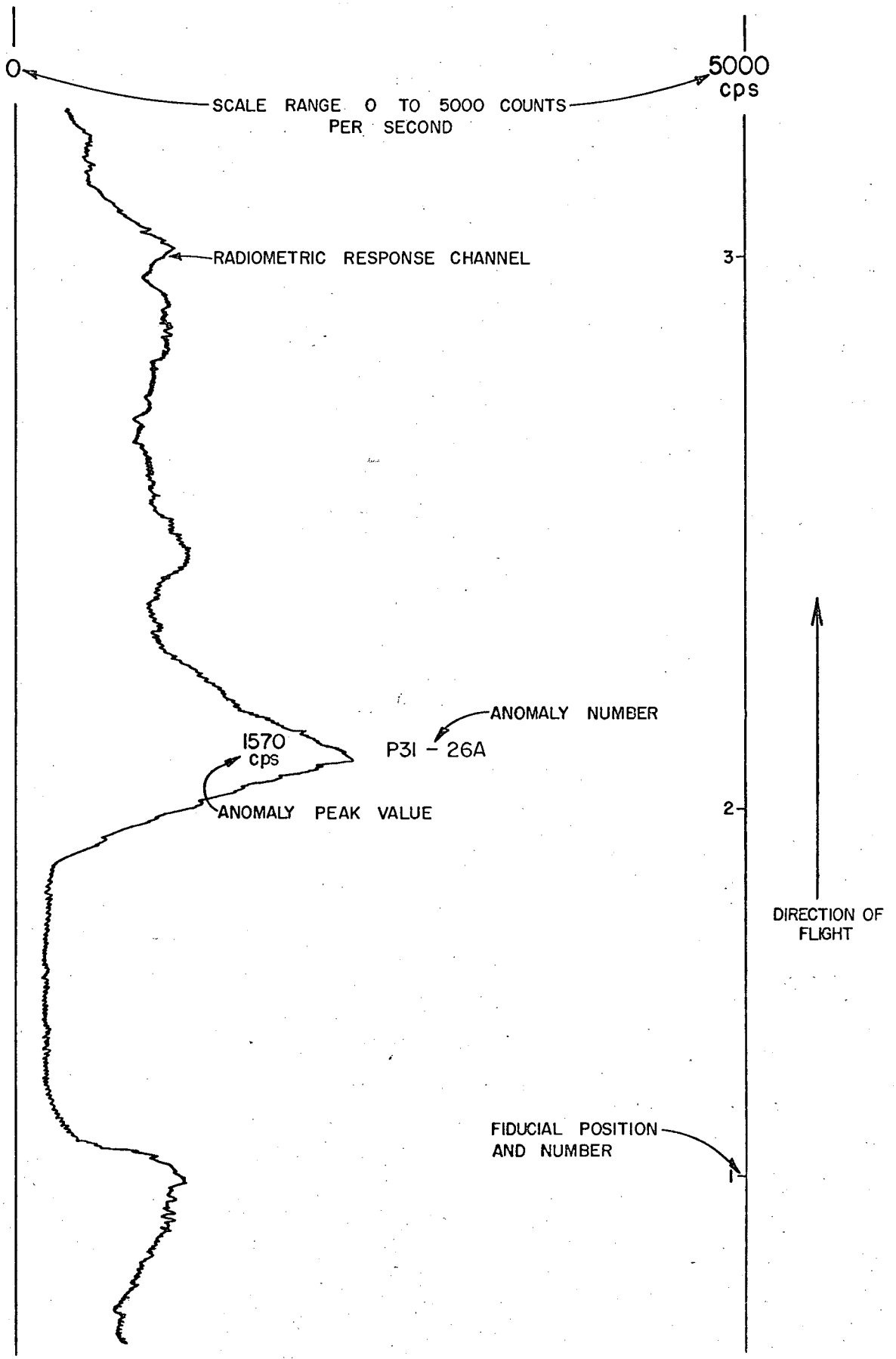
Anomaly No.	Location	Nature	Comments
P31 - 31B	East of Camsell Lake.	Broad 1510 cps	Background 1100 cps
P31 - 31C	East of Whaleback Lake.	Broad 1360 cps	Background 1100 cps
P31 - 31D	East of Whaleback Lake.	Broad, distinct 1610 cps	Background 1100 cps
P31 - 32A	"	Broad 1410 cps	Background 1200 cps
P31 - 32B	East of Camsell Lake.	Broad 1350 cps	Background 1200 cps
P31 - 33A	East of Whaleback Lake.	Broad 1400 cps	Background 1100 cps
P31 - 33B	"	Broad 1300 cps	"
P31 - 34A	"	Broad 1300 cps	"
P31 - 34B	West of Whaleback Lake.	Broad 1320 cps	"
P31 - 37A	East of Whaleback Lake.	Broad 1390 cps	"
P31 - 41A	South of Whaleback Lake.	Broad 1310 cps	"
P31 - 41B	Southwest of Potts Lake.	Broad 1300 cps	"

APPENDIX II

RECORDER CHART PROFILES

19690009
#1

RECORDER CHART PROFILES LEGEND



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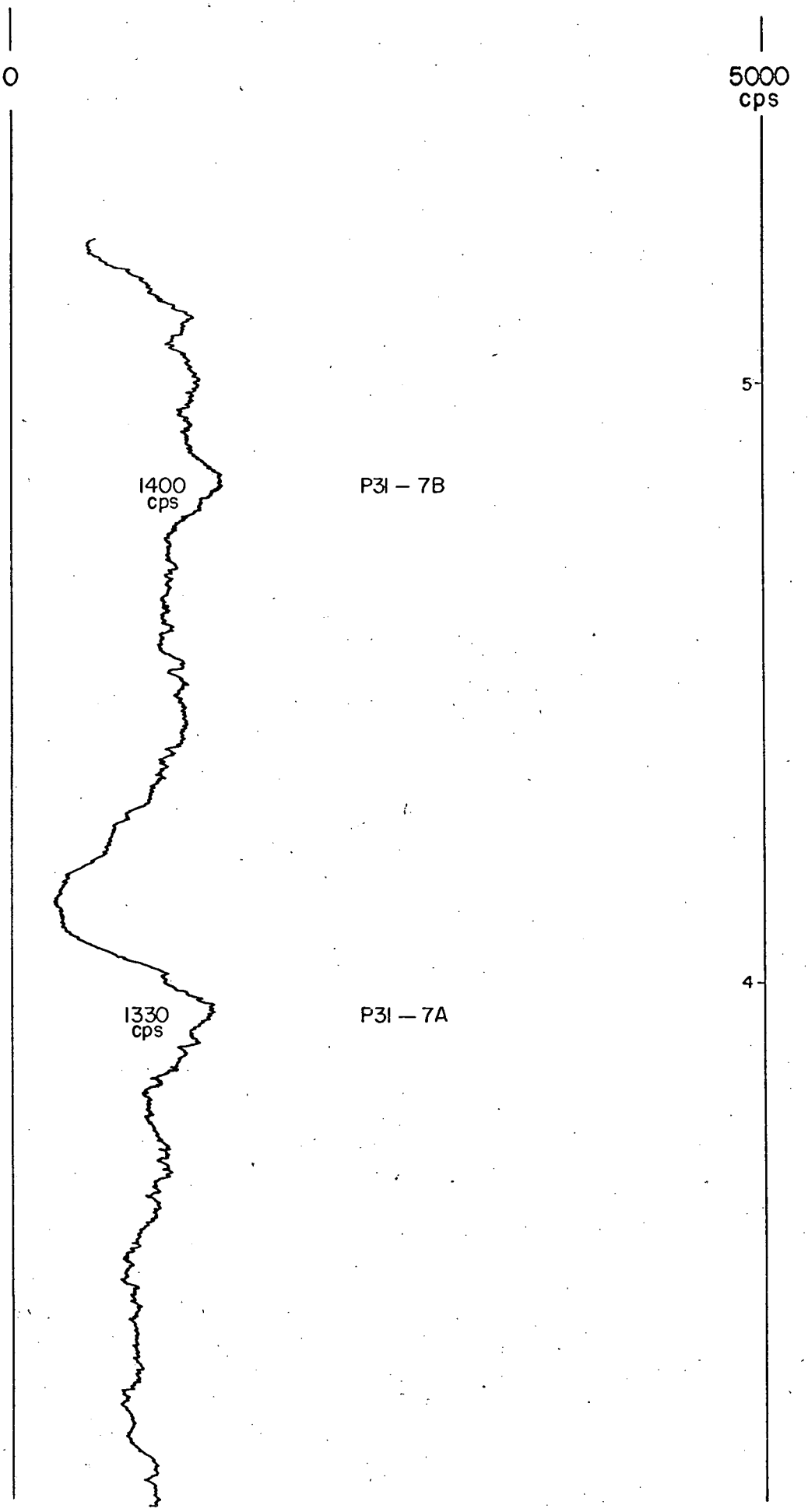

