

L49-116 NE.

82F/9E

Mathew Cr ek Group

Anyox Metals Ltd.

Smith, Alexander, Engineer.

February, 1948.

0031

31

REPORT ON MAGNETOMETER SURVEY

JANUARY 5th - FEBRUARY 5th, 1948

MATHEW 1 - 4 GROUPS

MATHEW CREEK, FORT STEELE M. D., B. C.

LOCATION; ACCESS; ETC:

The claims lie in Mathew Creek Valley about five miles above the confluence of that stream and the St. Mary's River. They are 4-1/2 miles west of the Sullivan Mine.

As shown on the Cranbrook sheet and the East Half Nelson Sheet, Mathew Creek occupies a narrow steep valley. On the group the elevation ranges from 4100 feet at the creek to over 6500 feet.

The country is well timbered. Mathew Creek would supply all domestic and milling requirements.

At present the group is reached by six miles of fair trail from St. Mary's Lake road. The trail could readily be cleaned out so that pack horses could be used. The first two miles follow an old logging road.

For exploration of the higher areas northeast of Mathew Creek a better route could probably be found via Kimberley and the Pass (5000' elev.) at the north end of the North Star Mill.

GEOLOGIC SETTING:

A preliminary geologic reconnaissance of the area indicated that the Kimberley fault does not die out at Mathew

Creek as shown on Rice's Cranbrook Sheet, but branches 1-1/2 miles northeast of that stream. The South branch is as shown on the "Cranbrook Sheet." The north branch may continue westward to join the Alki Creek fault. It is a zone 1500 feet wide wherein the Aldridge quartzites are sheared parallel to the bedding, altered, disturbed, and veined with quartz stringers.

In the wedge between the two branches of the fault the Aldridge quartzites are folded into an anticline plunging north. On the east limb of the anticline the sediments have an attitude similar to that at the Sullivan Mine. There are second order folds and crumples, high angle N20°E. fault, and fracture cleavage such as are found at Kimberley. Quartz diorite intrusives (Purcell) occur as sills and irregular bodies. The main mass appears to conform to the anticlinal structure.

METHOD:

The magnetometer used is a Watt's vertical variometer of the Schmidt type. The sensitivity of the instrument is 2 - 5 gammas. All stations occupied were surveyed in by Brunton, tape and barometer. As the stream valley is difficult to traverse except in mid-winter, a careful traverse was made up the valley. This will serve as a control traverse for additional work planned. Many side hill areas were too steep for travel under the snow conditions prevailing.

RESULTS:

The magnetic readings are plotted on the accompanying 1" = 200' map and profiles. The readings are in gam-

mas above the zero scale reading on the instrument. The zero scale reading on the instrument is about 57,000 gammas. Then the total strength of the vertical component of the magnetic field for a station reading 370 gammas on the map is about 57,370 gammas.

As shown in the profiles no anomaly of great magnetic intensity was found. However, there are a half dozen anomalies that show a range of 50 to 100 gammas. The significance of most of the anomalies is not known. One is known to occur at a contact of intrusive with the quartzites (Sta. 194 Profile M-C-O-T.) Others may indicate the positions of the two branches of the Kimberley fault (Sta. 87 and 39 Profile A-B-C-D-E.) The anomalies at Stations 211, 216 and 255, occurring in areas probably underlain by quartzites, might indicate mineralization or ore horizons. (Profiles C-O-P-Q-R-S and M-C-O-T and composite profile Q). The anomaly U-V might indicate mineralization near the intersection of the bedding fault and the anticlinal axis.

Detailed geologic mapping will aid in interpreting these anomalies.

*W. A. Smith*

STATEMENT OF COSTS

MAGNETOMETER SURVEY

MATHEW 1 - 4 GROUPS

MATHEW CREEK, FORT STEELE M.D., B.C.

