(283) item 23

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

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MEMORANDUM FOR DODGE CONSTRUCTION INC.
ON SPECIAL MAGNETOMETER TESTS IN
SECTION 15, T. 25 N., R. 34 E.,
PERSHING COUNTY, NEVADA.
by E. L. Stephenson (March 1954)

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MEMORANDUM FOR DODGE CONSTRUCTION INC.
ON SPECIAL MAGNETOMETER TESTS
IN SECTION 15, T. 25 N., R. 34 E.
PERSHING COUNTY, NEVADA

By

E. L. Stephenson
Consulting Geophysicist

On March 24, 1954 the writer ran a series of magnetic measurements with an Askania vertical magnetometer for Dodge Construction Inc., at the iron mine located in Section 15, T. 25 N., R. 34 E., Pershing County, Nevada. The purpose of the work was to relocate a strong magnetic anomaly that was first detected and mapped by the writer for the U. S. Bureau of Mines in 1943, in the area southwest of the main operating pit near USBM diamond drill hole No. 4. The anomaly was outlined on the base map presented with the writer's report of March 1954, and it was suggested that the company reexamine this area on the possibility that the earlier drilling might have missed an ore body. Older reference locations were lost in the various cuts and stripping areas, however, and the exact location of the anomaly was uncertain. The present tests were made to locate and stake the peak or axis of the anomaly on the ground to guide stripping and drilling operations.

The accompanying magnetic profile sheet shows the plan of the present tests, the magnetic results, and the anomaly as

March 1954

originally determined on the 300W line of the Bureau of Mines grid. On March 24th a vertical diamond drill hole was in progress which had been located by projections from the approximate locations of the old drill holes. Four magnetometer traverses were run in the vicinity of this drill hole as shown on the plan. Exact bearings of the lines could not be determined because of extreme compass variations, but the lines, which are parallel to the new large cut, are also approximately parallel to the original USBM traverses in the area.

