FINAL REPORT EL. 1454
Otter Exploration N.L.

C. J. Kojan
June, '79

MINES BRANCH
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8 Petrographic Slides housed with N.T.G.S. Alice Springs N.T.
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LIST OF FIGURES

LOCATION MAP

FIG.1. Flight Plan and Radiometric Results
FIG.2. Reference Map 1977 Exploration Program
FIG.3. Reference Map 1978 Exploration Program
Introduction: EL.1454 was granted on April 1, 1977. An airborne spectrometer survey was flown over the licence area in June, '77. Ground follow-up in late '77 failed to disclose any uranium mineralisation. However anomalous uranium values were obtained from granitic rock in the southeast part of the licence area. This location was interpreted as forming part of a target zone, extending southeast into EL.1453. Detailed recce work in this zone in 1978 failed to disclose any significant uranium or scheelite mineralisation and the EL was relinquished on March 31, '79.

Location: (Refer Location Map), EL.1454 is located on the Alcoota, 1:250,000 sheet area, in the Alice Springs region, and lies for the most part, within the Mt. Skinner pastoral holding.
EXPLORATION WORK - CURRENT TENEMENTS
1977 Program

AIRBORNE RADIOMETRIC SURVEY.

All tenements held on the ALCOOTA, NAPPERBY AND MT. PEAKE SHEET areas have been systematically surveyed for uranium mineralisation, using an airborne detector system. A number of tenements on the HUCKITTA SHEET have also been systematically surveyed, including Red Tank, Molyhill, Unca Hill and Bonya Creek (part of). The systematic airborne survey work extended from late May to late September 77.

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 GSA64), linked to a four channel gamma ray spectrometer, (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 airphotography. A fiducial trace was recorded on the chart together with the radiometric data.

Data Presentation.(Refer Fig.1)

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. (This data is not currently available in a drafted format).

GROUND FOLLOW-UP

Preliminary ground follow-up of anomalies detected in the course of the airborne survey work, has been completed on the Mt. Ida, Bundey River, and Mollie Bluff EL's (ALCOOTA SHEET) and the Molyhill EL (HUCKITTA SHEET). Work has commenced on the Albert Bore EL (ALCOOTA SHEET). The ground follow up work, involving two geologists, extended from early October to early December 1977.

The work involved location of the aerial anomalies, taking of readings using hand held spectrometers and the collecting of rock/stream sediment samples for assay/petrography, where considered warranted. A total of 255 anomalies were visited in the course of the field work. In addition samples/measurements were taken from 17 locations of special interest and also a small number of bore water samples were obtained. Locations of the anomalies and sampling area are shown on Fig 2, and the Appendix volumes comprise detail sheets which describe each observation point.
1. **Mollie Bluff and Albert Bore** - EL's 1454 and 1455.  
   (Ref. Fig. 2)

Some tantalite crystals were obtained from some shallow workings in pegmatite in the S.E. area of the Mollie Bluff EL suggesting potential for associated uranium mineralisation.

Aerial anomalies in the Mollie Bluff and Albert Bore tenement are largely confined to areas of Proterozoic granite/granite-gneiss and calc-silicate outcrop. An arkose horizon in the lower part of the Adelaidean Central Mt. Stuart Beds in the New Bore area (Mollie Bluff), has also produced several anomalies.

Uranium in the form of autunite has been reported in thin section from a sample of granite gneiss in the S.E. of the Mollie Bluff EL (DMBA.6). A similar sample from the same location returned a value of 30 ppm uranium. One sample of radioactive arkose from the New Bore area of Mollie Bluff (CMB.10) returned a value of 14 ppm uranium and 165 ppm thorium. The radioactivity is thought to be due to detrital heavy minerals notably zircon and possibly thorite.

2. **Mt. Ida - Bundey River** - EL's 1452 and 1453.

These tenements were considered of special interest on account of reported tantalum and wolfram occurrences, suggesting the existence of pegmatite/skarn situations which might also be favourable to uranium mineralisation.

Aerial anomalies recorded in the survey are well distributed over a large area of Proterozoic metasediments, including quartzofeldspathic gneisses, calc-silicate rock, quartz muscovite gneiss, quartz-biotite schist, granite and pegmatite. Younger Proterozoic quartzites comprising a series of ranges in the northern part of the tenement are radiometrically inactive.

