

(283) item 13

UNIVERSITY OF NEVADA  
NEVADA BUREAU OF MINES AND GEOLOGY

RENO, NEVADA 89507

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FIFTH REPORT FOR MINERAL MATERIALS CO. ON  
MAGNETOMETER SURVEYS ON THE BUENA VISTA IRON  
DEPOSIT, CHURCHILL COUNTY, NEVADA.  
by E. L. Stephenson (March 1953)

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FIFTH REPORT FOR MINERAL MATERIALS CO.  
ON MAGNETOMETER SURVEYS ON THE BUENA VISTA IRON DEPOSIT  
CHURCHILL COUNTY, NEVADA

By

E. L. Stephenson  
Consulting Geophysicist

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Reno, Nevada.  
March 1953

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## Illustrations

- \* Index map of magnetic surveys, Buena Vista iron deposit, Churchill County, Nevada—Revised March 1953.
- Magnetic map of the east part of the Buena Vista iron deposit, T. 24 N., R. 34 E., Churchill County, Nevada—Revised March 1953.

\* SEE FOURTH REPORT FOR MINERAL MATERIALS Co.  
MARCH, 1953

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INTRODUCTION

This is the fifth report on a series of magnetometer surveys made for Mineral Materials Co. on the Buena Vista iron deposit, Churchill County, Nevada. The Buena Vista property comprises a group of patented and unpatented lode mining claims located mainly in Sections 3, 4, 5 and 9, T. 24 N., R. 34 E., in the northeastern part of the county. The ore bodies consist of irregular masses of magnetite in gabbro, occurring along well-defined mineralized zones that probably are structurally controlled.

The magnetometer surveys were started in 1951 and are still being continued. During 1951 measurements were made in the central part of the property, in an area designated as Grid No. 1 in the second report. The original Grid No. 1 covered all of the Iron Mountain claim, most of the adjoining Fairview and Locomotive claims, and the east part of the Wild Horse claim and adjoining ground. A detailed magnetic map

of this grid, contoured on an interval of 1,000 gammas, was submitted with the second report.

In March 1952 two smaller magnetometer grids were surveyed, Grid No. 2 on the east part of the Desert View claim, and Grid No. 3 on the Rover and Wyoming claims. A small extension also was added to the southeast part of Grid No. 1, and two reconnaissance traverses were run, one across the central part of the Albitross claim and one on the east end line of the Locomotive and Pennsylvania claims.

In February 1953 Grid No. 1 was extended an additional 700 feet eastward, and an extension was added to the southwest part of Grid No. 2. In addition, two new grids were surveyed, Grid No. 4 on the Mountain<sup>Top</sup> claim and Grid No. 5 on the Iron Horse ore body, and reconnaissance traverses No. 3, No. 4 and No. 5 were run in intermediate areas.

Reconnaissance traverses No. 4 and No. 5 showed two new anomalies in the area between Grid No. 1 and Grid No. 2, and fairly high magnetic readings also were found in the southwest corner of Grid No. 2 extension. In order to test the intervening area, in March 1953 Grid No. 1 was further extended southward and eastward to join the west edge of Grid No. 2. This fifth report presents the results of this survey, and in addition it contains a summary giving tonnage estimates of iron ore indicated by all of the Buena Vista surveys to date.

## MAGNETOMETER SURVEY

Plan of the survey

This fifth report contains a second revision of the index map of patented claims and magnetometer grids, showing the general plan of all of the magnetic surveys. As in the earlier work, the traverses of the new extension of Grid No. 1 are spaced at intervals of 100 feet and they have a due north bearing. In the earlier surveys a 50-foot station interval was used along the traverses, but in the fourth and fifth surveys stations were occupied at 25-foot intervals to give greater magnetic detail.

The O-point of Grid No. 1 is the northwest corner of the Iron Mountain claim, and the base line is the north side line of the claim. In the earlier surveys the grid was run from 400W to 2200E and to varying distances north and south as shown on the maps. The present survey includes the 2000E to 3000E traverses, all of which were run to 1800S. The 2000E, 2100E, and 2200E traverses were extended from the south ends of the earlier lines, but the new traverses were progressively shortened on the north, following the trend of the broad magnetic low that borders the north side of the mineralized zones.

Results of the survey

The results of the fifth survey have been added to the new magnetic map that was prepared for the fourth report, and revised copies are presented herewith. This map includes Grid No. 1 from 1500E to 3000E, all of Grid No. 2 and Grid No. 4, and reconnaissance traverses No. 4 and No. 5. It is drawn on a scale of 100 feet to the inch and contoured on an interval of 5,000 gammas.

The new extension of Grid No. 1 shows four new magnetic anomalies lying south of the broad northern magnetic low. The northernmost of these, centering on the 2300E and 2400E traverses between 900S and 1000S, is the anomaly that was first found on reconnaissance traverse No. 4. It reaches a small peak above 15,000 gammas on the 2400E line, but in general the anomaly is broad and of moderate magnetic intensity. It most probably indicates a magnetic body at depth, lying north of the main mineralized zone now shown to extend between Grid No. 1 and Grid No. 2.