Alexander Smith and James A. Robertson

January 5 - February 5, 1948	Field Work 30 days	\$2,200.00
February 5 - February 29, 1948	Office Work 20 days	1,000.00
	Draughting	<u>100.00</u>
Total Man Days - 108		<u><u>\$3,300.00</u></u>

CERTIFIED CORRECT

Alexander Smith.

March 1st, 1948

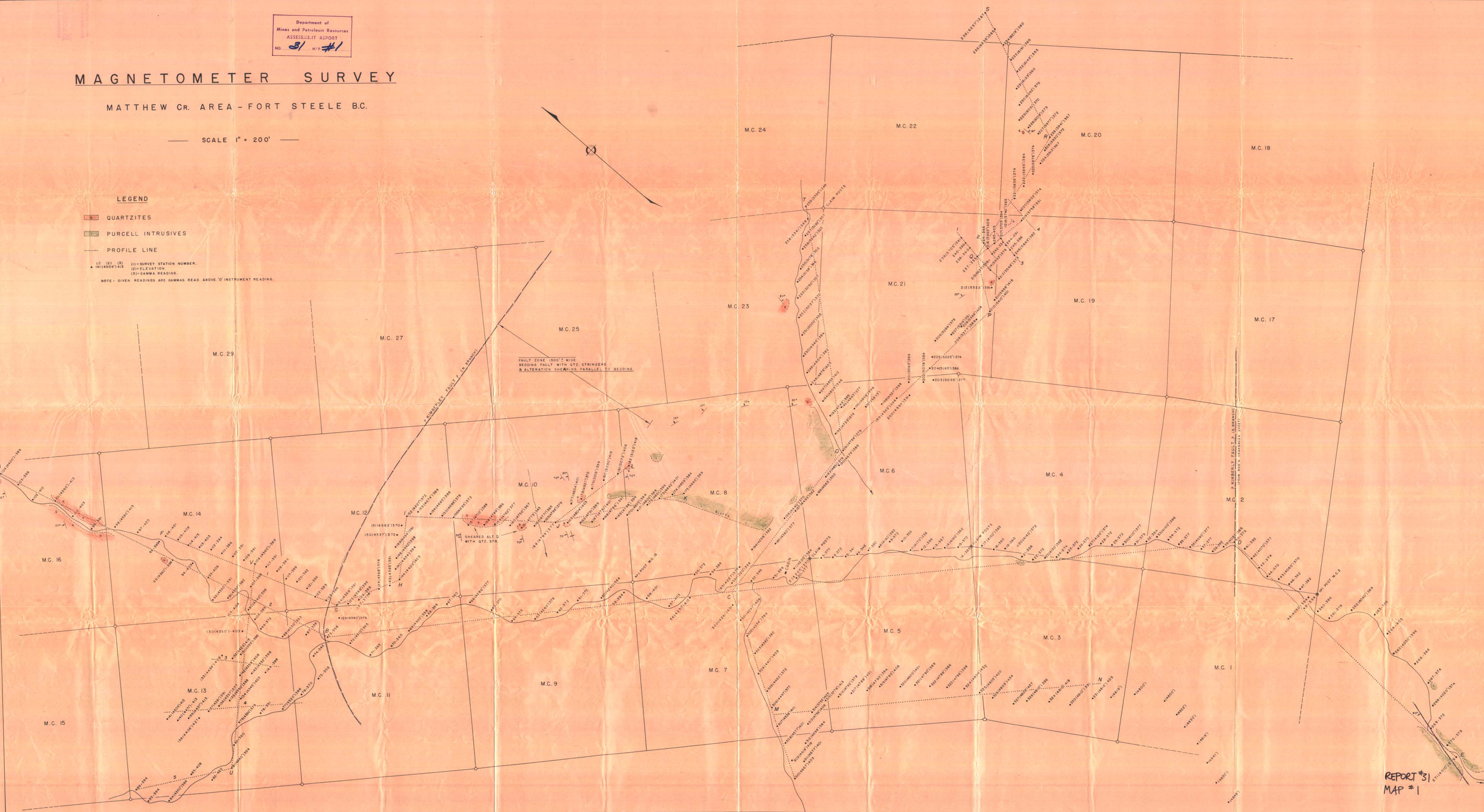
