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REPORT FOR THE STANDARD SLAG COMPANY  
ON A MAGNETIC SURVEY  
ON THE IRON DEPOSIT  
HILL COUNTY, NEVADA

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Reno, Nevada  
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## Illustrations

Magnetic map of the Eagle iron deposit, Nye County, Nevada

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INTRODUCTION

This report presents the results of a magnetometer survey made for The Standard Slag Company on the Engle iron deposit, Nye County, Nevada. The deposit is covered by two patented claims, the Engle and the Stouder, Survey No. 4334. It is located in rugged and steep country on the upper west slope of the Paradise range, in the S. W. 1/4 Sec. 27 and the N. W. 1/4 Sec. 34, T. 13 N., R. 37 E. There is no road directly to the property, but a rough mountain road leads from the Phelps Stokes haulage road near Green Springs to the top of the range less than 1/2 mile above the deposit.

The surface showings consist of scattered outcrops of magnetite in greenstone. The purpose of the magnetometer work was to determine whether sufficient iron ore occurs to justify further testing by diamond drilling or other development work. Measurements were made with a standard Askania vertical magnetometer having a sensitivity of 50 gammas per scale division. The field work was done during the third week in July 1953.

## GEOLOGY

Much of the central part of the Paradise range is composed of Permian volcanic rocks, which for convenience may be called greenstone. The Permian series along the west front of the range also is reported to contain chert, tuff, slate, sandstone, and thin limestones and dolomites. These older rocks have been cut by granitic intrusives and by a variety of porphyritic dikes, which have produced widespread alteration.

On the Engle property all of the iron bodies appear to be irregular short veins or massive lenses of magnetite in the greenstone, apparently fairly near a contact with intrusive granodiorite. The iron bodies do not appear to be true contact metamorphic deposits, however, and they may have no relationship to the intrusive. Some of the material is nearly pure magnetite, but much of it, particularly in the larger masses, is an intimate mixture of magnetite and green garnet. High-grade iron ore is exposed in irregular outcrops along the top of a sharp ridge on the north part of the Stouder claim, apparently in short irregular veins. The surrounding greenstone is cut and impregnated by numerous small veinlets and disseminated grains of magnetite. In the bottom of the canyon to the north, in the extreme south part of the Engle claim, magnetite and green garnet are exposed in fairly large irregular masses. A large cut on the common end line of the claims also exposes irregular magnetite mineralization in greenstone. A smaller outcrop of iron ore is reported to occur on the next sharp ridge to the north near the

middle of the Engle claim, but magnetometer findings and good exposures on the south slope of the ridge indicate that there is no continuous deposit. Similarly, there appears to be no appreciable southerly extension of iron mineralization down the south slope of the ridge on the Stouder claim.

## INGLETOWNER SURVEY

Plan of the survey

The magnetometer survey comprised a grid on the north part of the Stouder claim and the south part of the Engle claim. The plan of the grid and its relation to the claims is shown on the accompanying magnetic map. The 0-point was established at the discovery post of the Stouder claim and a base line was projected on a bearing of N.  $3^{\circ}$  W. From this base line parallel traverses at intervals of 50 or 100 feet were run on a bearing of N.  $87^{\circ}$  E., for varying distances east and west of the base line. These lines approximately follow the topography, the zero traverse being along the top of the south ridge. The grid extends 100 feet south of the 0-point and 310 feet north, mainly on the north slope of the south ridge. The most northerly traverse runs approximately along the bottom of the canyon. On all of the traverses magnetometer stations were occupied at intervals of 25 feet or 50 feet, depending upon the amount of magnetic detail desired.

Results of the survey

The results of the magnetometer survey are shown on the magnetic map, which is drawn on a scale of 100 feet to the inch and contoured on an interval of 5,000 gauss. The magnetic contours show an irregular area of increased magnetic intensity on the north part of the Stouder claim and the extreme southeast corner of the Engle claim. This area is bordered on the north,

west and south by broad areas of low magnetic intensity. To the east and southeast the magnetic intensity tapers out more gradually to neutral values, in the area that is believed to be occupied by intrusive granodiorite.

The general high area, outlined by the zero magnetic contour, shows a broad zone of irregularly high magnetic intensity on the east and a much narrower and weaker northwesterly extension that runs almost to the northwest corner of the Stouder claim. The zones are separated by an area of neutral or low intensity near the base line. In the south part of the area the strongest magnetic anomalies occur as a series of peaks along the zero traverse from the discovery post eastward along the ridge top for a distance of about 200 feet. The anomalies indicate rather intense near surface magnetite mineralization along a narrow zone, but they also indicate that the mineralization is erratic and that the deposit probably is broken by faults and horsts of waste. To the north, from the 50N traverse to the 200N traverse, there is a single broad, fairly strong anomaly indicating a fairly large concentration of magnetite at depth in the north side of the ridge. The anomaly is sharpest and best defined on the 200N traverse, where it reaches peak values of 10,000 to 13,000 gammas.

The northwesterly extension shows a weak and narrow peak on the west central part of the 200N and 250N traverses and a very narrow high peak on the west end of the 310N traverse, indicating the presence of short, narrow veins or lenses. The only other positive anomaly is a very narrow, sharp peak bordered by a sharp magnetic

low on the west part of the 1003 traverse. The anomaly is typical of a narrow vein or lens of small depth extent.

The contour pattern indicates that iron mineralization is cut off or feathers out in the south slope of the ridge on the Stouder claim and also in the north wall of the canyon on the south end of the Eagle claim. The very low magnetic readings in the vicinity of the main cut and along the canyon bottom indicate that the exposed irregular iron masses are the extreme north end of the main mineralized zone, and that the chief center of mineralization lies under the south slope of the canyon. The distribution and nature of the magnetic peaks suggests that in most of the area the iron occurs sporadically in small veins or lenses. The main anomaly in the east central part of the grid indicates a considerable concentration of magnetite, but it also may be caused by this general type of mineralization at depth. The length of the body or zone is 200 feet or less and the width does not exceed 75 feet and probably is less. The zone apparently does not conform with the topography, for the depth to the top increases southward up the slope.



## CONCLUSIONS

Both the magnetic findings and geologic determinations just discussed indicate that much of the Engle iron deposit consists of narrow veins or lenses of magnetite of short strike length and probable small depth extent, irregularly distributed in greenstone. In part the magnetic anomalies appear to be caused by networks of veinlets and disseminated grains of magnetite in the greenstone. The main anomaly in the northeast corner of the Stouder claim and the southeast corner of the Engle claim, which has a maximum length of about 200 feet, may be caused by material of this type, although it more likely is the magnetic expression of a body similar to the one exposed in the canyon bottom. The magnetic readings indicate that this exposure marks the shallow north end of the main mineralized zone. No assays are available, but it seems probable that this material is of submarginal grade. In view of these findings, and the difficult nature of the terrain for purposes of access and mining, it is recommended tentatively that no further work be done by The Standard Slag Company on the Engle deposit.

If for any reason it seems desirable to do additional work, it is recommended that a vertical hole be drilled at about 150E on the 200N traverse line. This will test the best part of the main magnetic zone. Any such work should be preceded by careful sampling of the outcrops along the canyon bottom.

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