The two central anomalies of the new extension occur in a mineralized zone the western part of which was noted and mapped in the earlier reports. The second survey of 1951 showed a strongly positive magnetic zone lying south of the main central mineralized zone of Grid No. 1, and the small southeasterly extension of the grid, run during the third survey in March, 1952, showed a southeasterly continuation of the positive zone.

This anomaly was noted and described in the third report in part as follows:

"The persistence and magnetic strength of the zone, and particularly the magnetic trends, suggest that this may be the same mineralized zone in which the chief ore body occurs on the Desert View claim."

In the fourth report it was noted that the results of the fourth survey were not extensive enough to establish the relationship between this anomaly and the main Desert View anomaly, but that both anomalies, along with the new anomaly on reconnaissance traverse No. 4, might be part of a general positive zone that would include the higher magnetic readings in the southwest corner of Grid No. 2. The revised magnetic map shows that the two new central anomalies do lie in this mineralized zone of southeasterly trend, which now is shown to continue beyond the present southeast corner of Grid No. 1 and south of the extension of Grid No. 2.

The east edge of the second new anomaly was first found on the south end of reconnaissance traverse No. 5. The anomaly centers on the 2100E line between 1050S and 1200S, where it reaches values in excess of 25,000 gammas and shows a rather large area above 20,000 gammas. The peak lies just northwest of the north side center post of the Badger No. 1 claim. No prominent outcrops of iron ore occur here but considerable high-grade float was noted. The anomaly indicates a new ore body at or very close to the rock surface of the ridge.



The third new anomaly centers approximately on the 2700E line between 1500S and 1600S, where it reaches values above 15,000 gammas. The anomaly occurs on the east end of the Badger No. 1 claim. It probably indicates another mineable ore body. It is separated from the preceding anomaly by a negative reentrant centering at 1400S on the 2300E, 2400E, and 2500E traverses.

The fourth new anomaly reaches peak values of 20,000 to 25,000 gammas at 1600S and 1700S on the 2500E line, near the south side line of the Badger No. 1 claim. From this point the anomaly extends due westward along the 1700S line beyond the present boundary of Grid no. 1. On the 2000E line at the edge of the grid a rather large outcrop of highgrade iron ore occurs on the east bank of the gully. This anomaly also indicates a strongly mineralized zone that undoubtedly contains mineable ore.

The field results to date are not yet extensive enough to establish the entire magnetic pattern in the southeast part of Grid No. 1. As already noted, the southern positive zone extends beyond the southeast corner of the grid, as indicated by the fairly strong magnetic peak at 1700S on the 3000E line. The 45,000-gamma contour shows that the Desert View anomaly is a northeasterly offshoot of the general positive zone. The magnetic pattern to the west, however, suggests that the general zone may comprise intersecting zones of northwesterly trend and northeasterly trend. A further extension of Grid No. 1 will be necessary to establish the entire pattern.

BUENA VISTA IRON DEPOSITTonnage estimates to 100-foot depth (Fifth report)

	<u>15,000 gammas</u>	<u>10,000 gammas</u>
Grid No. 1: 400W to 1500E	1,150,000	2,190,000
Grid No. 1: 1500E to 3000E	620,000	2,020,000
Grid No. 2	125,000	265,000
Grid No. 3	100,000	350,000
Grid No. 4	1,115,000	1,930,000
Grid No. 5	<u>40,000</u>	<u>85,000</u>
Total	3,150,000	6,840,000
Grid No. 1: Extension in sixth report	<u>300,000</u>	<u>900,000</u>
Total	3,450,000	7,740,000

## SUMMARY

The fifth magnetic survey, comprising an extension of Grid No. 1 southward and eastward to the west edge of Grid No. 2, shows four new magnetic anomalies in or near the Badger No. 1 claim. The northernmost anomaly is of moderate magnetic intensity, indicating a possible ore body at depth. The other three anomalies, and in particular the one near the north side center post of the Badger No. 1 claim, show higher magnetic intensity and are believed to indicate mineable ore bodies at or near the surface. As stated in the fourth report, these results will be reviewed with the Mineral Materials engineering staff in the field, and plans and recommendations will be formulated for further testing and development.

The results of the fifth survey indicate a new area of major magnetite mineralization, and they show that the mineralized zones extend beyond the present boundaries of Grid No. 1. As additional ore bodies probably occur in the surrounding areas, a further extension of Grid No. 1 definitely is warranted.

