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RADIOMETRIC SURVEY ASSESSMENT REPORT

Claims L531040, L531044,  
L531084 & L531765

Lebel Twp. Larder Lake Mining Div.

Ontario

RECEIVED

MAR 13 1985

MINING LANDS SECTION

G. E. Parsons

December 1984

*Qual.*  
*63.935*

## GENERAL

This report covers four claims, - L531040, L531044, L531084 and L531765. These claims were formerly patented as L4118, L7759, L4117 and L8002 respectively.

The claims are under option to Aurage Mineral Corporation, Suite 801, - 159 Bay Street, Toronto, M5J 1J7.

## LOCATION & ACCESS

The claims are in the central part of Lebel Twp., adjacent to and southeast of King Kirkland townsite.

Highway 66 crosses the northeast corner of claim L531044. An abandoned road with a firm base extends in an east-west direction across the south part of the group; this road originates in King Kirkland. The Ontario Northland Railroad crosses the southwest part of the claims.

## PREVIOUS EXPLORATION

Three of the claims formerly numbered L4117, L4118 and L8002 were part of King Kirkland Gold Mines Ltd. who carried out exploration in the period 1918-1937. This work is summarized in ODM Mineral Resources Circular No. 3 by W. S. Savage dated 1964.

In July 1981, M. Leahy submitted an assessment report for Lampe Resource Co. which included the four claims covered by the present report. Leahy's report was for an electromagnetic survey (Geonics EM-16 VLF) and a magnetic survey (MF-1 fluxgate magnetometer).

In 1982, two drill holes were drilled on claims L531765 for a total footage of 803 ft. Hole KK-82-1 (216 ft. at 46°) is reported collared 150 NE of the shaft and drilled at S 30 E to cut No. 3 shaft vein. A white quartz carbonate vein assayed 0.04 oz/2 ft. at 97 ft. Hole KK-82-2 (587 ft. at 50°) was collared in an outcrop at 0 + 90 ft. N on L 2 E and drilled north to test the Bidgood fault as shown on ODM Map No. 53a. No fault was cut and the hole appears to be short of its target.

PRESENT EXPLORATION

The present exploration has been restricted to scouting, some prospecting, relogging of holes KK-1 and KK-2, and the radiometric survey on which this report is based.

Radioactivity is common to the trachytic flow and tuffs in the Lebel Twp. area. It was hoped that the controversial rock unit labelled as 'porphyrite' on the claim block might also have variations in its radioactivity to assist in its differentiation. In addition, a gold-bearing zone on an adjacent claim recorded readings three times the normal, which suggested a radiometric survey might assist in locating such mineralization.

## TOPOGRAPHY

There is considerable variation in the relief over the claims. The northeast part of claim L531040 is only a few feet above Mud Lake at an elevation of 1030 ft. above sea level, which is shown as swamp on the attached map. From here, the topography rises rather sharply along cliff faces to reach an elevation of 1190 ft. above sea level in the southwest part of the above claim. Rock is abundant in this higher ground, as recorded along the picket lines on the attached map.

In claim L531765, the elevation varies from 1140 to 1150 ft. along its east boundary and from there slopes to the west towards King Lake, so the elevations along its west boundary are 20 to 30 ft. lower.

The ONR tracks follow a topographic low through claim L531084 and into the southwest corner of L531044. Approximately one-half of the former claim is occupied by low-lying sand plain and/or swamp in this topographic low.

## GEOLOGY

No geological map of the claims is known to exist other than the ODM Map No. 53a of Lebel Twp.

This map shows all of claims L530140, L531044, L531765 and the north two-fifths of L531084 as underlain by porphyrite. The remainder of L531084 is underlain by sheared sediments. Trachyte was observed during this survey in the southwest corner of this claim.

## RADIOMETRIC SURVEY, - INSTRUMENT & METHOD

The instrument used in the survey was a McPhar Model TV-1A Spectrometer, which is a three-threshold scintillometer. Measurements are based on the spectral characteristics or energy levels of gamma radiation from radioactive elements. Selection of the operating threshold is made by means of the threshold selector switch.

The meter is calibrated to display 0 to 100 counts per minute. A four-position scale multiplier switch provides four full scale ranges of 100, 1, 000, 10, 000, and 100, 000 counts per minute.

The detecting element is a  $1\frac{1}{2} \times 1\frac{1}{2}$  inch sodium iodide crystal coupled to a photomultiplier tube.

