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

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CHURCHILL COUNTY, NEVADA

By

E. L. Stephenson
Consulting Geophysicist

Reno, Nevada
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INTRODUCTION

This is the sixth 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 begun in 1951, when measurements were made on 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, colored magnetic map of this grid, contoured on an interval of 1,000 gammas, was submitted with the second report.

In March 1952 Grid No. 2 was surveyed 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. These results were presented in the third report.

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, new Grid No. 4 was surveyed on the Mountain Top claim and new Grid No. 5 on the Iron Horse claim and adjoining ground, and reconnaissance traverses No. 3, No. 4 and No. 5 were run in intermediate areas, as detailed in the fourth report.

In March 1953 Grid No. 1 was further extended southward and eastward to the west edge of Grid No. 2, in order to test an area of new anomalies indicated by reconnaissance traverses No. 4 and No. 5. The results, presented in the fifth report, indicated the presence of at least two new mineralized zones and several probable commercial ore bodies, but the work still was not extensive enough to completely delineate the mineralized areas.

In May 1953 a further southeasterly extension therefore was added to Grid No. 1. In addition, in order to test the gravel-covered terrace areas lying west of the present workings, Grid No. 1 was extended more than 3000 feet westward by a series of long traverses spaced at 500 foot intervals, and a detailed grid was run on the

Cactus claim and adjoining ground to test a new anomalous area. Reconnaissance traverse No. 5 also was extended 1000 feet northeastward to test the area between the Mountain Top and Iron Horse claims, and the general area south of the Buena Vista property was tested by running three long lines southward. The area north of the Mountain Top claim was checked by running one long traverse northward from the central part of Grid No. 4. This sixth report presents the results of these surveys and it also contains a revised summary of tonnage estimates of iron ore.

MAGNETOMETER SURVEY

Plan of the surveys

This sixth report contains a third revision of the index map of patented claims and magnetometer grids, showing the general plan of all of the magnetic surveys. The new extension of Grid No. 1 covers most of the Badger patented claim, the west part of the Badger No. 1, the southeast corner of the Fairview, and a small area of railroad land lying south of the Fairview. In this area, extending from 1000E to 3300E, traverses were spaced at 100-foot intervals and magnetometer stations were occupied at 25-foot and 50-foot intervals. All of the lines are southerly extensions of earlier traverses, except the short lines between 3000E and 3300E south of Grid No. 2. They extend southward varying distances as shown on the map.

In conjunction with this work the general area south of the Buena Vista property was tested by three traverses. The 0 line of Grid No. 1 was extended from 1000S to 2400S, across the Sea Gull

claim and the flat to the south. The 1400E line was extended to 4500S across the intervening valley and the western nose of the higher ground to the south. The third line, beginning at the northeast corner of Section 9 immediately south of the Mountain Top claim, was run along the entire east line of Section 9. This line crosses the series of washes to the south and extends across the crest of the next group of hills. Reconnaissance traverse No. 5 was extended 1000 feet northeastward to the crest of the main high ridge on which the Mountain Top and Iron Horse claims lie. A traverse also was run from the 200E-600N point of Grid No. 4 northward along the east line of Section 4 to the quarter corner. On these lines stations were occupied at intervals of 50 feet or 100 feet depending upon the magnetic response.

In the west area the base line of Grid No. 1 was extended and staked to 3500W. Beginning at 1000W north-south traverses were run at 500-foot intervals to 3500W. Most of these lines were extended 1000 feet north and 1000 feet south of the base line, and the 3000W and 3500W lines made a tie to Grid No. 3. Stations were occupied at 50- and 100-foot intervals. These readings showed an anomalous area in the central part of the Cactus claim and the railroad land immediately to the west, and this part of Grid No. 1 was detailed by running traverses at 100 foot intervals from 2500W to 3800W. The lines extend from the base line to 1000S and stations were occupied at 50-foot intervals.

Results of the surveys

Southeast part of Grid No. 1. For this sixth report a new colored magnetic map has been prepared of the southeast part of Grid No. 1. It includes part of the area shown on the revised map of the fifth report, on and north of the east half of the Badger No. 1 claim, and it also overlaps the southeast corner of the magnetic map of the second report. It is drawn on a scale of 100 feet to the inch and contoured on an interval of 5000 gammas and is colored yellow for areas of +10,000 to +15,000 gammas, orange for areas of +15,000 to +20,000 gammas, and red for areas above +20,000 gammas. The newly surveyed part includes the lines east of 3000E, extensions of the 2000E-3000E lines from 1800S to 2200S or 2300S, and all of the lines west of 2000E.

