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Note: Analogue chart records filed separately as CR78/41B.
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Period: April 1, 1977 – April 1, 1978
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Expenditure 1

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Radiometric Chart (copy only) E.L. 1449 Giles Range 3
OTTER EXPLORATION N.L.
61PACIFIC HIGHWAY, ST. LEONARDS, N.S.W. 2065, AUSTRALIA
TELEPHONE (02) 438-1355 CABLES: OTTEREX

ANNUAL REPORT: E.L.1449(Giles Range)
PERIOD: April 1, 1977 - April 1, 1978
WORK UNDERTAKEN included a systematic survey for uranium mineralisation using
an airborne detector system.

AIRBORNE SURVEY - EQUIPMENT AND FLIGHT DETAILS
Aircraft: Cessna 182.
Line Spacing: 1 kilometre.
Aircraft Speed: 40-80 nautical miles per hour.
Mean Terrain Clearance: 400 feet
Detector System: 4 crystal thallium activated sodium iodide sensor, total volume
452 cubic inches, (Scintrex GSA 64), linked to a four channel gamma ray spectro-
meter,(Scintrex GAD-4), and chart recorder.
Count Time: 1 count/second
Data recorded: 4 channels - Total Count, Potassium, Uranium and Thorium. The
compton stripping facility was not employed.
Navigation: Visual reference system using 1:84,000 scale air photos or 1:100,000
scale orthophotomaps. Reference points and corresponding fiducial numbers from
a fiducial counter were marked on the appropriate flight line drawn on the air
photography. A fiducial trace was recorded on the chart together with the radio-
metric data.

DATA PRESENTATION
Anomalies have been plotted onto plans reproduced from the survey flight patterns.
Anomalies have been distinguished using three parameters, namely local total count
in relation to total count regional background, uranium count in relation to
local uranium background and uranium/thorium ratio. These parameters are shown in
numerical form for each anomaly.

AIRBORNE SURVEY - RESULTS
Results of the survey, - the anomalies, are shown in plan form. This plan accom-
plices a previously forwarded progress report. Nothing was known concerning the
relationship between anomaly parameters and geochemical uranium/thorium concen-
trations at this stage in the survey work. A decision was made to plot all anomal-
ies satisfying certain very minimal criteria, namely a total count response of at
least 50% above background, 1/2(-), or alternatively a uranium channel response
of at least 100% above background, -(2-), assuming in both instances that the
uranium/thorium ratio exceeds 1, e.g. 1/2(1/13.2/1). Note background in this exercise
includes both geologic and non-geologic contributions.

Plate 1. Location Plan
Plate 2. Airborne Radiometric Anomaly Plan
AIRBORNE SURVEY - RESULTS (cont.)

Aerial anomalies, (Otter and recent Bureau of Mineral Resources surveys), are small. Two main groups of anomalies can be defined, firstly in the south-central area, secondly in the N.E. corner of the licence. Most of the uranium anomalies are accompanied by thorium channel anomalies and appear to originate in granite. An exception might be in the N.E. where one anomaly occurs on or near a granite/hornfels contact. The scattered very low response anomalies in the northern licence area may possibly correspond to outcrops of mica-schist, (Lander Rock Beds).
**DETAILS OF EXPENDITURE TO ACCOMPANY ANNUAL REPORT:**  E.L. 1449 (Giles Range)
**PERIOD:** April 1, 1977 - April 1, 1978.

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<th>Item</th>
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**TOTAL**  $1264.30
KEY:

+ (1:500,000) - anomaly indicating 'total count' in relation to regional background. Uranium (unquantified) in relation to lead background and Uranium/Lead ratio.

+ (1:500,000) - fiducial point on flight line (from photo - scale 1:100,000).

CHIEF ENQUIRY

Giles Range E.C. 1449
FLIGHT PLAN AND
PRELIMINARY RADIOMETRIC RESULTS.
Sept. 77.

To accompany Annual Report.
Year ending April 1 78.
KEYS:
- **+ (Al B)**: Anomaly indicating total count in relation to regional background uranium (unremapped).
- **- (Al B)**: Anomaly in relation to local background and uranium + thorium ratio.

- **X**: Intersection point on flight line (from photo - Scale 1:100,000).

OTHER EXPLORATION

Giles Range E.L.
FLIGHT LINE AND PRELIMINARY RADIOLOGICAL RESULTS
Sept. 77.