Magnetometer Survey of Corson, Dewey, and Ziebach Counties
SOUTH DAKOTA
by Bruno C. Fetsch

INTRODUCTION

A geophysical reconnaissance using a proton detector, the gamma detector, and a neutron detector, the gamma spectrometer, was made in the Corson, Dewey, and Ziebach Counties area of South Dakota. The survey was conducted with the assistance of the South Dakota Geophysical Survey. The primary purpose of the survey was to locate possible ore deposits and other geophysical anomalies. The survey included the use of magnetic and gravity measurements.

EXPERIMENTAL

The survey was conducted using a proton detector, a gamma detector, and a neutron detector. The proton detector was used to detect proton-induced gamma rays. The gamma detector was used to detect gamma rays. The neutron detector was used to detect neutrons. The survey was conducted with the assistance of the South Dakota Geophysical Survey.

RESULTS

The survey revealed the presence of several geophysical anomalies. The anomalies were detected using magnetic and gravity measurements. The anomalies were interpreted using a geophysical model.

CONCLUSION

The survey revealed the presence of several geophysical anomalies. The anomalies were detected using magnetic and gravity measurements. The anomalies were interpreted using a geophysical model. The survey was conducted with the assistance of the South Dakota Geophysical Survey.

Figure 1. - Cross-section A-A', Showing Geophysical Structure and Magnetic Profile.

Figure 2. - Cross-section B-B', Showing Geophysical Structure and Magnetic Profile.

Figure 3. - Cross-section C-C', Showing Geophysical Structure and Magnetic Profile.

Figure 4. - Cross-section D-D', Showing Geophysical Structure and Magnetic Profile.

Figure 5. - Cross-section E-E', Showing Geophysical Structure and Magnetic Profile.

Figure 6. - Cross-section F-F', Showing Geophysical Structure and Magnetic Profile.

Table 1. - Composite Data

<table>
<thead>
<tr>
<th>Zone</th>
<th>Description</th>
<th>Gamma (API)</th>
<th>Neutron (API)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fine sands</td>
<td>150</td>
<td>250</td>
</tr>
<tr>
<td>2</td>
<td>Coarse sands</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>3</td>
<td>Clay</td>
<td>300</td>
<td>500</td>
</tr>
</tbody>
</table>

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