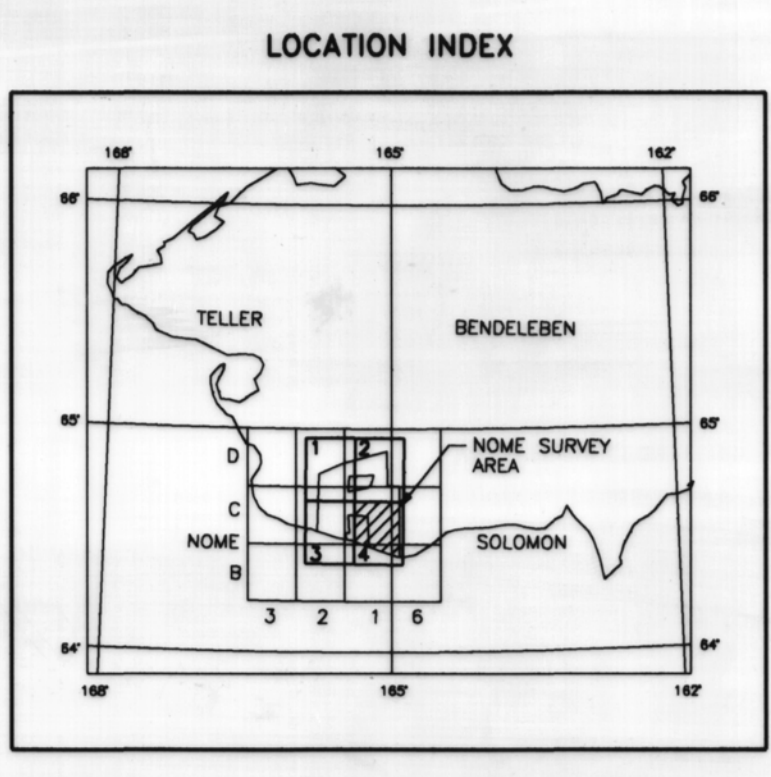
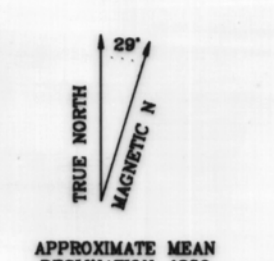
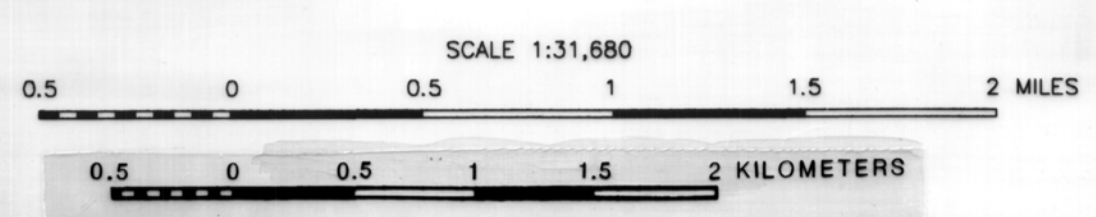


Section outlines from U.S. Geological Survey topographic base:  
Nome B-1, C-1E, D-1E, Sulom B-R, C-5, D-2, Quadrangle, Alaska, 1950



**DESCRIPTIVE NOTES**  
The geophysical data were acquired with a DIGHEM<sup>TM</sup> Electromagnetic (EM) system, a Scintrex cesium CS2 magnetometer, and a Herz VLF system installed in an AS-330B-1 Squirrel helicopter. In addition, the survey recorded data from a radar altimeter, GPS navigation system, 30/60 Hz monitors and video camera. Flights were performed at a mean terrain clearance of 200 feet along survey flight lines with a spacing of a quarter of a mile. The lines were flown perpendicular to the flight lines at intervals of approximately three miles.

A Sercol Real-Time Differential Global Positioning System (RT-DGPS) was used for both navigation and flight path recovery. The helicopter position was derived every 0.5 seconds using both real-time and post-processing differential positioning to a relative accuracy of better than 10 m. Flight path positions were projected onto the Clarke 1866 (UTM) spheroid, 1927 North American datum using a Central Meridian (CM) of 166°, a north constant of 0 and an east constant of 500,000. Positional accuracy of the presented data is better than 10 m with respect to the UTM grid.

**TOTAL FIELD MAGNETICS**  
The magnetic total field contours were produced using digitally recorded data from a Scintrex cesium CS2 magnetometer, with a sampling interval of 0.1 seconds. The magnetic data were (1) corrected for diurnal variations by subtraction of the digitally recorded base station magnetic data, (2) leveled to the tie line data, and (3) interpolated onto a regular 100 m grid using a modified Ainslie (1970) technique. The regional variation (or IGRF, 1985, updated to August, 1993) was removed from the leveled magnetic data.

# TOTAL FIELD MAGNETICS AND ELECTROMAGNETIC ANOMALIES OF THE NOME MINING DISTRICT

1994

**MAGNETIC CONTOUR INTERVAL**

.....	250 nT
.....	50 nT
.....	10 nT
.....	5 nT
.....	magnetic low

**ELECTROMAGNETICS**  
To determine the location of EM anomalies or their boundaries, the DIGHEM<sup>TM</sup> EM system measured inphase and quadrature components at five frequencies. Two vertical coaxial coil-pairs operated at 900 and 5000 Hz while three horizontal coplanar coil-pairs operated at 900, 7200 and 56,000 Hz. EM data were sampled at 0.1 second intervals. The EM system responds to bedrock conductors, conductive overburden, and cultural sources. The type of conductor is indicated on the aeromagnetic map by the interpretive symbol attached to each EM anomaly. Determination of the type of conductor is based on EM anomaly shapes of the coaxial and coplanar coil responses, together with conductor and magnetic patterns and topography. The power line monitor and the flight track video were examined to locate cultural sources.

**ELECTROMAGNETIC ANOMALIES**

Grade	Anomaly	Conductance
7	●	>100 siemens
6	⊙	50-100 siemens
5	⊗	20-50 siemens
4	⊕	10-20 siemens
3	⊖	5-10 siemens
2	⊙	1-5 siemens
1	○	<1 siemens
-	*	Questionable anomaly
-	△	Weak conductivity associated with an EM magnetic response

Interpretive symbol	Conductor ("mode")
B	Bedrock conductor
D	Narrow bedrock conductor ("thin disk")
S	Conductive cover ("horizontal thin sheet")
H	Broad conductive rock unit, deep conductive weathering, thick conductive cover ("half space")
E	Edge of broad conductor ("edge of half space")
L	Culture, e.g. power line, metal building or fence

