(283) item 26

UNIVERSITY OF NEVADA
NEVADA BUREAU OF MINES AND GEOLOGY
RENO, NEVADA 89507

MEMORANDUM FOR FORD MOTOR COMPANY ON
MAGNETOMETER TESTS IN SECTION 34, T. 25 N.,
R. 34 E., PERSHING COUNTY, NEVADA.
by E. L. Stephenson (November 1951)

MEMORANDUM FOR FORD MOTOR COMPANY
ON MAGNETOMETER TESTS IN SECTION 34, T. 25 N., R. 34 E.
PERSHING COUNTY, NEVADA

By

E. L. Stephenson
Consulting Geophysicist

This memorandum summarizes the results of a series of magnetometer tests made for the Ford Motor Company in Section 34, T. 25 N., R. 34 E., Pershing County, Nevada. The tests constitute a continuation of the general reconnaissance survey for iron ore made during June and July 1951, and described in the report entitled "Report for Ford Motor Company on a reconnaissance magnetometer survey for iron ore in Pershing County, Nevada". This memorandum may be considered a supplement to that report.

As in the earlier work, the tests in Section 34 were made with a standard Askania magnetometer having a sensitivity of 30 gammas per scale division. The instrument was operated at the same latitude setting, and the present readings were made in reference to the same fixed value at the original magnetic base No. 1, in Section 3. The Section 34 profiles therefore may be compared directly with the earlier profiles. The field work was done during the third week of October, 1951.

In the reconnaissance survey most of the west half of Section 27 was covered, and it was found to contain the best and strongest magnetic indications of iron ore of any of the surveyed railroad sections. The magnetic anomalies shown in detail on the magnetic profile sheet of Section 27 were summarized on a map showing a main zone of high magnetic

intensity extending from Section 22 through the west half of Section 27 to the south quarter corner. The magnetic profile of Traverse 58, run on the south line of Section 27, or the north line of Section 34, showed fairly strong magnetic anomalies on the east end, extending at least to the quarter corner. It therefore appeared that this zone of high magnetic anomalies might extend southward into Section 34, and it was requested that the writer run enough additional lines to determine the iron ore possibilities of Section 34. If the findings so warranted, claims were to be staked.

In brief summary, no good indications of iron ore were found in Section 34, and no claims were staked. It appears that the iron mineralization dies out rather abruptly at the north edge of the broad valley in which Section 34 lies.

The present work consisted of a series of east-west and north-south traverses, and individual measurements, made mainly in the central and western parts of Section 34. As these measurements show little or no indication of iron ore, and as they indicate a decrease in magnetic intensity eastward, the tests were not extended into the eastern part of the section. On the traverse lines, measurements were made at 50- or 100-foot intervals, and a certain number of detail measurements were made at 25-foot intervals to check one relatively minor anomaly.

The east-west traverses were run from the west line of the section eastward for 3000 feet, in order to check the changes in magnetic intensity found on Traverse 58, and the sharp anomalies near the quarter corner. The first line was run 600 feet south of the north section line, and the magnetic profile was found to be essentially featureless,

with only relatively minor magnetic variations, and no indication of economic iron mineralization. Lines then were added at 400S and 200S, and, although they show somewhat stronger magnetic contrast, they show at best only weak anomalies.

The profiles of these two lines, which show the strongest magnetic variation encountered, are attached hereto as examples of the results in general. Like the original Traverse 58, both lines show low magnetic intensity on the west and a rather sharp increase in the vicinity of 1000E. The intensity again drops off at or near the north-south quarter line, indicating that Traverse 58 actually covered the main anomalous zone. The general broad zone, which reaches values only a little above 1200 gammas, indicates an increase in magnetite content of the diorite, but there is no indication of commercial ore. The eastern part of the 200S line shows several sharp minor peaks that correspond to the much stronger peaks on Traverse 58, but at the 400S line the anomalous zone has disappeared entirely. The sharp, narrow peak at 2600E on the 200S line is the strongest anomaly found in the Section 34 measurements, and it is too narrow and weak to be of any real economic significance. Detail measurements show that it is the narrowing end of the anomalous zone.

As additional checks, particularly on any possible east-west trends of structure or mineralization, several north-south lines were run in the west central part of the section, but without favorable results. On the north-south quarter line, measurements were extended beyond the center of the section, but, aside from small local variations, they show only a gradually decreasing magnetic intensity southward.

