GEOSEARCH CONSULTANTS LIMITED

2675

TURAM ELECTROMAGNETIC SURVEY
for
IMPERIAL OIL LIMITED
on the
KIM GROUP 82G/12W
KIMBERLEY AREA, B. C.

(To accompany 70-59)

June 26, 1970.

GEOSEARCH CONSULTANTS LIMITED

SUMMARY

During May 1970, we carried out a Turam survey for Imperial Oil Limited on the Kim Group.

The property is located four miles west of Marysville in the Kimberley area, B. C. and is accessible by road.

The survey was carried out to assess base metal prospects on part of the property where favorable alteration was encountered in previous drilling.

Some very weak conductive trends were noted at the southwestern extremity of the survey area. One weak conductor, noted on three traverses near the centre of the area, may warrant further exploration.

#1 CLAIMS MAP

#2 SURVEY

METHOD AND INTERPRETATION OF RESULTS

The model 2S Turam equipment was used for this survey. It was manufactured and developed in Sweden by the ABEM Instrument Group of the Craelius Company.

In common with other electromagnetic inductive systems the Turam method is based on the fact that a secondary current is induced in an electrical conductor when the conductor is subjected to an electromagnetic field. This secondary current creates its own electromagnetic field which, together with the primary applied field, produces a resultant electromagnetic field. This resultant field, which can be detected and measured, differs both in phase and amplitude from the calculated primary field; these differences may indicate the presence of a conductor.

The primary alternating field is created by the use of a large horizontal rectangular loop, energized by a current at 660 Hz or 220 Hz. The receiving system consists of two coils 100 feet apart, connected to a compensator-amplifier which measures the complex field-strength ratios and phase-differences between successive points on traverses outside and perpendicular to a long side of the primary loop. Both the phase-difference readings and the reduced field-strength ratios are plotted as curves at points mid-way between the coil positions. The reduced ratios are the measured ratios divided by the normal ratios. The normal ratios may be calculated from the geometry of the primary loop and from the location of the points at which the readings were taken in relationship to the loop.

The conductivity of steeply dipping conductors may be estimated from the following chart:

Ratio Anomaly > 1.00	Negative Phase-difference	Conductivity
Very small or nil	Small to medium	Very poor
Small	Medium to large	Poor
Large	Medium	Good
Large	Small	Very good

In areas of conductive overburden, the amplitudes of anomalous readings, both the phase and the ratio, increase as their distance from the primary loop increases.

RESULTS

The area was generally quite neutral and consequently favorable to electromagnetic prospecting. Some distortions of the field due to power lines and fences were noted, however these did not seriously limit the survey coverage.

A weak conductor was located on three traverses near Lone Pine Hill. The zone is located at a considerable distance from the primary loop source and in an area of considerable topographic relief and hence is somewhat questionable. Nevertheless it does appear to be anomalous for the area and with some smoothing (rough topography) the profiles would suggest a source at moderate depth (200-250 feet). An alternative interpretation could suggest two current axes at a shallower depth.

Weaker trends at greater distances from the primary source are indicated near the southwest boundary of the survey area. They would not warrant further consideration unless supported by favorable geological or other geophysical evidence.

Respectfully submitted,
GEOSEARCH CONSULTANTS LIMITED

M. J. Moreau, P. Eng.

KIMBERLEY PROJECT

BUSINESS DEVELOPMENT DEPT. - MINERALS

MINERAL CLAIMS

SCALE

500 0 500 1000

NOVEMBER 1968

PRELIMINARY MAP

SURFACE GEOLOGY

J. SCOTT

GROUP "1"

GROUP "2"

GROUP "3"

GROUP "4"

GROUP "5"

GROUP "6"

338
K-9
-50°

466'
K-7
-50°

400'
K-4
-90°

35'
K-6
-60°

92'
K-3
-50°

400'
K-2
-50°

537'
K-8
-50°

860'
K-5
-45°

1173'
K-1
-50°

TURAM SURVEY GRID

KIM FR No. 11

KIM FR No. 10

KIM FR No. 9

KIM FR No. 8

KIM FR No. 7

KIM FR No. 6

KIM FR "5"

KIM FR "4"

KIM FR "3"

KIM FR 12

KIM FR "2"

KIM FR "1"

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0+00 BASE LINE

LINE 76 N
LINE 72 N
LINE 68 N
LINE 64 N
LINE 60 N
LINE 56 N
LINE 52 N
LINE 48 N
LINE 44 N
LINE 40 N
LINE 36 N
LINE 32 N
LINE 28 N
LINE 24 N
LINE 20 N
LINE 16 N
LINE 12 N
LINE 8 N
LINE 4 N
LINE 0 N

SOURCE

FENCE

PIPE LINE

POWER LINE

ROAD

CREEK

KEY MAP

LEGEND

RATIO, 660 C.P.S.
PHASE, 660 C.P.S.
RATIO, 220 C.P.S.
PHASE, 220 C.P.S.
WEAK CONDUCTOR
Possible conductive trend

RATIO 1.10 ——— PHASE +5°
1.00 ——— 0°
RATIO 0.90 ——— PHASE -5°

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TURAM SURVEY
BY
GEOSEARCH CONSULTANTS LTD.
FOR
IMPERIAL OIL LIMITED
KIM GROUP
KIMBERLEY AREA, B.C.

SCALE 1 : 1 INCH = 200 FT.

DATE: JUNE, 1970
APPROVED: M.J.M.

70-59