# MAGNETOMETER SURVEY

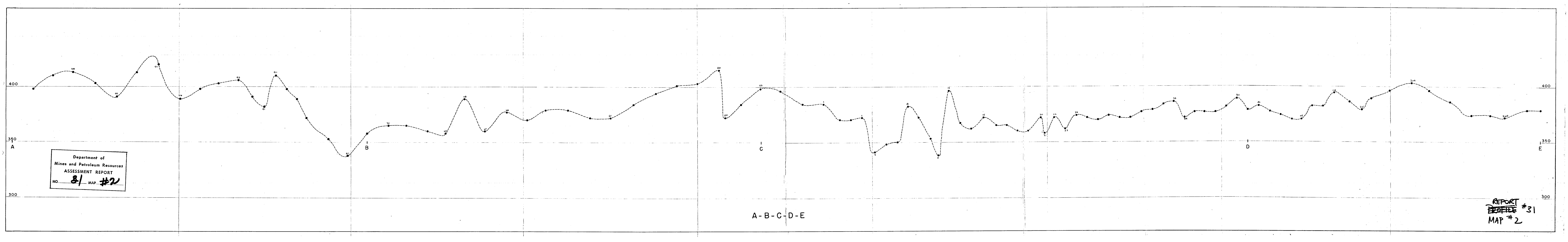
MATTHEW CR. AREA - FORT STEELE B.C.

SCALE 1" = 200'

## LEGEND

- QUARTZITES
  - PURCELL INTRUSIVES
  - ..... PROFILE LINE
- (1) (2) (3) (1) SURVEY STATION NUMBER.  
 \* (4) (5) (6) (2) ELEVATION  
 (3) GAMMA READING.
- NOTE: GIVEN READINGS ARE GAMMAS READ ABOVE 'O' INSTRUMENT READING.