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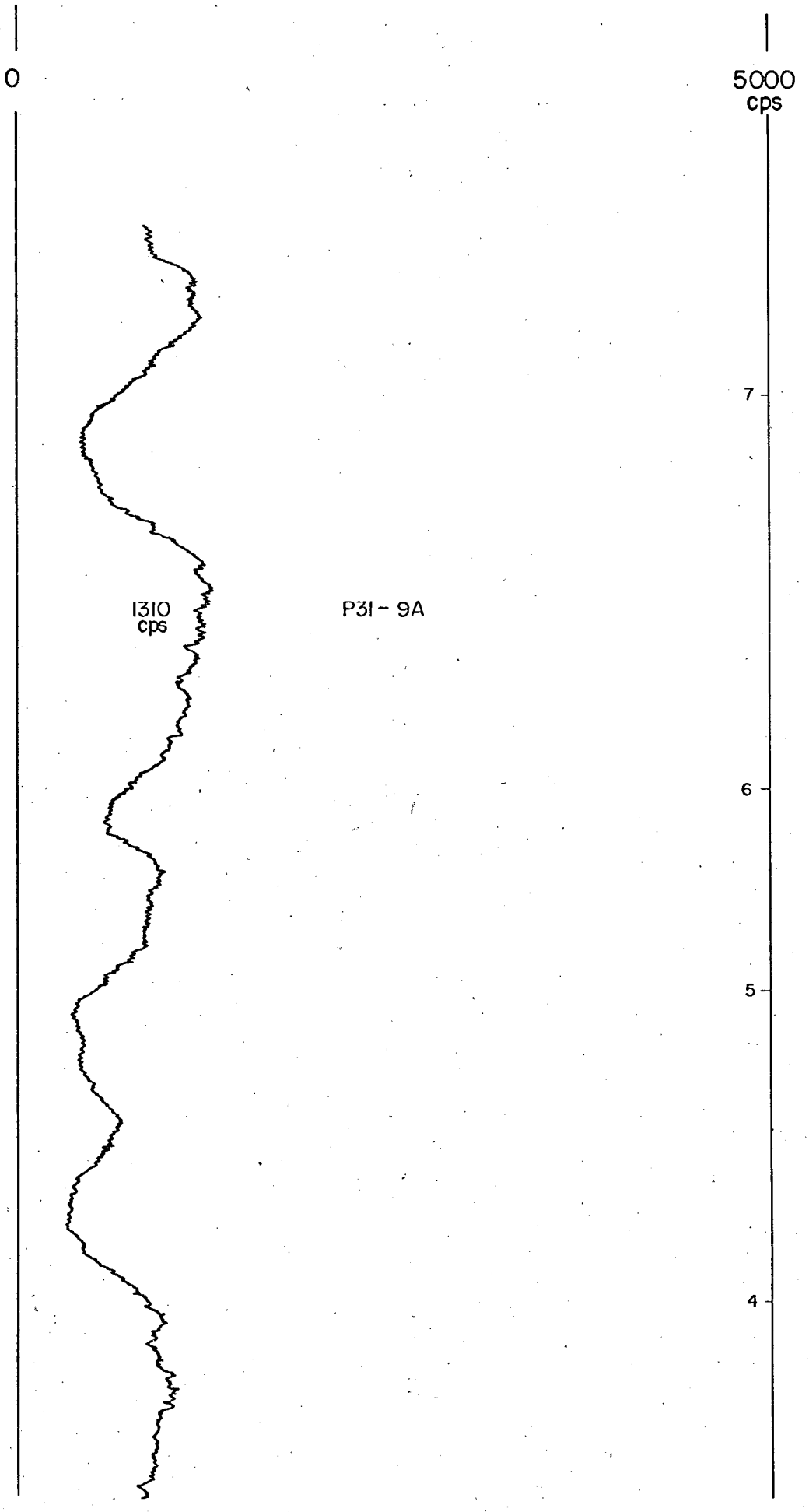

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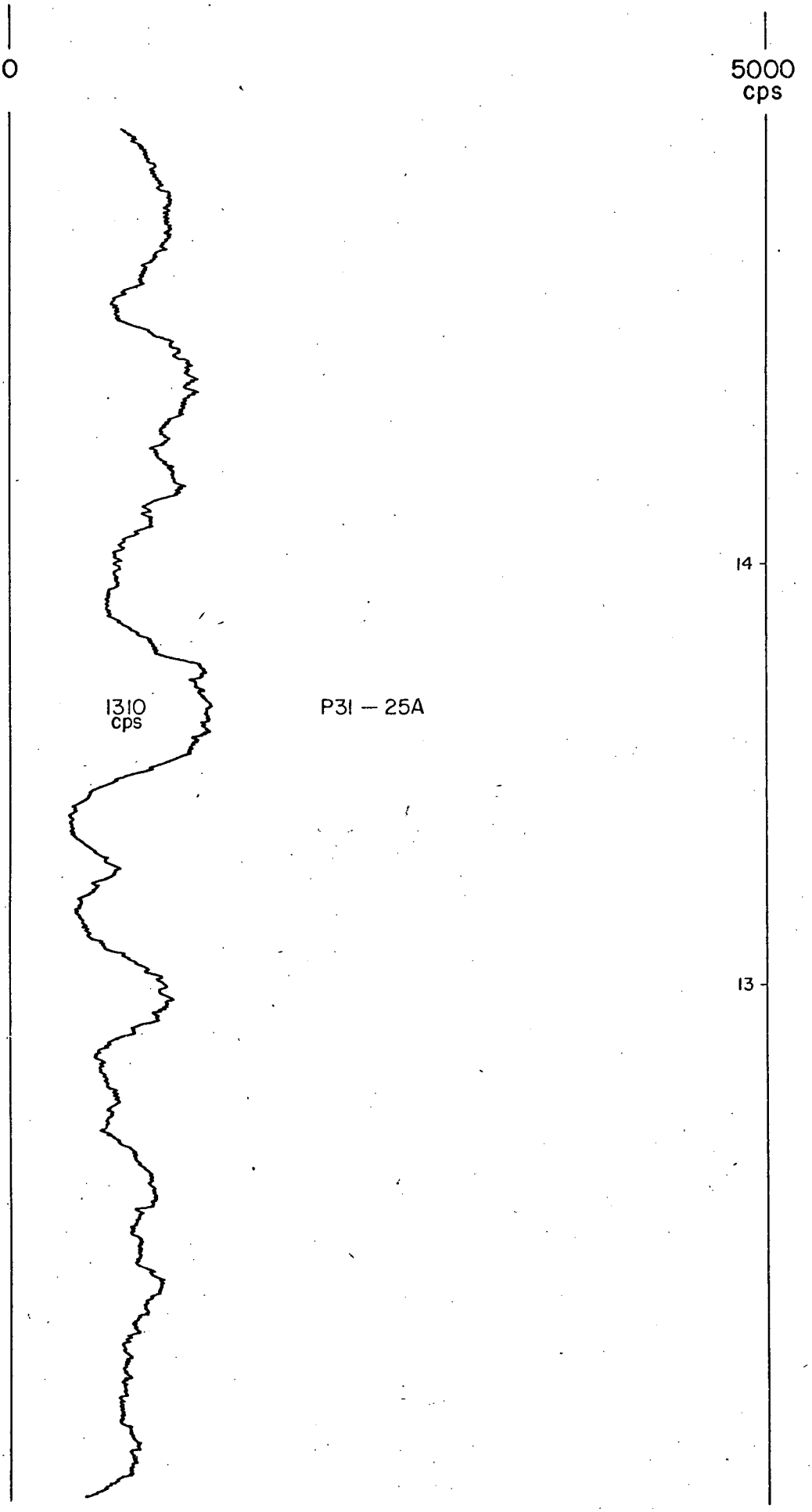

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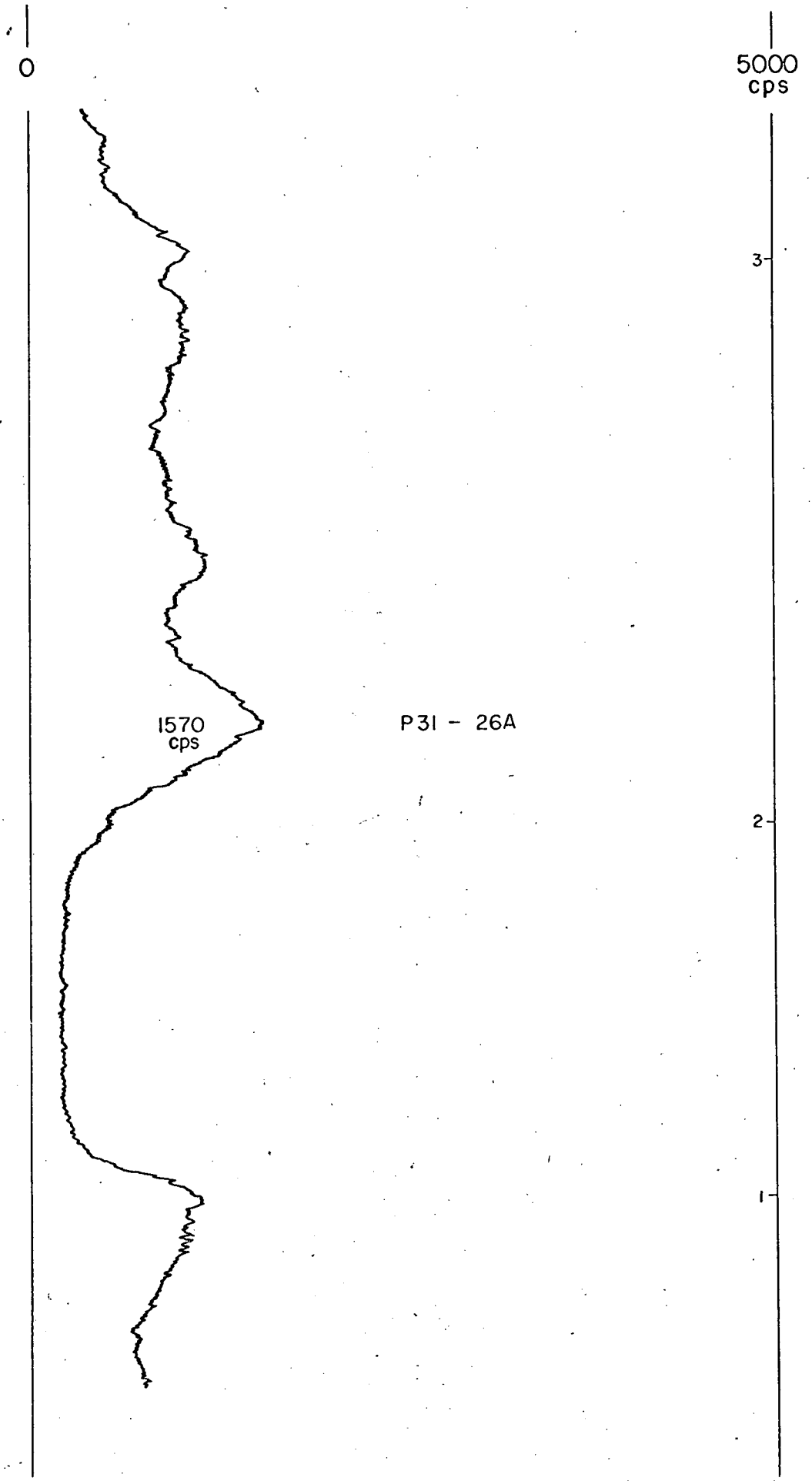