The map shows the second, third, and fourth new anomalies that were noted and described in the fifth report on or near the east part of the Badger No. 1 claim. It also shows that the fourth anomaly, near the south side of the claim, is part of a strongly mineralized zone that extends westward an additional 900 feet to 1150E. In the vicinity of the 1600E to 2000E lines there is also a northeasterly branch that must be closely related to the strong second anomaly of the fifth report, which lies in the north central part of the new map.

Within the newly mapped part of the mineralized zone the strongest new anomaly centers at 1500S on the 1300E line, almost under the main access road. The 15,000-gamma closure is about 300 feet long, extending in a southeasterly direction between the

1200E and 1500E lines. This area shows considerable iron float and a high degree of mineralization in the gabbro. The larger part of the anomaly, which is believed to indicate an additional new ore body at or very close to the surface, occurs in the triangle of railroad ground lying between the Sea Gull and Pelican claims on the south, the Fairview claim on the north, and the quarter line of Section 9 on the east.

The mineralized zone also contains two other areas that exceed 15,000 gammas in magnetic intensity. Both of these lie between the 1700E and 1800E lines, the smaller one centering at 1400S and the larger at 1600S. These anomalies also may represent mineable bodies of ore in the west part of the Badger No. 1 claim.

The 1600E line is extremely variable and shows a series of sharp peaks above 10,000 gammas, including two fairly strong ones that lie well south of the general mineralized zone. These may represent minor centers of mineralization or they may be small blocks faulted from the main zone. The general magnetic pattern indicates highly complex structural conditions in the west part of the Badger No. 1 claim, and it seems probable that this area contains an intersection of two main mineralized zones, one of easterly trend and one of northeasterly trend.

As indicated by the map, only low magnetic values are found south of the 2000S line and west of the 1100E line, and this fact in conjunction with the negative results on the long lines that were run southward suggests that in the central part of the property

the south edge of mineralization has been reached. The magnetic values also drop very sharply on the 3200E and 3300E lines and indicate that there is no southeasterly extension of the mineralized zone south of Grid No. 2.

Reconnaissance traverses. The long traverses that were run to the south show little or no indication of iron mineralization south of the Buena Vista ground. The southerly extension of the 0 traverse of Grid No. 1 shows only two minor peaks on the Sea Gull claim, neither of which reach values as high as 4,000 gammas, and to the south the magnetic values drop steadily. The Sea Gull, Pelican, and Pelican No. 1 claims themselves have not been tested in any detail.

The profile of the 1400E line, copy of which accompanies this report, is typical of the magnetic findings in the area. Beginning at 200N the profile shows the south edge of the north magnetic low; the strong, variable positive anomalies of the main central mineralized zone in Grid No. 1; and the strong, solid peak of the new anomaly near the access road. A small peak similar to those on the 0 line occurs at 2250S, near the northeast corner of the Pelican claim, but beyond this point the values drop steadily and the curve is almost featureless.

Except for two or three very small peaks east of the Desert View claim the magnetic curve of the entire east line of Section 9 is almost identical with the south part of the 1400E profile. The results indicate that there is little or no iron mineralization in the hills south of the Buena Vista property. The rocks appear to be unmineralized volcanics.

The traverse that was run northward along the east line

of Section 4 shows a series of minor magnetic variations and one anomalous zone north of the Mountain Top No. 2 claim that shows a maximum magnetic intensity of a little over 5,000 gammas. After this line was run it was found that the ground had been located by others and no further magnetic work was done.

West Part of Grid No. 1. The results in the west part of Grid No. 1 are shown on the accompanying magnetic map and profiles. The 1000W, 1500W, and 2000W profiles show two broad weak positive zones which probably are westerly extensions of the weak positive anomalies indicated on the magnetic map of the second report, at 400S and 450N on the 400W line. The profiles do not indicate economic iron mineralization in the area.

The three westernmost long traverses showed fairly strong magnetic anomalies just north of the line between Section 5 and Section 8, and this western area was detailed by traverses spaced at 100-foot intervals. The results are shown on the magnetic map, which is contoured on an interval of 1000 gammas.