In order to summarize all of the Buena Vista magnetic results to date, there is included herewith a table showing estimates of ore tonnages as determined from the magnetic measurements on all of the grids. The table gives two sets of estimates, one based on the +15,000-gamma contour and one based on the +10,000-gamma contour, projected to a depth of 100 feet. Estimates are made for each grid as a whole and include all of the

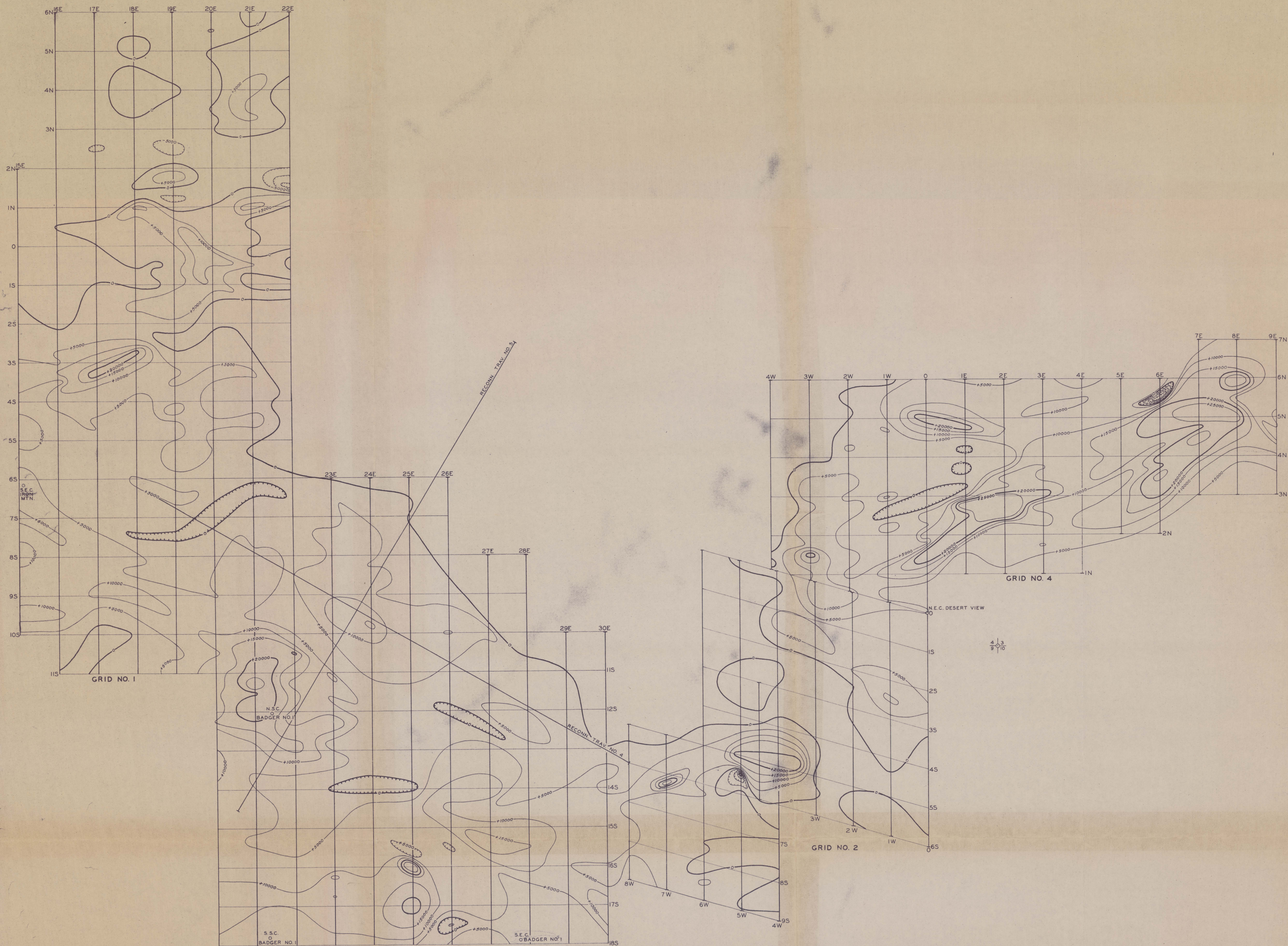
main anomalies, except that in the west part of Grid No. 1 the area of the original main outcrop and the immediately surrounding anomalies are not included because of incomplete magnetic data.

Such estimates must be based on arbitrary magnetic boundaries, which have been selected largely on the basis of mining experience on the property to date, although it is recognized that no specific magnetic value can be set as the dividing line between commercial and non-commercial material and that the magnetic readings do not give any exact information as to grade. The anomalies basically represent only distortions in the magnetic field in planes at varying heights above the magnetic bodies, and they therefore cannot be expected to give exact limits, especially on bodies occurring at depth. Within these limitations, however, the estimates are believed to give a reasonable summary of the productive potentialities of the surveyed areas as a whole.

Reno, Nevada  
March 1953

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REVISED MAR. 1953  
ORIGINAL FEB. 1953

MAGNETIC MAP OF THE EAST PART OF THE BUENA VISTA IRON DEPOSIT, T. 24 N., R. 34 E., CHURCHILL COUNTY, NEVADA

1" = 100'  
0 100 200 300 400 500 FEET  
CONTOUR INTERVAL 5000 GAMMAS  
SURVEY BY E.L. STEPHENSON  
1953

032-027-0071

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