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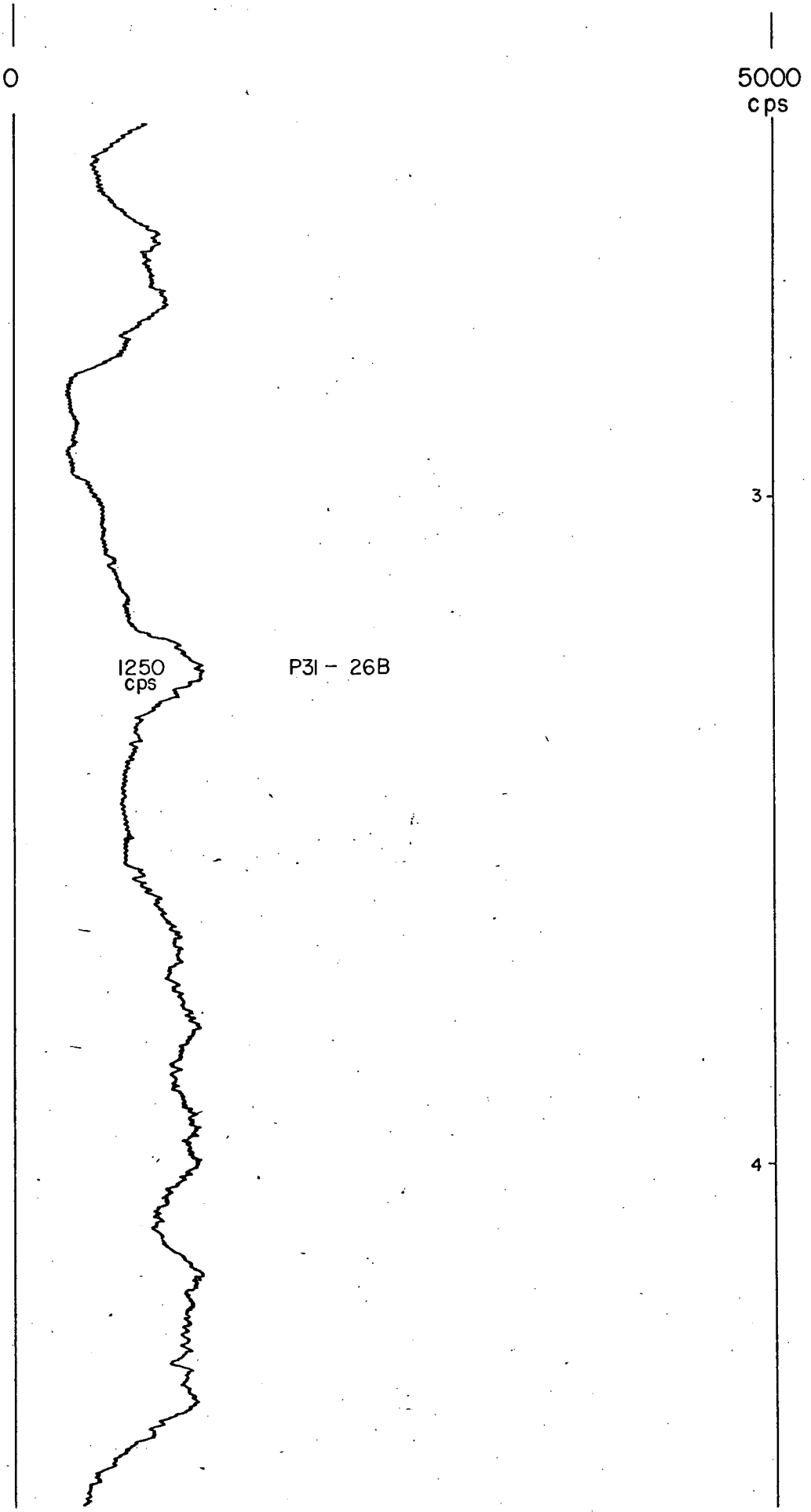

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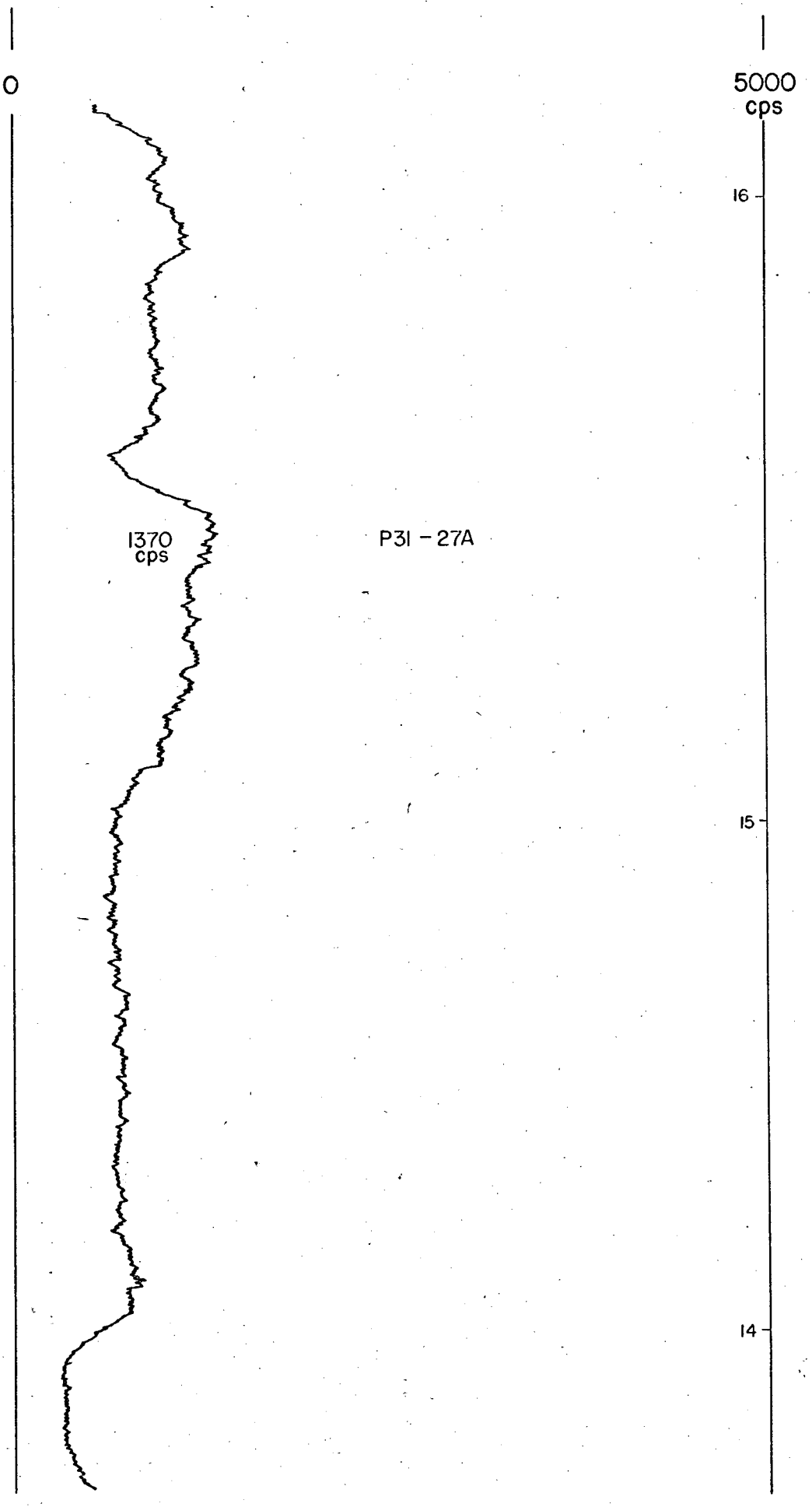

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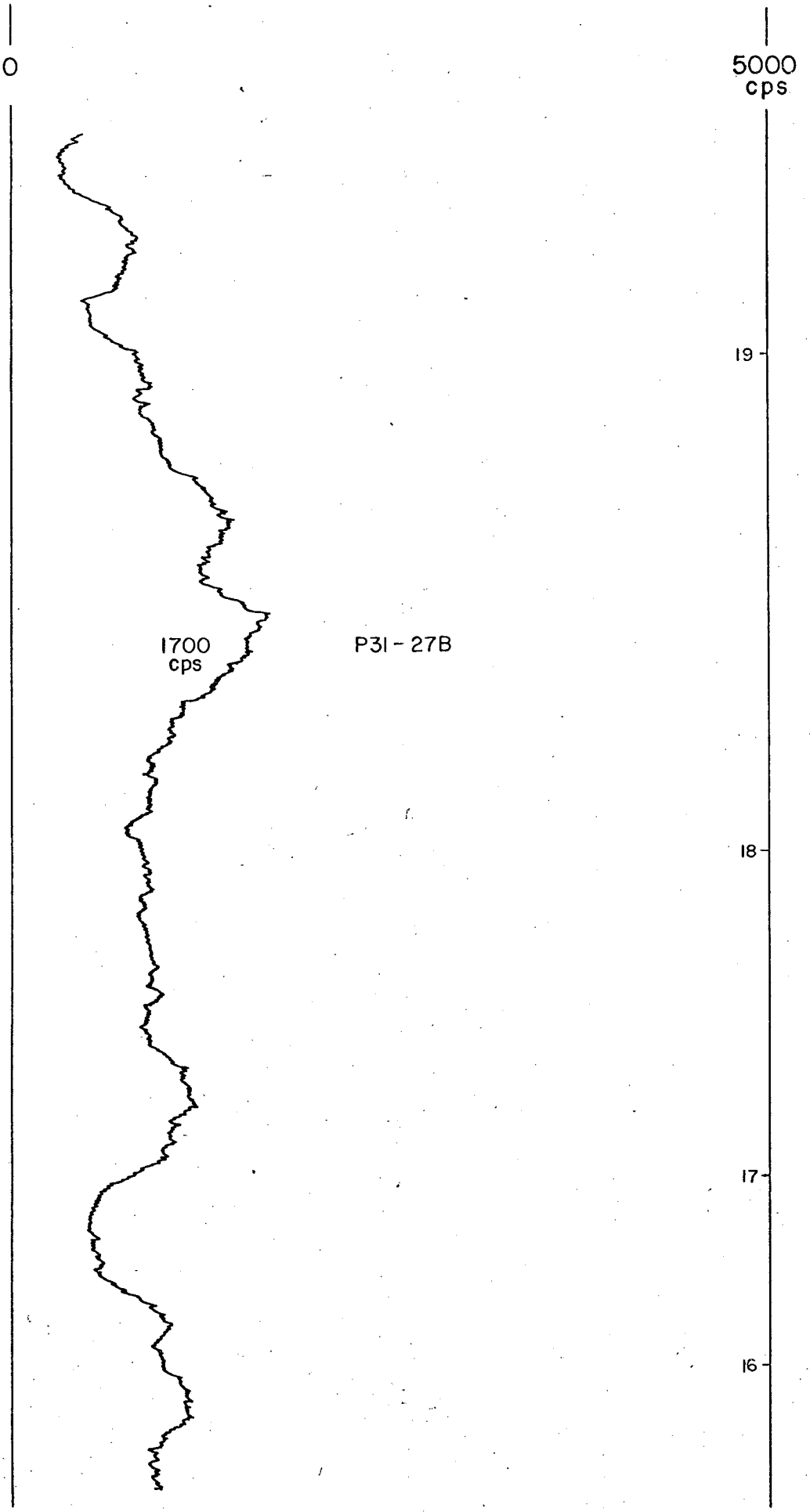