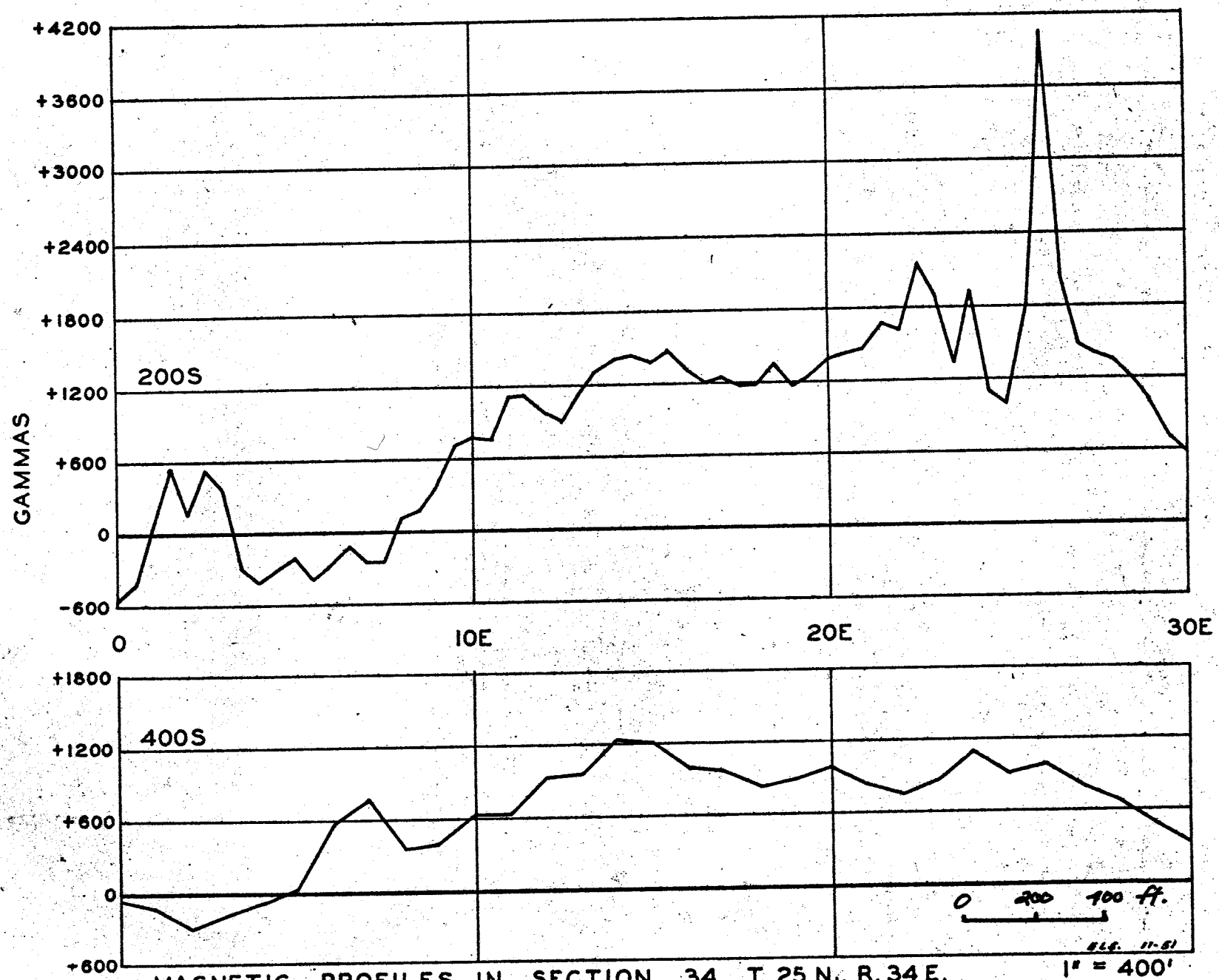
Since the earlier work showed broad zones of higher magnetic intensity associated with the ore anomalies, as a final test a number of individual stations were scattered through the central and western parts of Section 34. None of these measurements showed any significant increase in intensity.

Not all of Section 34 could be covered, but in view of the present findings, which indicate a general lack of well-mineralized zones in the western part as far east as 3000E, and in view of the flat valley topography, which suggests relatively deep overburden, Section 34 is believed to be unfavorable for the development of iron ore bodies. It is recommended that no further work be done in this section.