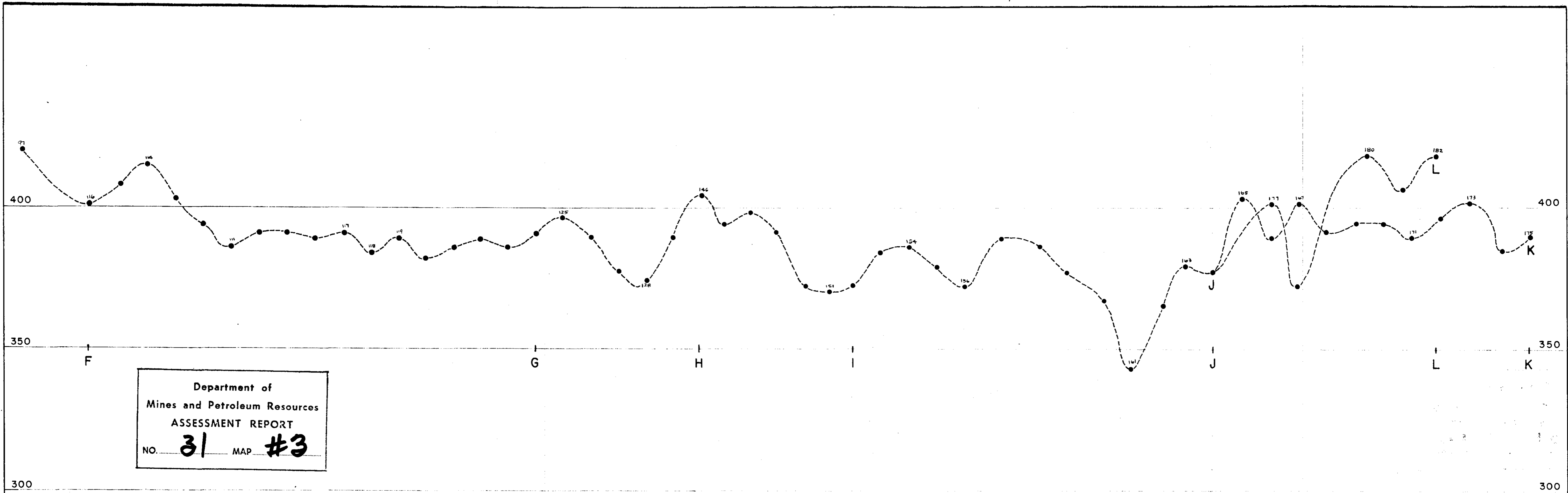




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NO. 81 MAP #2

A-B-C-D-E

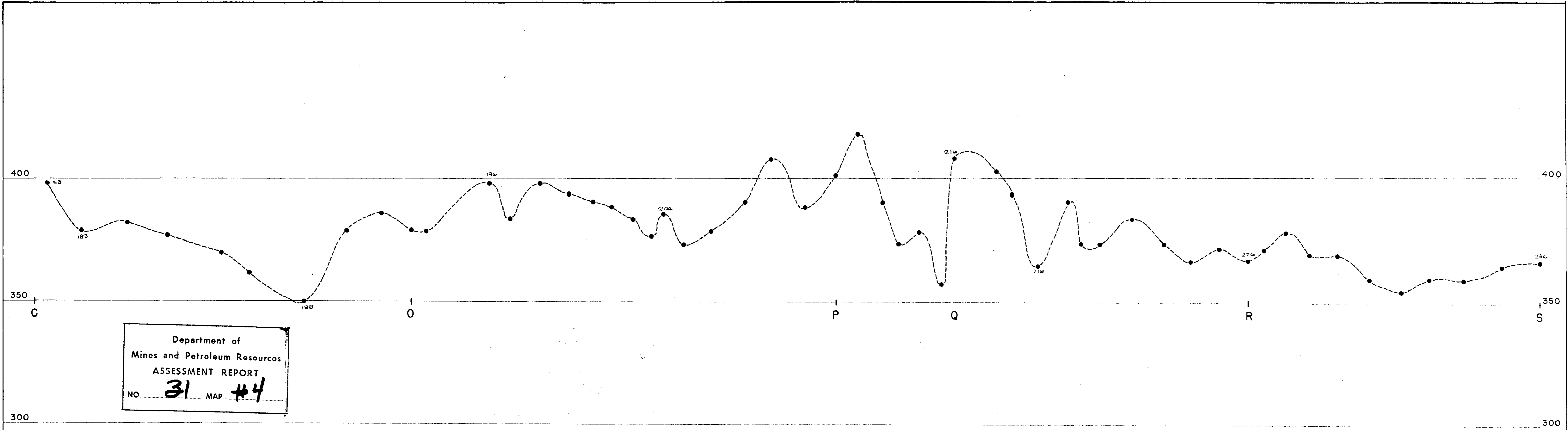
REPORT  
~~PROFILE~~ #31  
MAP #2