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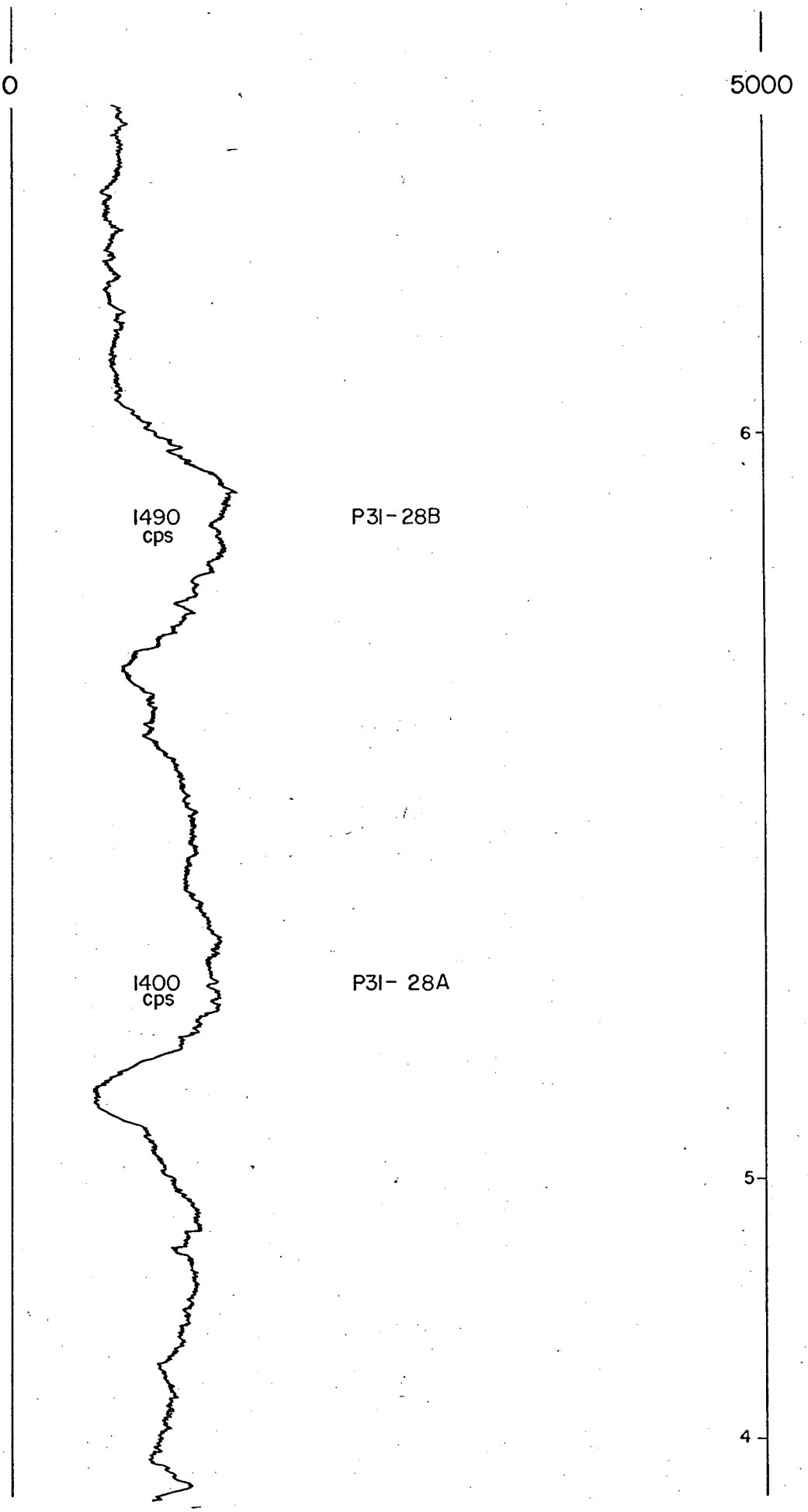

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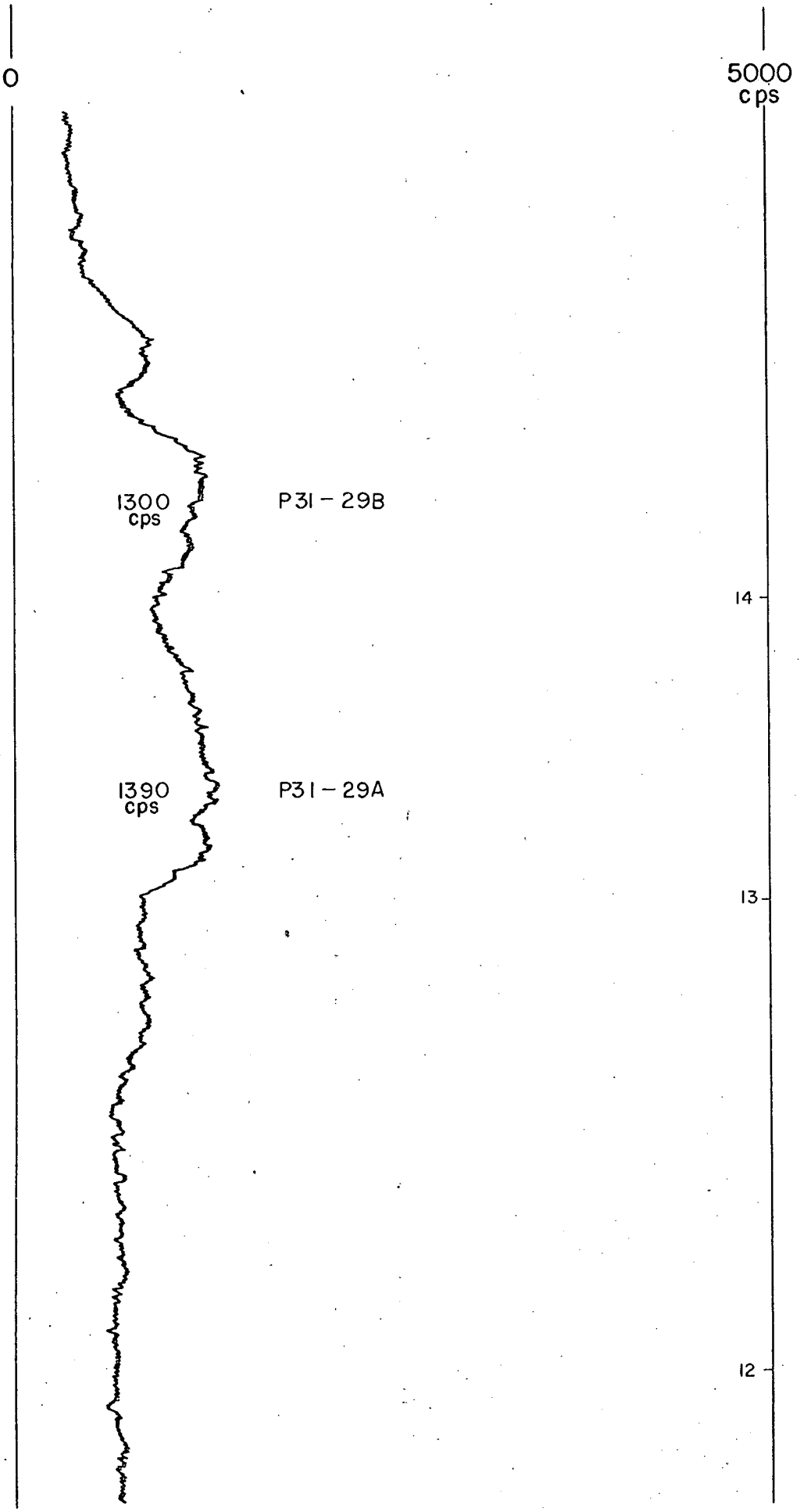

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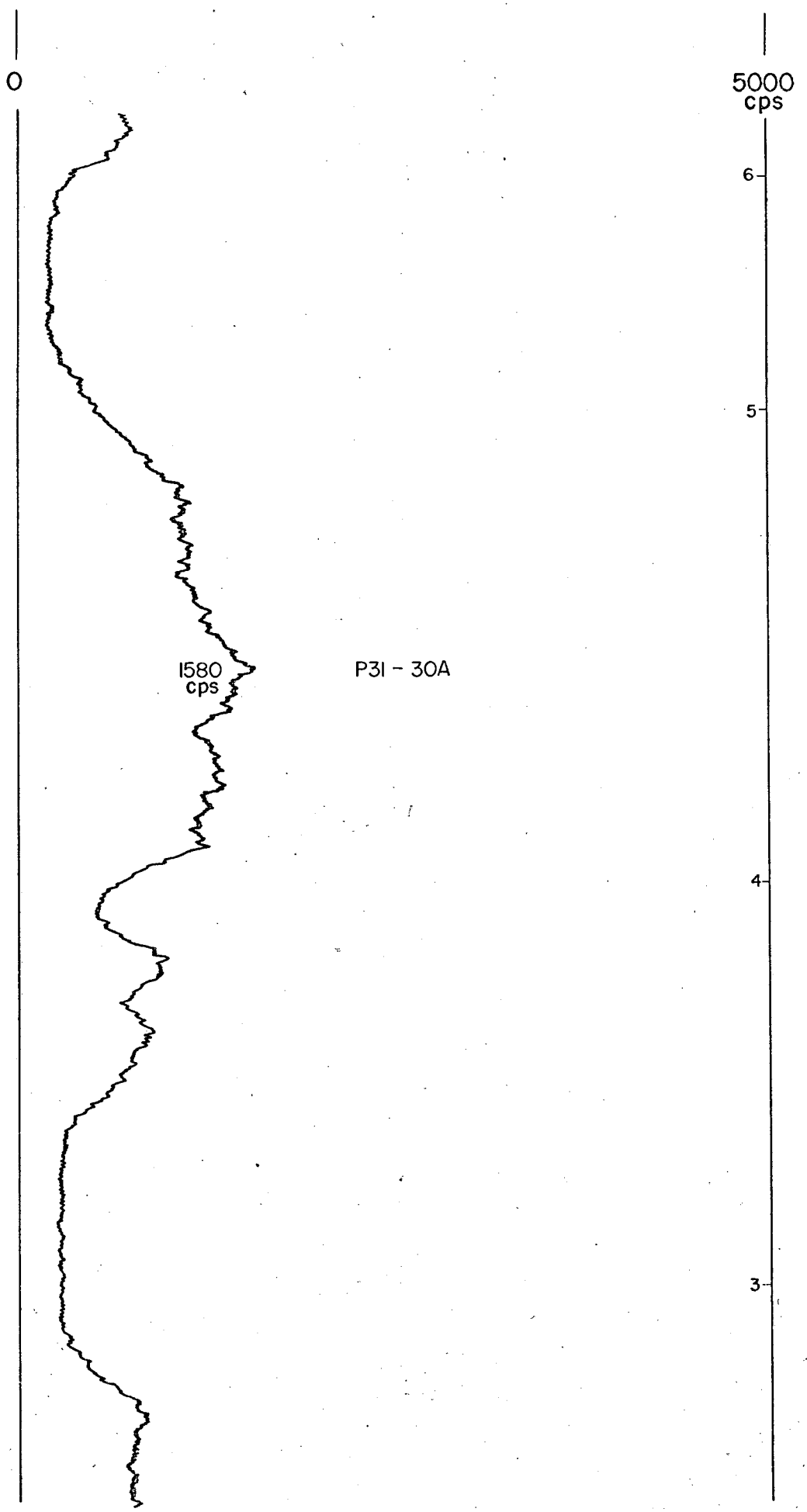