E. L. Stephenson

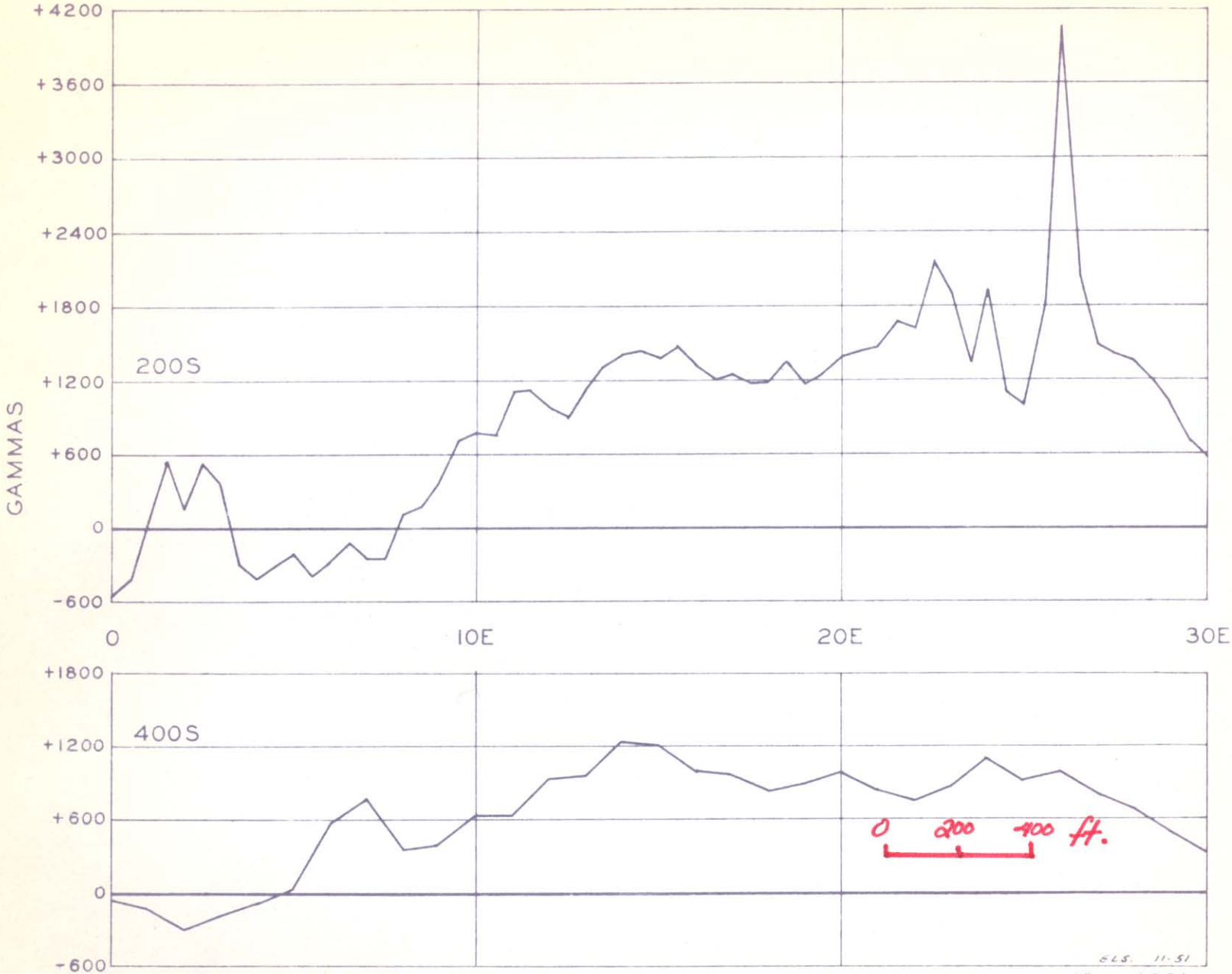
Reno, Nevada
November 1951

E. L. Stephenson
Consulting Geophysicist



MAGNETIC PROFILES IN SECTION 34, T. 25 N., R. 34 E.

FORD MOTOR COMPANY. NEVADA IRON SURVEY.



MAGNETIC PROFILES IN SECTION 34, T. 25 N., R. 34 E. 1" = 400'

FORD MOTOR COMPANY. NEVADA IRON SURVEY.

283
item 26