There are three threshold positions; however, only T1 at 0.2 Mev was used during this survey. It measures the total count across the entire gamma energy spectrum for maximum sensitivity. For this threshold, there are two time constants, - T1F (Fast)-1 second, and T1S (Slow)-10 seconds; the latter was used throughout this survey.

The instrument operates from two "C" size flashlight-type cells.

During the survey, the instrument was carried in a holster at waist height. It was kept in continuous operation. Readings were recorded at a minimum spacing of 100 ft. on the picket lines and more frequently where variations were detected.

The survey was conducted by the writer in the period September 1 to October 30, 1984. A total of 381 readings were recorded on the accompanying map.

## RESULTS OF RADIOMETRIC SURVEY

The radioactivity in the low lying swampy areas ranged from 30-40 c/min. In dry sand and overburden areas without boulder rubble, the radioactivity averaged around 60 c/min; the same count was detected in outcrop areas of light-coloured sediments in the south part of claim L531084.

Over the area with outcrops of porphyrite, the radioactivity exceeded 80 c/min with counts between 100 and 150 being common. There was some suggestion of the presence of higher radioactivity where rust was present in an outcrop such as at 10 + 50 S on L 18 E where a reading of 225 counts was obtained.

The highest count, - 350, was obtained at a trachyte outcrop in the southeast corner of claim 531084.

## CONCLUSIONS & RECOMMENDATIONS

The data indicate radioactivity can be used to differentiate between the three rock units present, - namely porphyrite, sediments and trachyte. This could be of particular assistance where alteration, poor exposure, etc. are giving problems in visually making a differentiation. The porphyrite itself is quite variable in appearance; however, the differences are usually non-descriptive, and indistinct except for variations in colour from pale-yellowish to dark drab greens. The rather consistent radioactivity of 100 to 150 c/min on outcrops of this porphyrite, regardless of its visual characteristics, tends to confirm it is a single unit type of rock.

ODM Map 53a shows a north-south fault falling in the boundary area between claims 531044 and 531084; a horizontal offset of 350 ft. is shown on this map. There is considerable topographic evidence of a fault in this position. In that the Cliff Showing on R. Lawrence's claim L531042 strikes in a north-south direction, some investigation to determine whether this fault is real is justified. It is recommended that differences in the radioactivity of the rock types be used to assist in this exercise.

*G. E. Parsons*

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Geologist.

Toronto, Ont.