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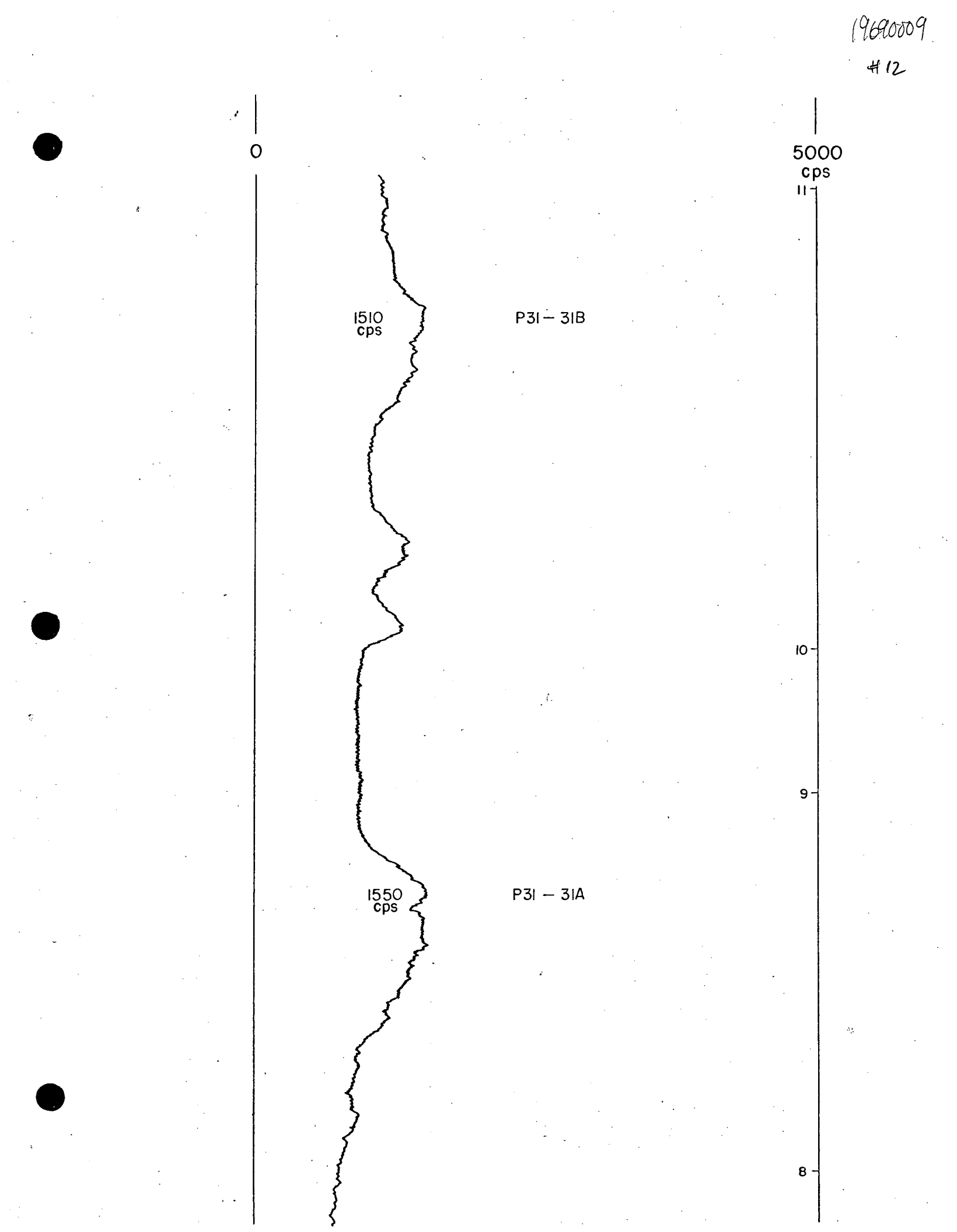

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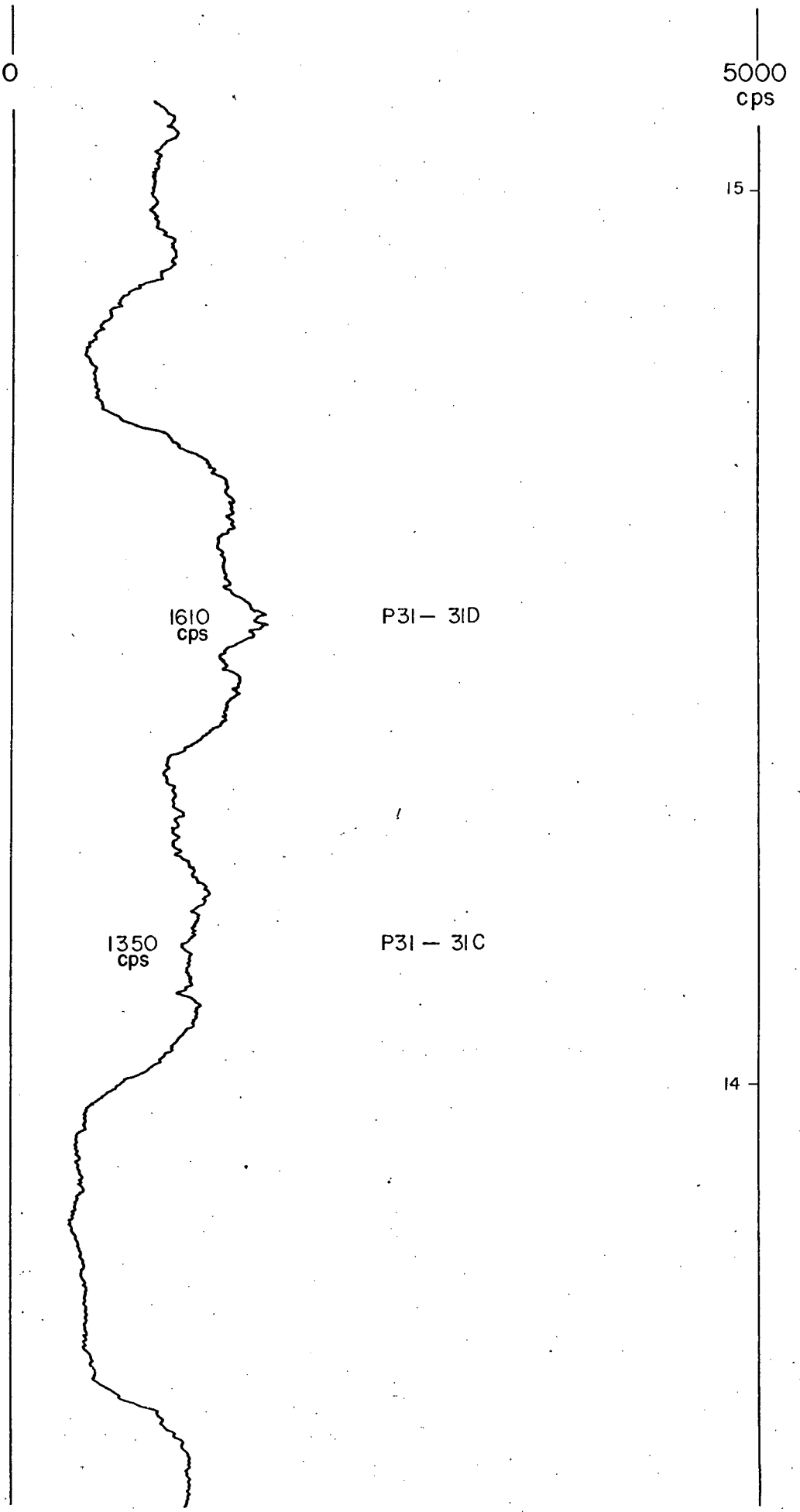