Beginning just north of the base line at 2500W a broad magnetic low extends westward between the mineralized area on the Rover and Wyoming claims (Grid No. 3) and the southern mineralized area. To the south there is a gradual increase in magnetic intensity, and south of 600S there is considerable magnetic variation. This marks the north side of a mineralized zone that probably lies mainly in Section 8 on ground that was staked last year by the United Geophysical Company. As this ground is not open the present survey was carried only to 1000S, or just south of the section line.

Within the surveyed area a fairly strong anomaly centers on the 2900W line near 800S. The 5,000-gamma closure is a little over 300 feet long and the anomaly reaches peak values above 9,000 gammas. Although the anomaly is not especially strong magnetically it could represent an ore body lying beneath the gravel terrace. The anomaly centers just off the southwest side line of the Cactus claim, in the narrow wedge of railroad ground lying between the side line and the section line.

Two sharp fairly strong magnetic peaks also occur in the southwest corner of the grid, one centering on the 3500W line and one on the 3700W line between 800S and 900S. The anomalies probably represent minor offshoots on the north side of the mineralized zone and they may be of no economic significance. In view of the magnetic reactions in this area, however, it was suggested in a preliminary field conference that an option be obtained on the railroad ground adjoining the four patented claims of the west group.

BUENA VISTA IRON DEPOSIT

Tonnage estimates to 100-foot depth (Fifth report)

	15,000 gammas	10,000 gammas
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	40,000	85,000
Total	3,150,000	6,840,000
Grid No. 1: Extension in sixth report	300,000	900,000
Total	3,450,000	7,740,000

SUMMARY

In the southeast part of Grid No. 1 the sixth magnetic survey completes the coverage of the new area of major magnetite mineralization partly delineated by the fifth survey in and around the Badger No. 1 claim. The work shows a 900-foot westerly extension of the southern mineralized zone, and a branch of northeasterly trend. Within the zone are several positive peaks that probably indicate near-surface mineable ore bodies. The largest of these lies on railroad ground just west of the west end line of the Badger No. 1 claim. It is recommended that an effort be made to lease this ground from the Southern Pacific Company.

There is included herewith a revised copy of the table of estimated ore tonnages that was presented in the fifth report, to which has been added estimated tonnages to 100-foot depth based on the +10,000-gamma closure and the +15,000-gamma closure of the new anomalies. As noted in the fifth report:

"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."

In the southeast part of Grid No. 1 the results of the sixth survey further indicate (1) that there is no strongly mineralized

southeasterly extension south of Grid No. 2, and (2) that in the area just covered the south edge of strong iron mineralization probably has been reached. There might be other centers of mineralization, however, on the largely unsurveyed Sea Gull and Pelican claims.

The long southerly reconnaissance traverses described herein show no evidence of iron mineralization under the valley area south of the Buena Vista property nor in the group of hills to the south. Further prospecting in these hills probably is not warranted, as they appear to be composed of unmineralized volcanic rocks.

The 1000-foot northeasterly extension of reconnaissance traverse No. 5 shows only negative magnetic values to the top of the main ridge in the area between the Iron Horse and Mountain Top claims.