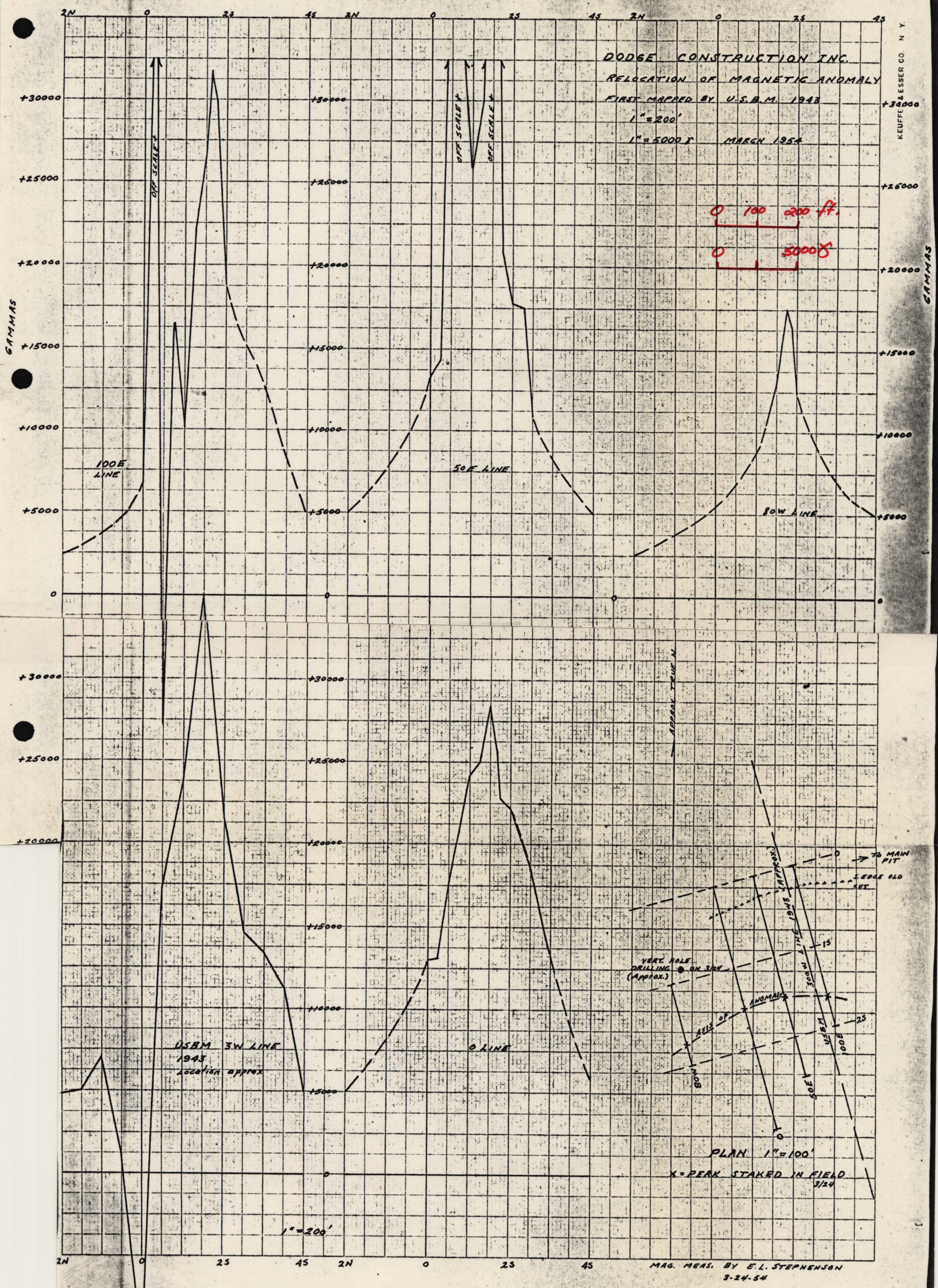
All of the profiles show strong magnetic peaks very similar to the peak originally mapped on the USBM 300W line. On the three eastern traverses, as on the Bureau of Mines line, the main peak approaches or exceeds 30,000 gammas, although to the southwest on the 80W line the peak is narrower and weaker. The 50E and 100E lines also show secondary off-scale peaks to the north that are associated with exposed small masses of iron which may be fault slices. The axis of the main anomaly lies about 80 feet southeast of the new vertical drill hole. The anomaly is as strong or stronger than those associated with other known ore bodies in the district and it may indicate a body of iron which does not crop out. USBM drill hole No. 4 crossed the axis of this anomaly at a depth of about 120 feet without encountering commercial ore, but there is a possibility that the hole might have passed under an ore body or may have been a little too far east.

It was originally recognized, and must be reemphasized that the exposed rock in the area contains a large amount of magnetite in the form of small veins and disseminated grains. The anomaly might be due to this sub-marginal material, but the width and magnetic strength definitely warrant additional drilling tests.

After the axis was located on March 24th, drilling was stopped on the vertical hole then in progress and another drill hole location was made for a vertical hole on the axis of the anomaly just west of the 50E line. The location of the peak was staked on each of the traverses so that other vertical or inclined holes may be drilled as desired. It is recommended that this first vertical hole be carried to a depth of 100 feet, and that a similar hole, or an inclined hole, be drilled on or near the stake on the 100E line. As any ore body that may be present probably is of narrow tabular form, a combination of vertical and inclined holes probably will be best to determine depth of overburden and true thicknesses, as well as to make sure that no economic body is missed.

Reno, Nevada
March 25, 1954

E. L. Stephenson
Consulting Geophysicist


DODGE CONSTRUCTION INC.
RELOCATION OF MAGNETIC ANOMALY
FIRST MAPPED BY U.S.B.M. 1943
1" = 200'
1" = 5000 γ MARCH 1954
0 100 200 ft.
0 5000 γ
GAMMAS
+30000
+25000
+20000
+15000
+10000
+5000
0
OFF SCALE
100E LINE
50E LINE
80W LINE
USBM 3W LINE
1943
Location approx
0 LINE
1" = 200'
APPROX. TRUE N
TO MAIN PIT
S. EDGE OLD CUT
VERT. HOLE DRILLING ON 3/24 (Approx.)
AXIS OF ANOMALY
300W LINE 1943 (APPROX.)
80W
50E
USBM
100E
PLAN 1" = 100'
X = PEAK STAKED IN FIELD 3/24
MAG. MEAS. BY E.L. STEPHENSON
3-24-54
KEUFFEL & ESSER CO. N.Y.

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