F-G-H-I-J-L-K

REPORT #31  
~~PROFILE~~  
MAP #3

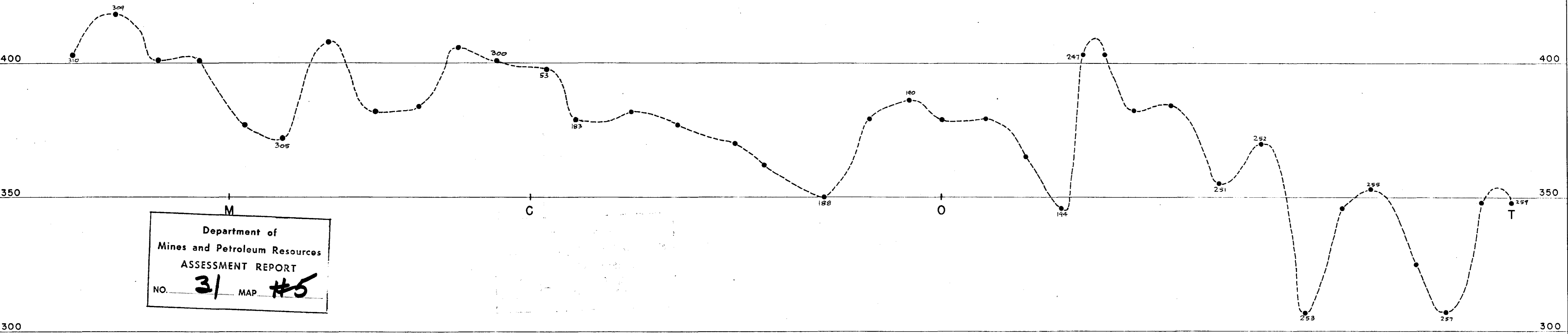




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NO. **31** MAP **#4**

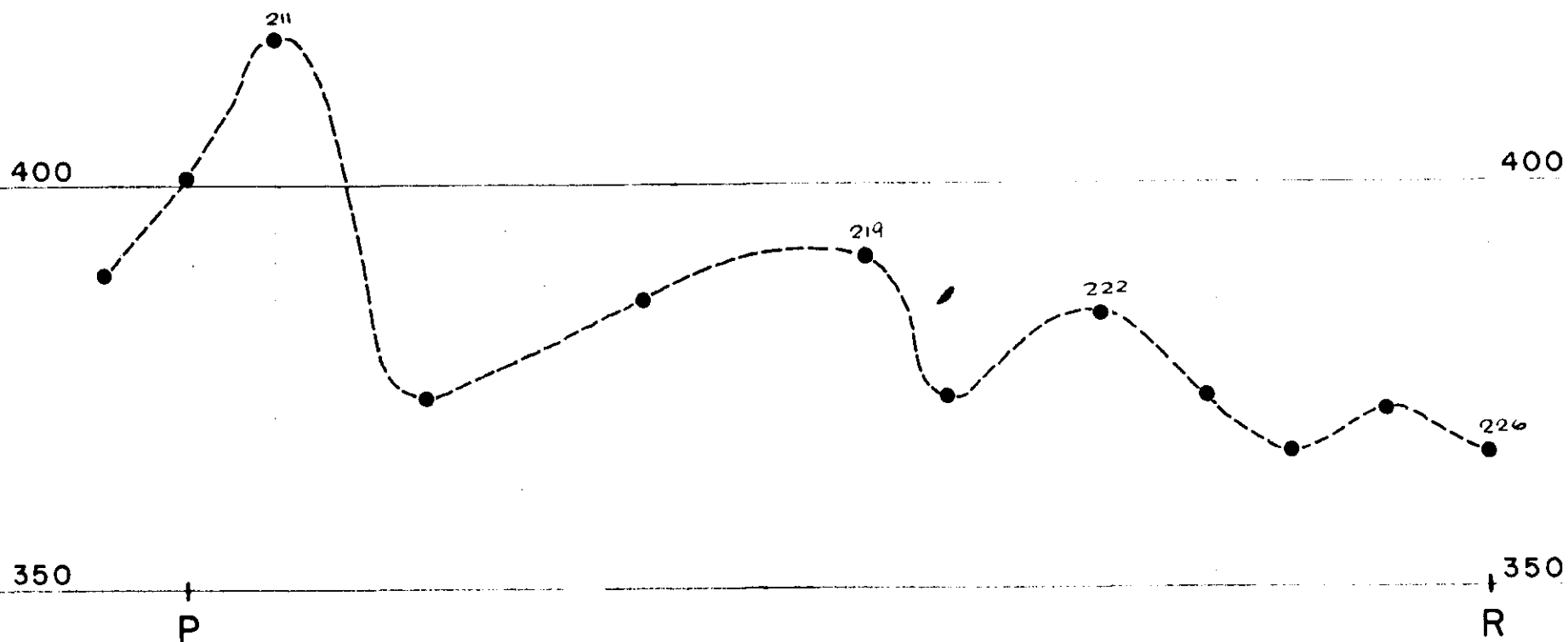