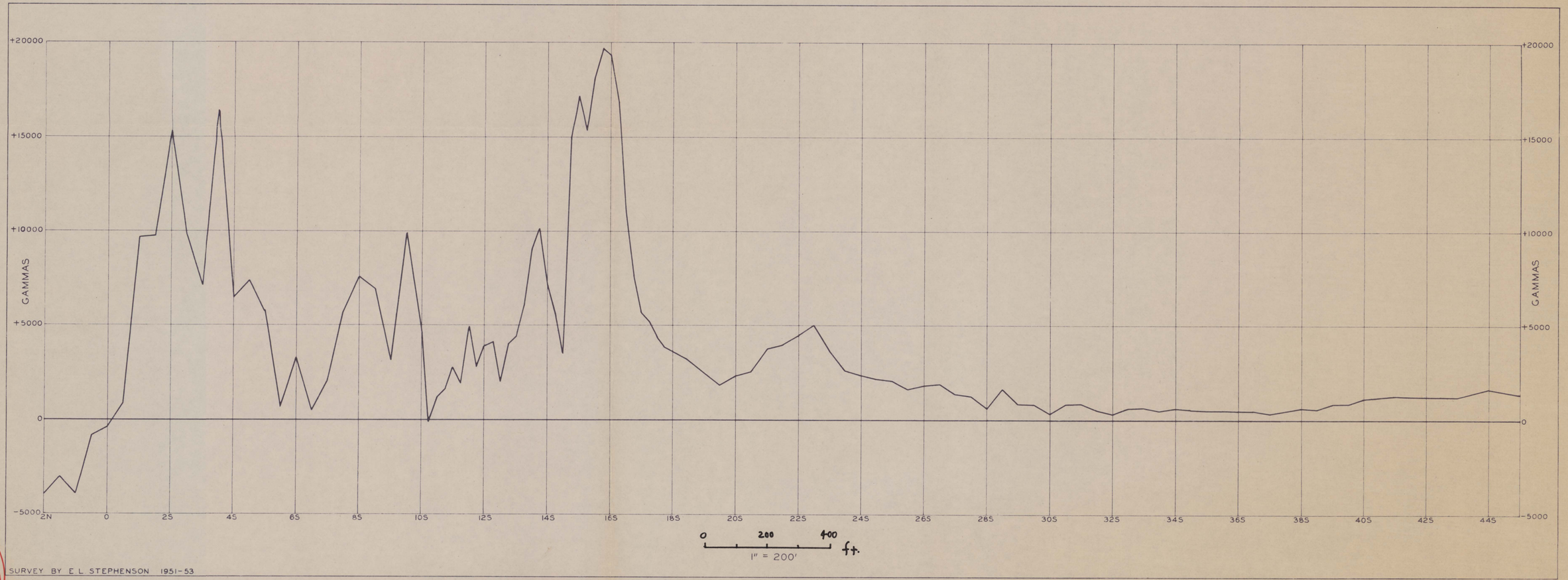
In the terrace area west of the present workings the 1000W, 1500W, and 2000W lines of Grid No. 1 show broad weak positive zones of general westerly trend but no magnetic evidence of economic iron mineralization. Most of this area is railroad ground in Section 5. In the south part of the Rover and Wyoming claims the more westerly lines show a broad negative area lying between the Rover-Wyoming ore zone (Grid No. 3) and a mineralized area that probably lies mainly on claimed ground in Section 8. The north part of this zone lies in Section 5, and it contains one fairly strong anomaly that centers on railroad ground very close to the southwest side line of the Cactus claim. If a prospecting option can be

obtained on this ground the anomaly should be tested by drilling a vertical hole on or near the apex.

Reno, Nevada
June 1953

E. L. Stephenson
Consulting Geophysicist

MINERAL MATERIALS CO.