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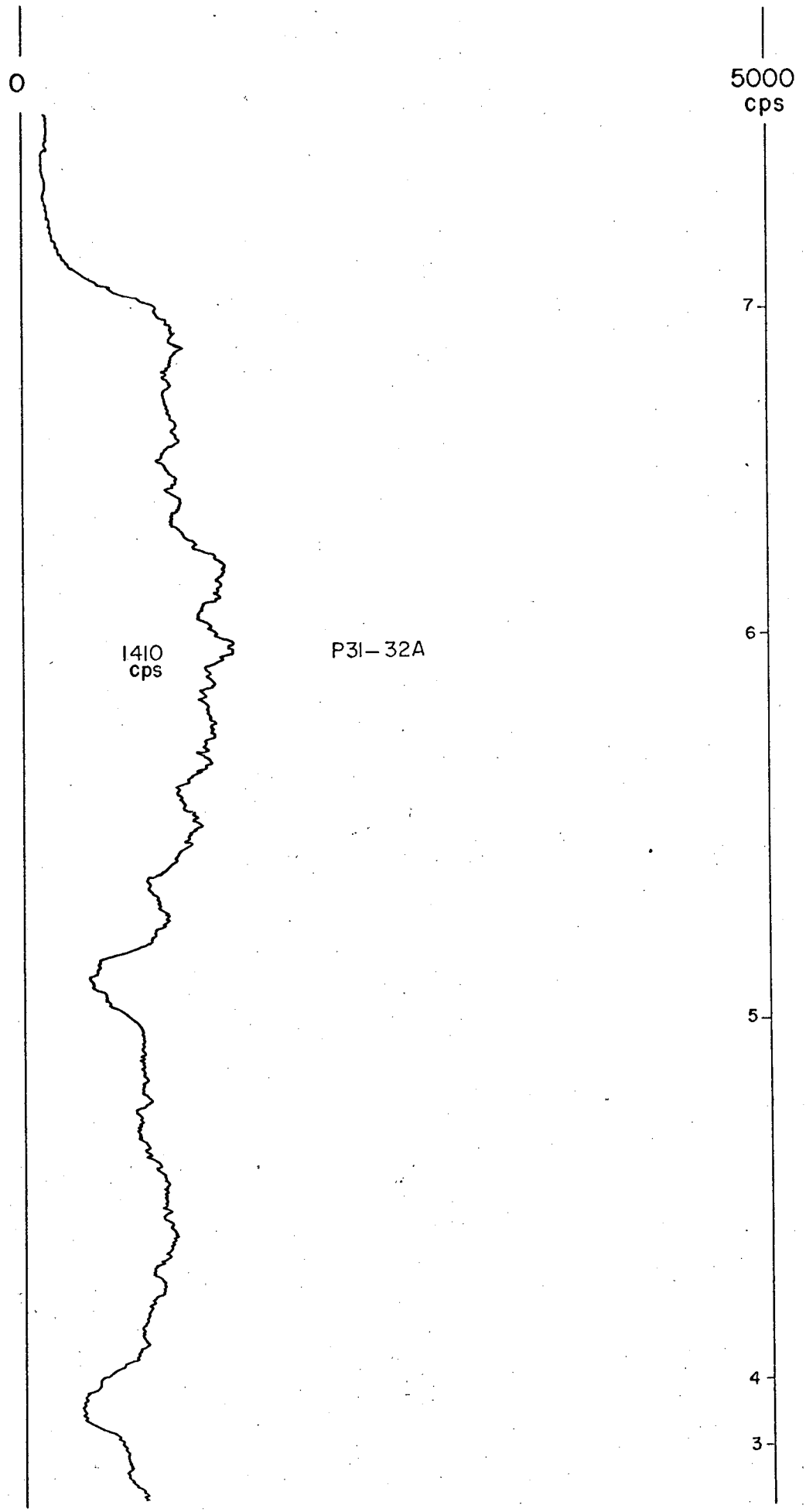

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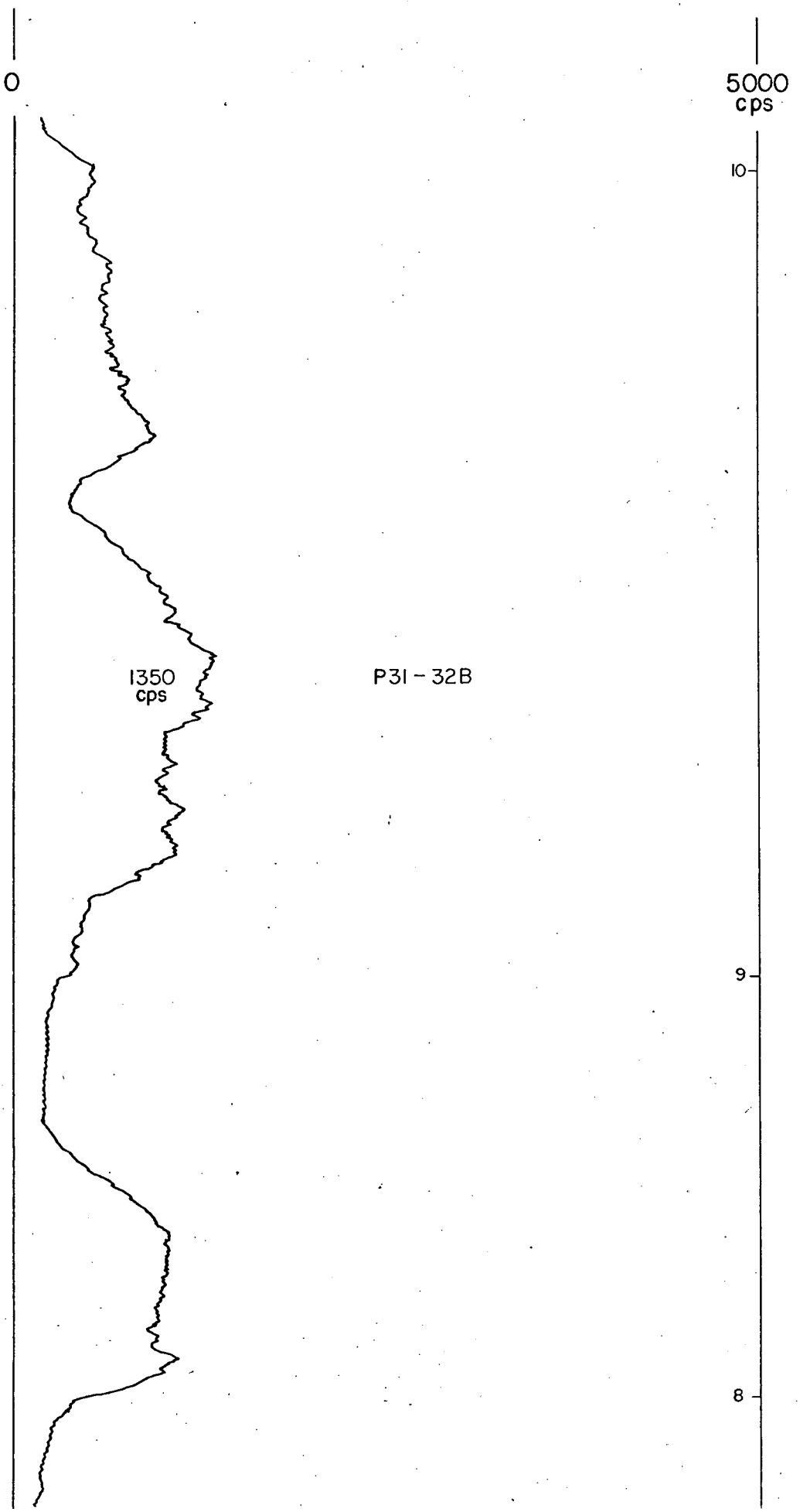

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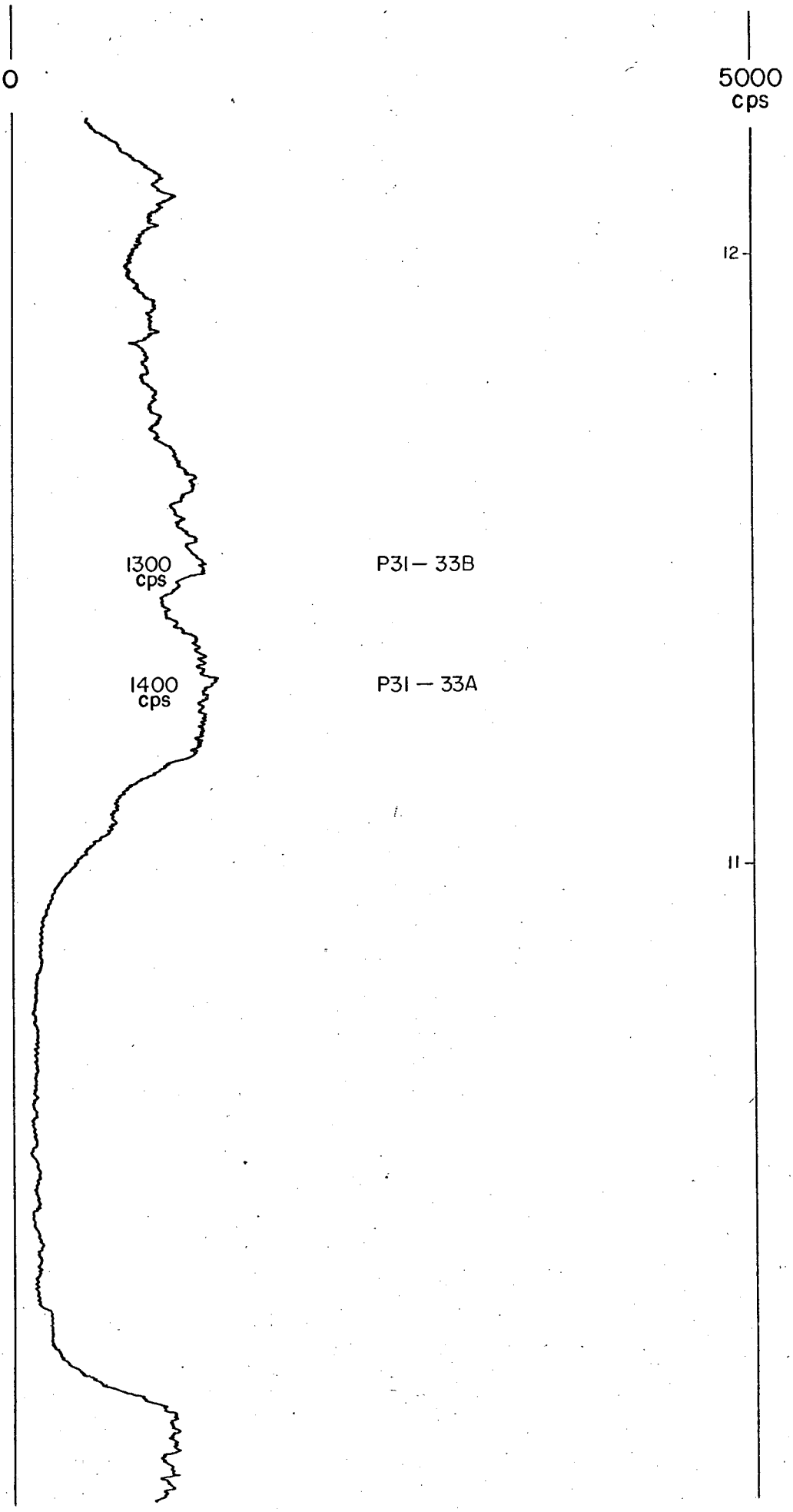