C-O-P-Q-R-S

REPORT #31  
MAP #4



M-C-O-T

REPORT #31  
MAP #5



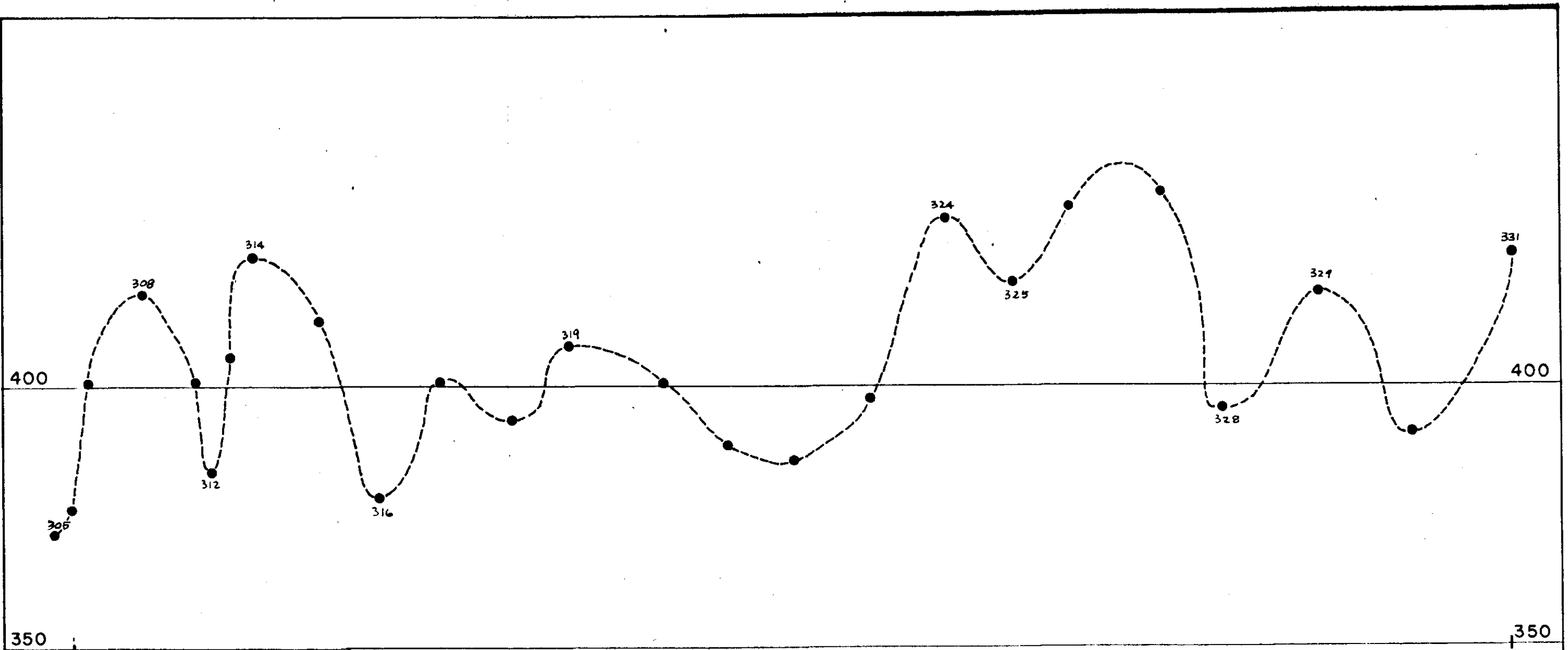
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 NO. **31** MAP **#6**