SURVEY BY E L STEPHENSON 1951-53

MAGNETIC PROFILE OF THE 1400E LINE, GRID NO. I, BUENA VISTA IRON DEPOSIT, CchurchILL COUNTY, NEVADA

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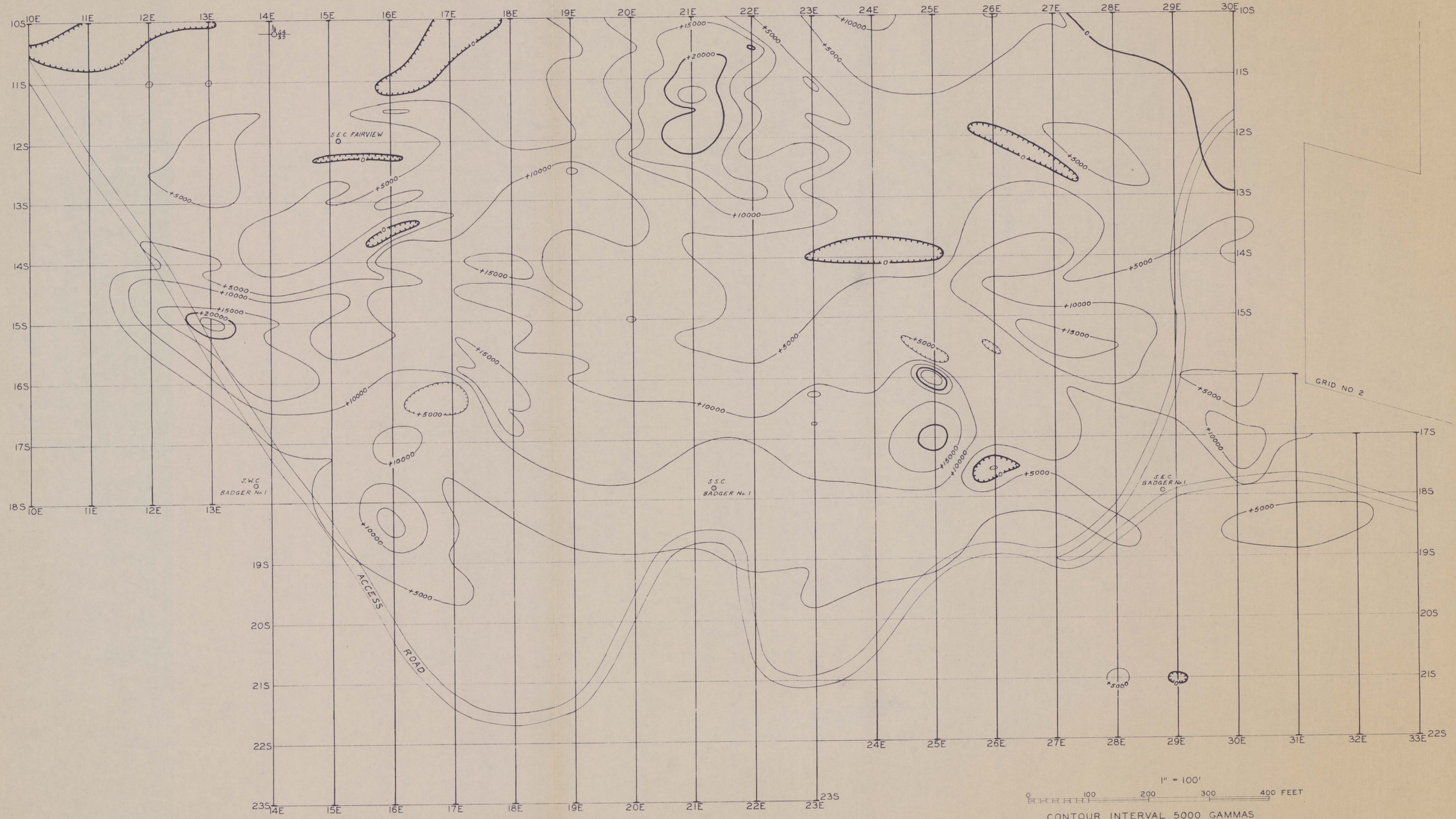

MAGNETIC MAP OF THE SOUTHEAST PART OF GRID NO. 1, BUENA VISTA IRON DEPOSIT, CHURCHILL COUNTY, NEVADA

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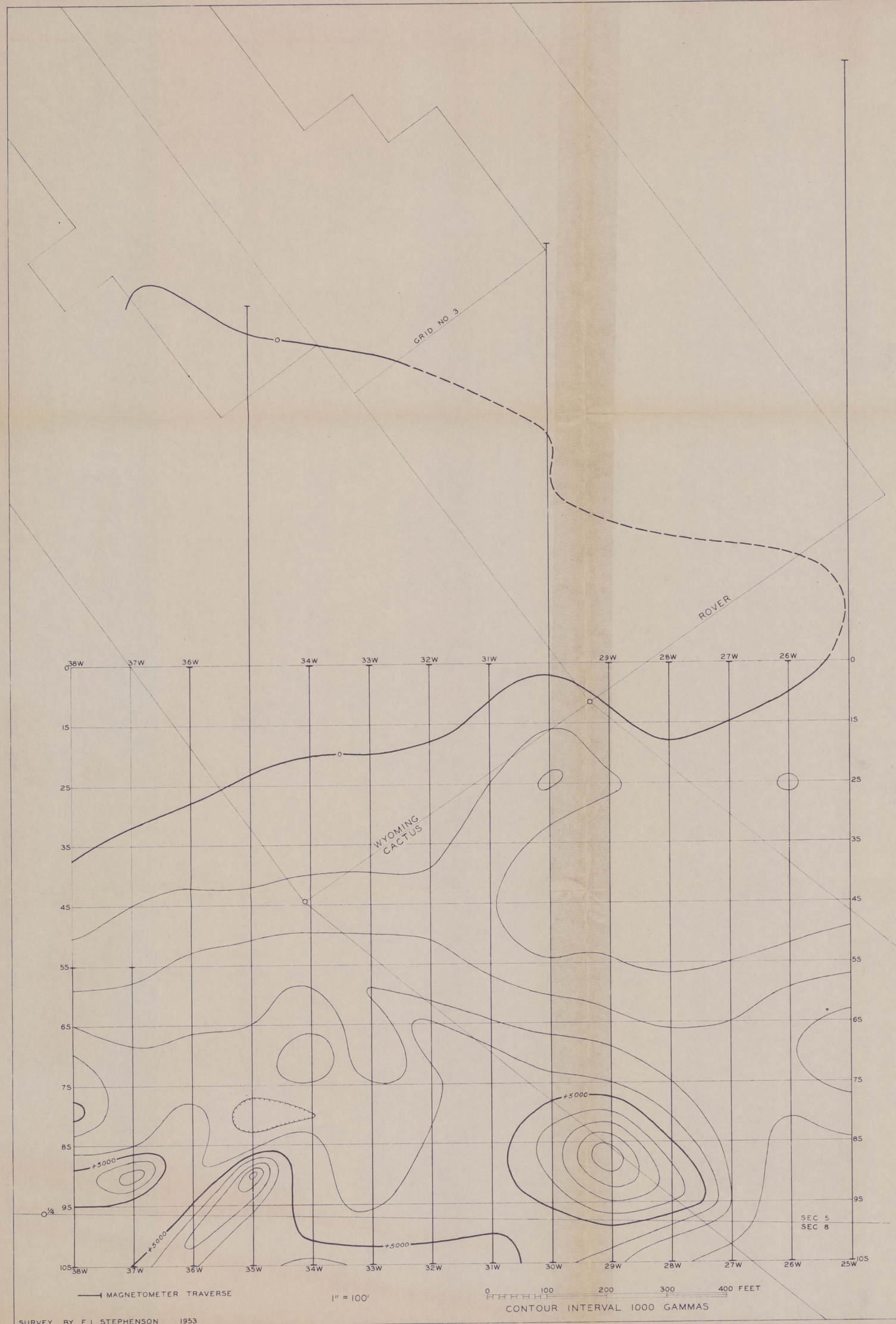