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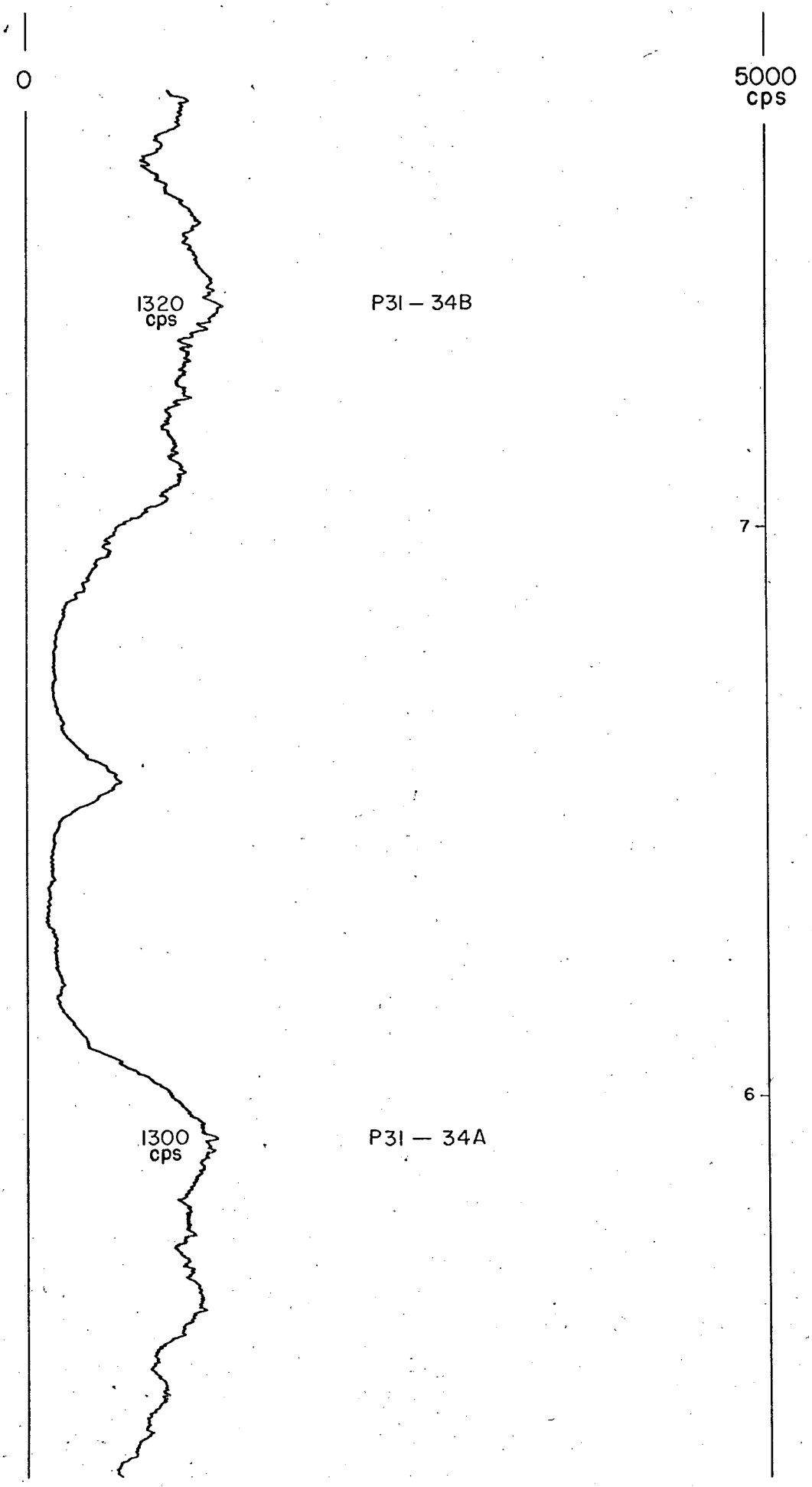

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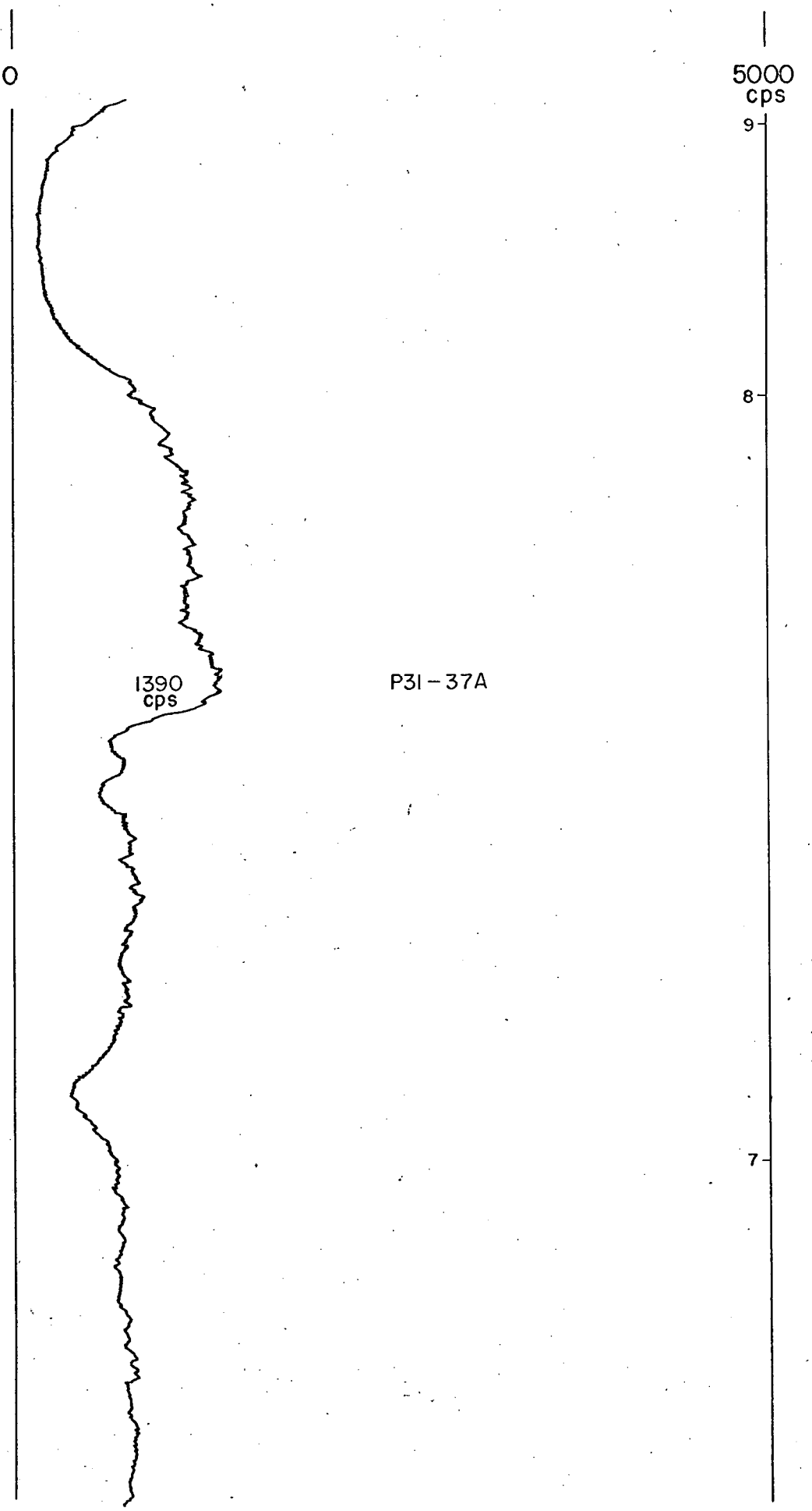

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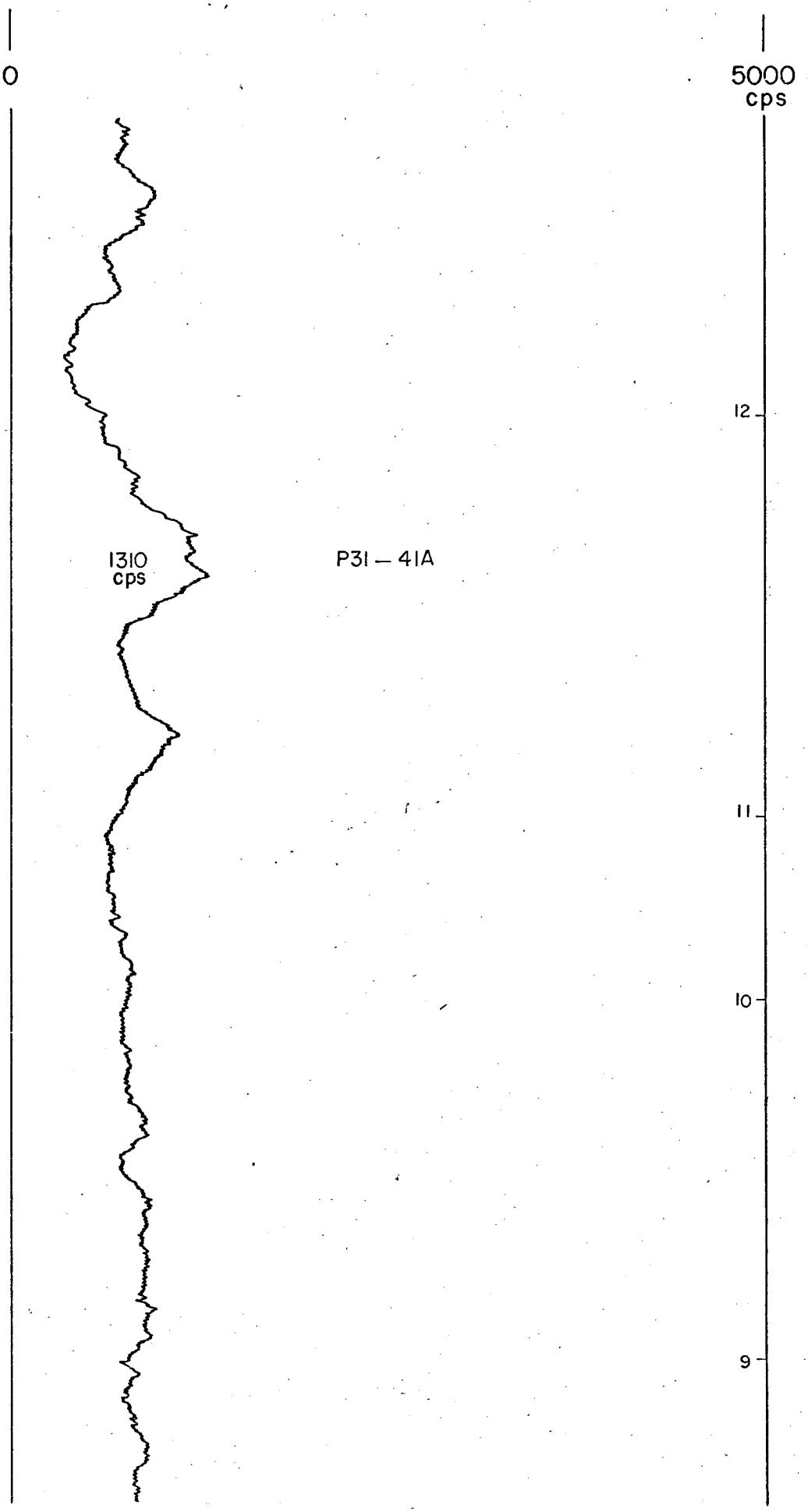