300

300

P-R

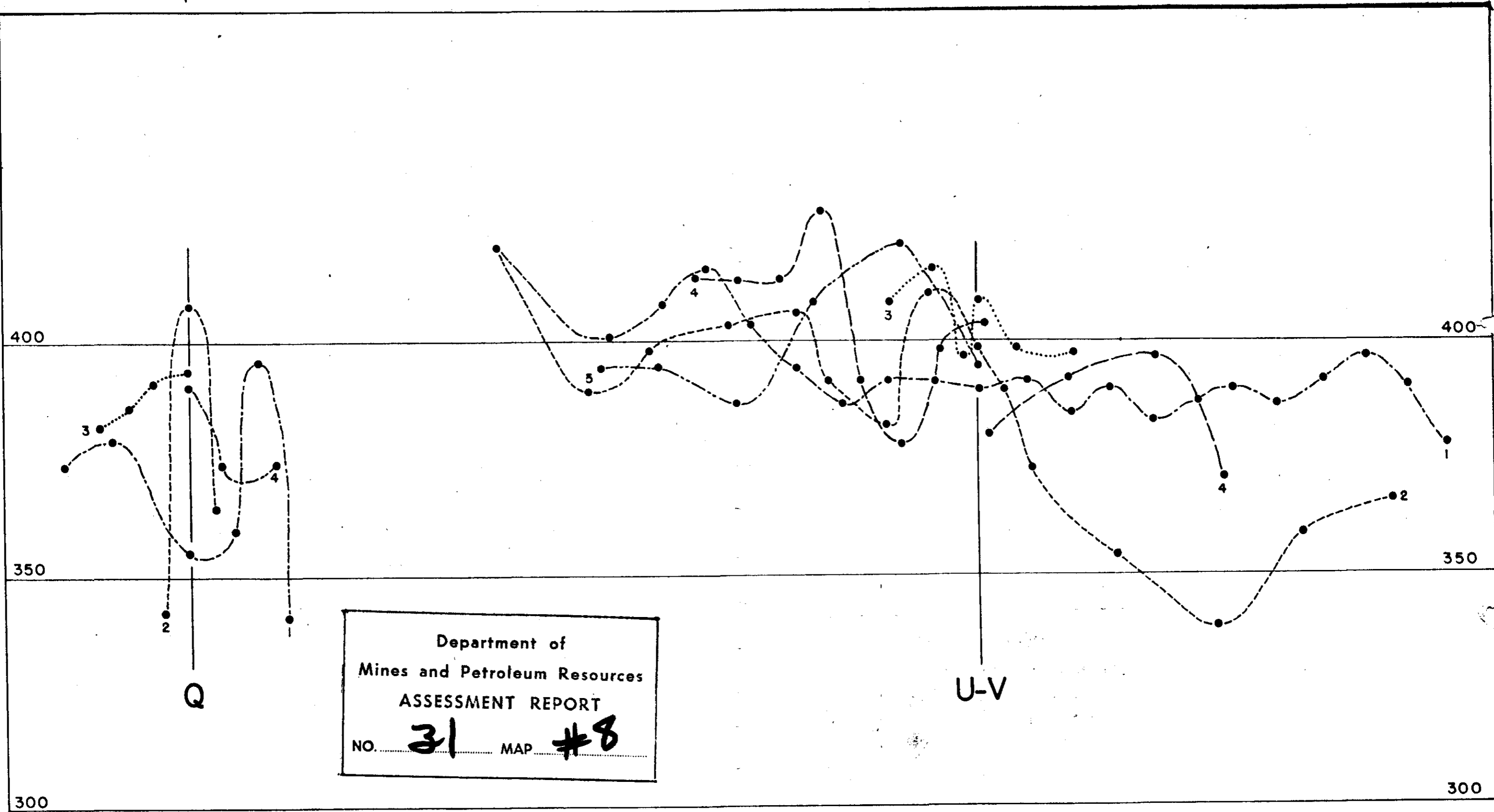
REPORT #31  
MAP #6



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M-N

REPORT #31  
 MAP #7



COMPOSITE MAGNETIC PROFILES AT Q & U-V

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MAP #8