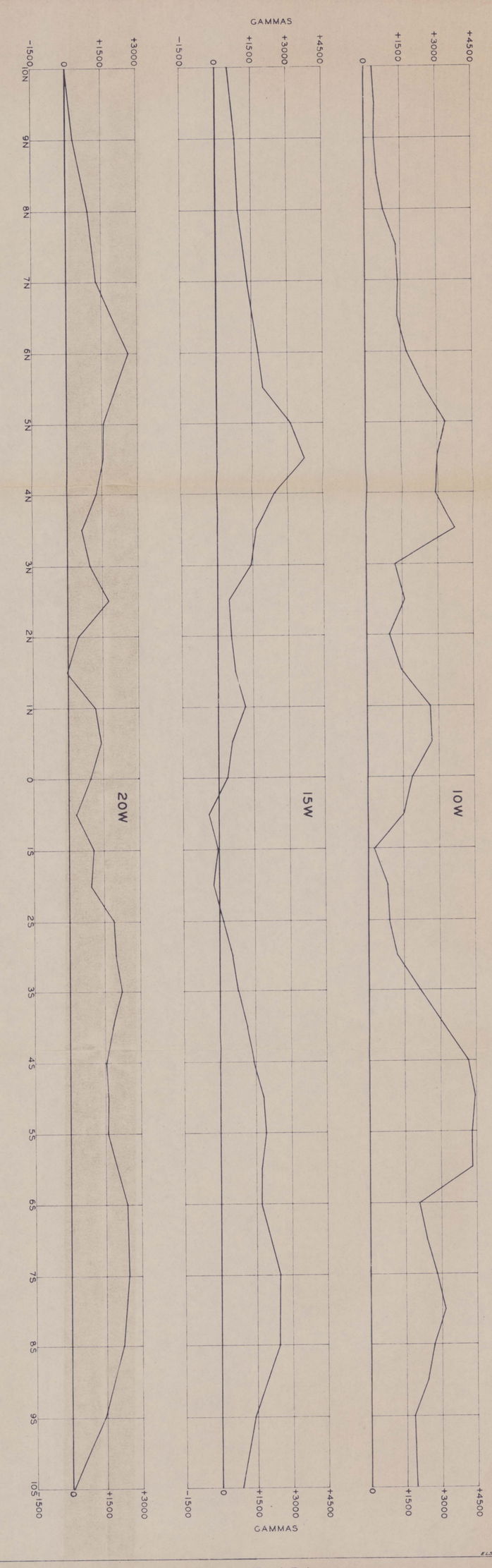

SURVEY BY E. L. STEPHENSON 1953

MAGNETIC MAP AND PROFILES OF THE WEST PART OF GRID NO. 1, BUENA VISTA IRON DEPOSIT, CHURCHILL COUNTY, NEVADA

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