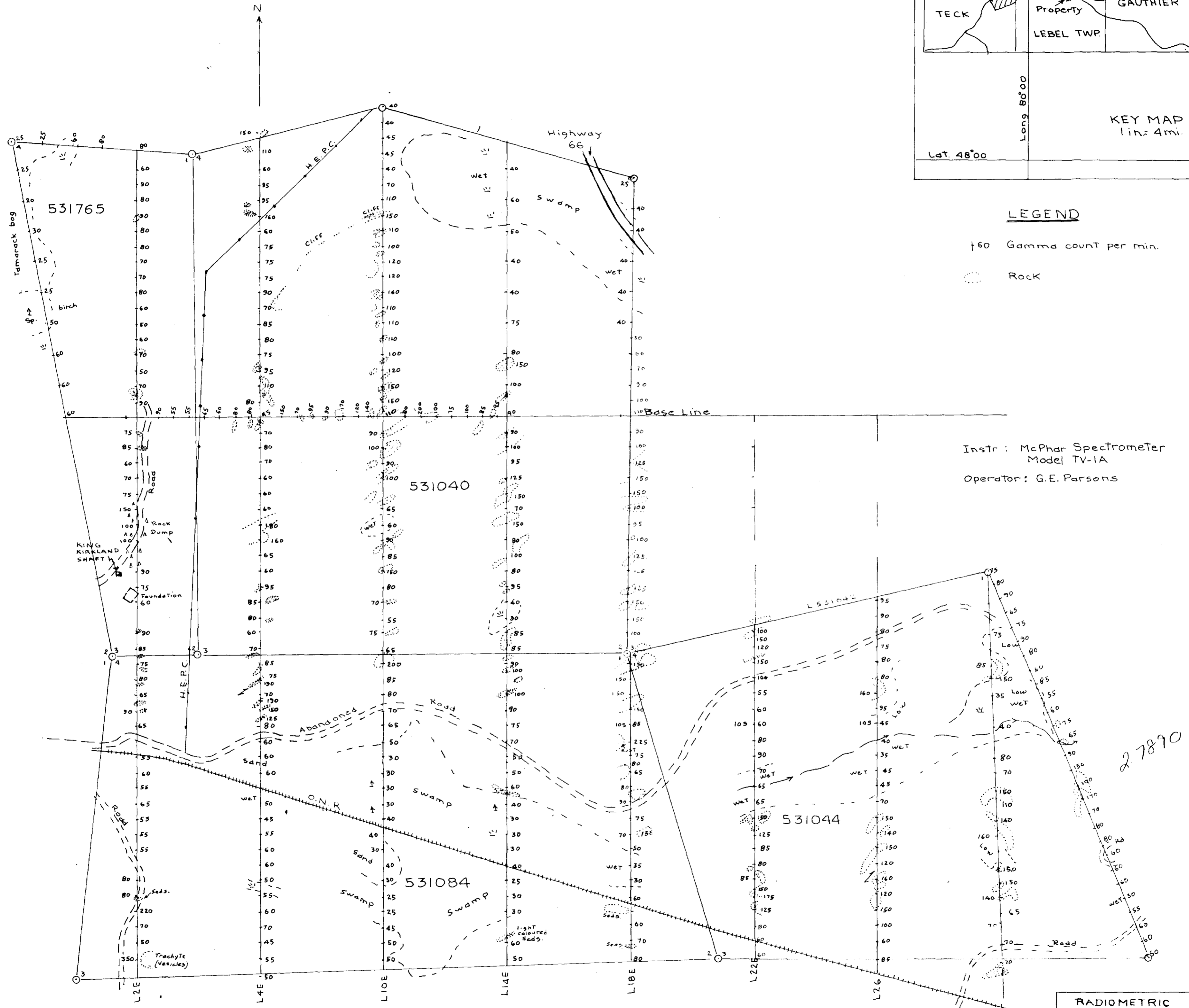
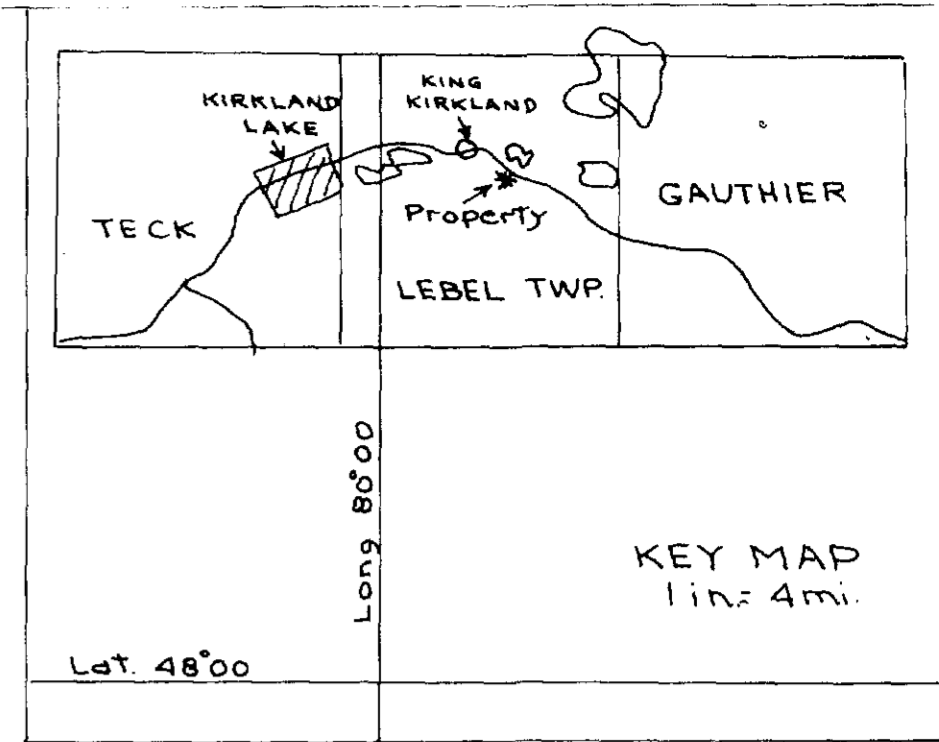
December 1984











**LEGEND**

- 160 Gamma count per min.
- Rock

Instr: McPhar Spectrometer  
Model TV-1A  
Operator: G.E. Parsons

**RADIOMETRIC**  
CL. L531040 et al  
LEBEL TWP, ONT.  
1 in = 200 FT.  
Nov. 84 G.E. Parsons