Results of the follow up work show that at least 3 of the Mt. Ida anomalies are due to concentrations of uranium, namely C.25, C.27 and C.38. Maximum values are 46, 36 and 215 ppm uranium respectively. The uranium evidently occurs as
uraniferous leucoxene within quartz feldspar mica gneisses/microgneisses, along contact zones with intrusive granite/pegmatite dykes (C.27 and C.38) or quartz 'reefs' (C.25). Other anomalous uranium values of possible significance included a bore water sample from Ledan Peak Bore which returned a value of 250 ppb uranium and a sample of brecciated Tertiary chalcedony from DA.7 which returned a value of 55 ppb uranium.

Scheelite mineralisation was also discovered in the Mt. Ida tenement, and may be associated with the uranium concentration. A grab sample of epidotised calc-silicate rock from the vicinity of a pegmatite dyke at C.38 (Mt. Ida) returned a value of 2.65% tungsten. A highly anomalous tungsten value of 230 ppm was obtained from a sample of quartz muscovite gneiss taken at C.27 (Mt. Ida). Traces of scheelite were also noted to the south of C.43 (Mt. Ida).

Systematic sampling of the outcropping calc-silicates at C.38 showed that the scheelite was very irregularly distributed. Ten representative samples returned an average value of only 60 ppm within a range 10-300 ppm tungsten. However, consideration of the follow-up results on a semi-regional basis indicates that systematic recce work may be warranted over a 30 x 5 km zone extending N.W. from south of C.38 through Ledan Peak and into the S.E. portion of the Mollie Bluff EL, where traces of autunite have been discovered. Recommendations for such work are contained in the 1978 proposal.
ELs 1453, 1454 and 1455
(1978 Program)

INTRODUCTION

The Licence areas were granted on April 1, 1977. They were considered to be prospective for uranium mineralisation. Trace amounts (maximum 215 ppm) of uranium mineralisation (uraniferous leucogne), were discovered in microgneisses adjacent to pegmatite bodies at Anomaly C38 in the western part of EL.1453 (Mt. Ida), in late 1977. Two scheelite occurrences were also discovered at this time in the same general area. An anomalous bore water sample (250 ppb) was obtained from Ledan Park Bore in the northwest of EL.1453. EL.1455, following further fieldchecking of airborne anomalies was relinquished in September, 1978. Results of recent fieldwork in the uranium/tungsten zone, (EL.1453) has proved disappointing and a decision has been made to relinquish both remaining ELs (1453 and 1454).

GENERAL GEOLOGY  (Refer Fig. 3)

The Licence areas are situated in a west-north-west trending zone of Lower Proterozoic metasediments and intrusive granite bodies. These are overlain in the the Mollie Bluff Licence area (EL.1454), by Adelaidean sandstones. Tertiary silicified limestones occur in the Sandover River area, (ELs.1455 and 1454), and near Woodgreen Homestead, (EL.1455). Tertiary laterite deposits are confined to isolated areas within ELs 1453 and 1455. Quaternary alluvium covers large areas in EL.1454. A major set of strike faults cross the Licence areas and together with related quartz and ironstone filled shears, act as a locus for minor uranium, tungsten, tantalum and copper occurrences. These faults form part of the Delny-Mt. Sainthill system, which extends east into the Huckitta 1:250,000 scale sheet area. The Molyhill Mine (tungsten/molybdenite) is located on this eastern extension. Particularly favourable sites for mineralisation appear to occur at the intersection of the Delny-Mt. Sainthill system with north trending faults. This appears to be the case at the tungsten/uranium occurrences at Anomaly C38(EL.1453) and at the previously mentioned Molyhill Mine.

A number of mineral occurrence/prospects are located in or in close proximity to the Licence areas.
These include the Perenti copper prospect, 30 km east of EL.1453. The prospect consists of disseminated copper minerals within a quartz breccia reef and forms part of a north west trending shear zone, cutting across a granite contact. Most other mineral occurrences in the area are associated with pegmatite. At the Delmore Downs wolfram prospect, wolframite occurs in pegmatite veins cutting a roof pendant of garnet gneiss close to a granite contact. Small quantities of tantalite have been produced from the Bundey River prospect 20 km south east of EL.1453, and from the Utopia prospect located in EL.1454 (refer Fig. 2). In both situations the tantalite occurs within pegmatite intrusive into gneiss/microgneiss. The tantalite prospects are reported to be weakly radioactive.

Scheelite has been discovered by Otter Exploration geologists at two locations within EL.1453, namely Anomaly C38 and a location 3½ km to the north. At Anomaly C38 a grab sample returned a value of 2.65% W from calc-silicate rock in close proximity to a pegmatite dyke.

Trace amounts of uranium mineralisation (uraniferous Teucoxene) occur in microgneiss wall rock, 100-200m from the scheelite show. Trace amounts of scheelite (0.1% W) were discovered at the northern location, again in a calc-silicate host. No pegmatite was observed, however the close proximity of this show to a postulated faulted contact with younger quartzite may be significant.