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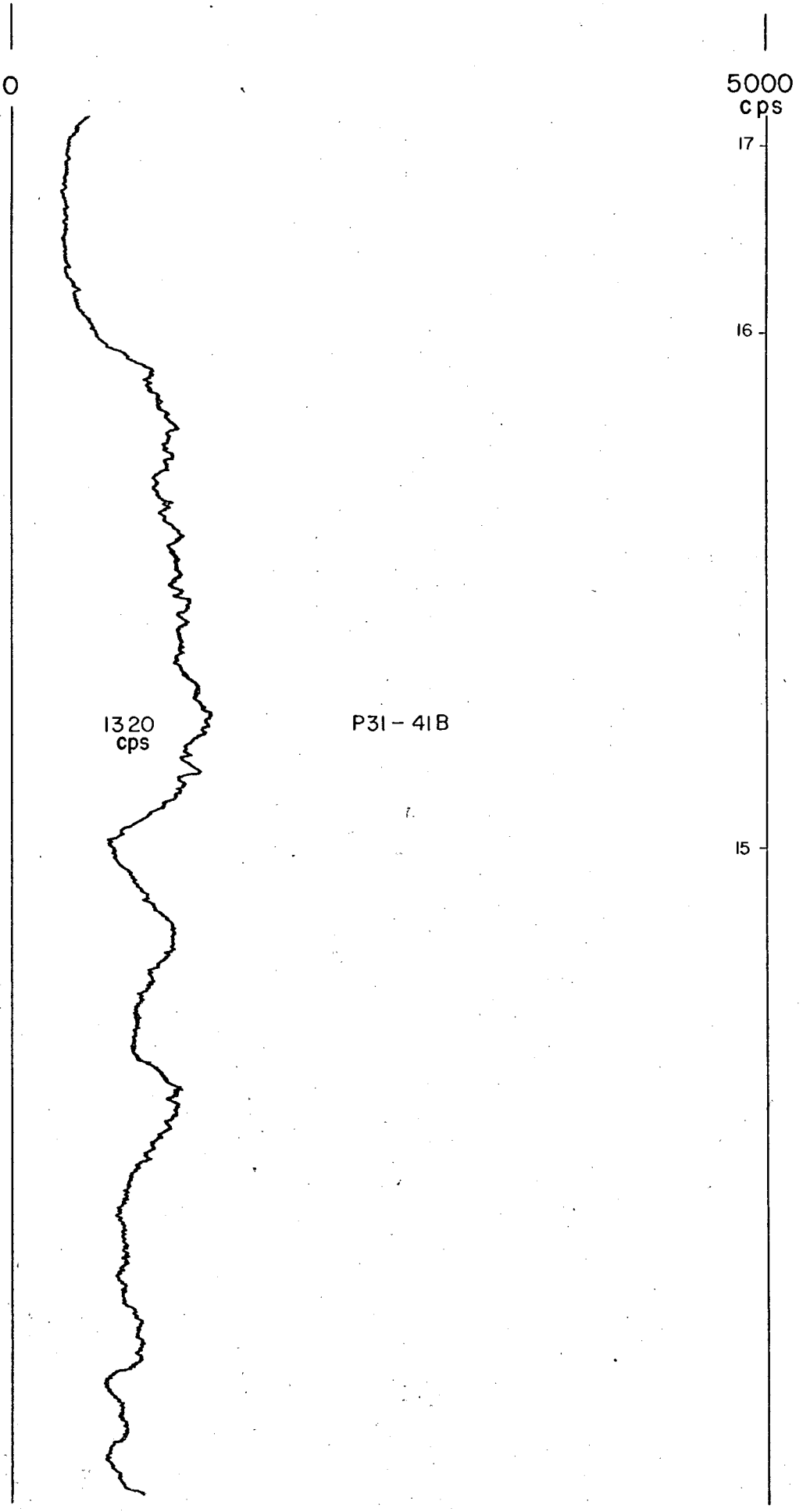

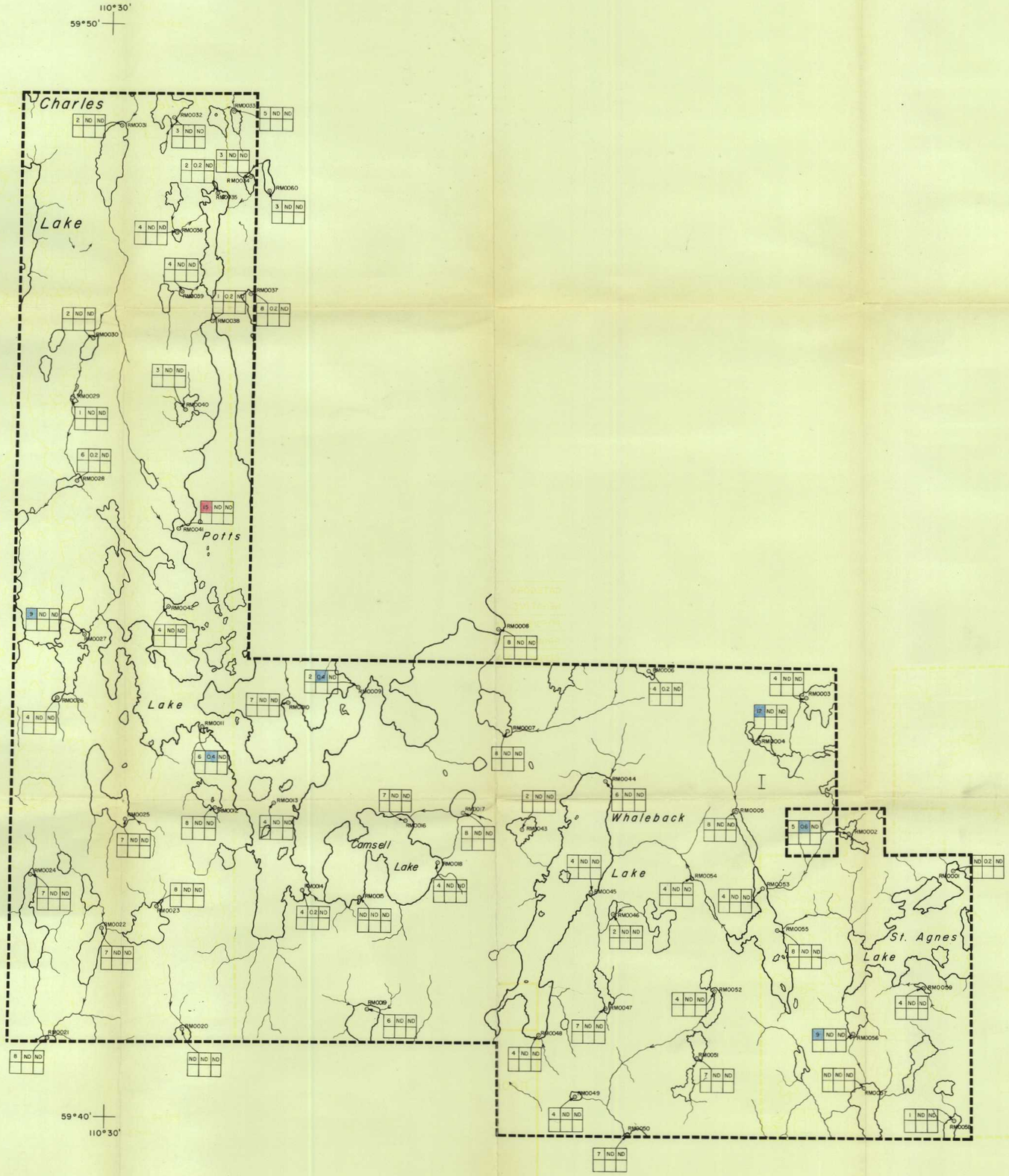

N

SCALE : 1" = ½ MI.

GENERAL LEGEND:

- DRAINAGE DIRECTION
- BOUNDARY LINE OF PERMIT
- ⊙RM - 0001 LAKE AND STREAM SAMPLE LOCATION

GEOCHEMICAL LEGEND:

CLASSIFICATION OF DATA

CATEGORY	Rn(pc/l)	U(ppb)	Cu(ppb)	SYMBOL
NEGATIVE	ND - 8	ND - 0.3	ND	
POSSIBLY ANOMALOUS	9 - 12	0.4 - 0.6	-	
PROBABLY ANOMALOUS	13 - 16	-	-	
DEFINITELY ANOMALOUS	16+	-	-	

DATA PRESENTATION

RM0002 — 5 | 0.6 | ND

DETAIL OF DATA PRESENTATION

(222) Rn(pc/l)	U (ppb)	Cu (ppb)

ANOMALY - I

RADEX MINERALS LIMITED

MAP 1

RADON, URANIUM AND COPPER CONTENTS OF WATER

HYDROGEOCHEMICAL SURVEY PERMIT 31

POTTS LAKE, ALBERTA

CONSULTANTS	GEOCHEMISTRY	CARTOGRAPHY	DATE
TRIGG, WOOLETT & ASSOCIATES LTD.	BONDAR CLEGG COMANY LTD.	GEOPHOTO SERVICE LTD.	SEPT. 15, 1969.

1767008