The only other mineral occurrence of note is the copper mineralisation situated in younger Precambrian sandstone (Adelaidean) near Mt. Skinner in the EL.1454 area. The highest value discovered in the course of drilling was 0.65% Cu over a 0.3m interval. The same sandstone beds also show local thorium enrichment in the lowermost horizons and appear to have been derived from erosion of granitic rocks under continental conditions.

**WORK COMPLETED (1977-1979)**

With the exception of a few anomalies in the northern part of the Albert Bore and Mt. Ida Licence areas (ELs.1453 and 1455), all airborne anomalies were field checked in the course of the 1977 exploration season.

The 1978 program consisted of field checking of the outstanding Albert Bore anomalies and detailed reconnaissance of the Mt. Ida uranium/tungsten zone. In addition drillcore from the Mt. Skinner area was checked with a spectrometer for uranium mineralisation. A reference plan at 1:100,000 scale has been prepared showing details of geology, anomalies, and sampling
(refer Fig.3) and a larger scale plan (1:34,000) has been drawn up to present results of the more detailed work in the uranium/tungsten zone.

RESULTS

Three anomalies were fieldchecked in the Albert Bore Licence area. No uranium concentrations were encountered. Anomalous scintillometer counts observed at ABC.1 and location A1.22.3 are assumed to be due to concentrations of thorium rich xenotime in sandstone beds. Anomaly Detail Sheets are appended.

Two anomalies were fieldchecked in the Mt. Ida uranium/tungsten zone. No anomalous counts were obtained. General ground traverses employing scintillometer and a magnetometer were made over an area of several square kilometres which included the two scheelite shows. No new scintillometer anomalies were encountered. The scheelite shows were not magnetically anomalous. A magnetic anomaly of approximately 3500 gammas was obtained at sample location A1.5.4. but no scheelite was encountered. 10 samples consisting mainly of calc-silicate rock were taken, and assayed for tungsten and tin. Only one sample AG 5.10 from the northern scheelite show, gave indications of mineralisation (1000 ppm W).
APPENDIX
RADIOACTIVE ANOMALY DETAILS

ANOMALY NUMBER: CMB.1
TENEMENT NUMBER: 1454
1:250,000 MAP SHEET: Alcoota - SF.53.10
ANOMALY LOCATION: 214227. (Ref. Fig. 1.)
INVESTIGATED BY: C.J. Kojan.
DATE: 18.11.77

GENERAL GEOLOGY:
Sandstone flags, (Central Mount Stuart Beds), outcrop in creek bed and low ridges to east.

PROBABLE ANOMALY SOURCE:
Not apparent.

RADIOACTIVE DATA:
Instrument Type: Scintrex GAM-1
Compton stripping applied to uranium channel: No.
Sandstone: 100TC (equivalent 220TC - GAD-4).

ASSAY DATA:

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<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
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PETROGRAPHIC DESCRIPTION: None.
Sample Number: 
ANOMALY NUMBER: CMB.2
TENEMENT NUMBER: 1454
1:250,000 MAP SHEET: Alcoota - SF.53.10
ANOMALY LOCATION: 212208. (Ref. Fig. 1).
INVESTIGATED BY: C.J. Kojan.
DATE: 18.11.77

GENERAL GEOLOGY:
Occasional outcrop of sandstone. Extensive alluvial cover.

PROBABLE ANOMALY SOURCE:
Not apparent.

RADIOMETRIC DATA:
Instrument Type: GAM-1
Compton stripping applied to uranium channel: No.
Sandstone: 100TC (220TC).

ASSAY DATA:

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PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.3

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 212230. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 18.11.77

GENERAL GEOLOGY:
Sandstone outcrops on flanks of large hills.

PROBABLE ANOMALY SOURCE:
Not apparent.

RADIOMETRIC DATA:
Instrument Type: GAM-1
Compton stripping applied to uranium channel: No.
Sandstone: 100TC (220TC).

ASSAY DATA:

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PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.4

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 206226. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 18.11.77

GENERAL GEOLGY:

Alluvium, no outcrops.

PROBABLE ANOMALY SOURCE:

Not apparent.

RADIOMETRIC DATA:

Instrument Type: None.
Compton stripping applied to uranium channel:

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PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.5

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 208223. (Ref. Fig. 1).

INVESTIGATED BY: C.J. Kojan.

DATE: 18.11.77

GENERAL GEOLOGY:

Sandstone forming a series of ridges.

PROBABLE ANOMALY SOURCE:

Not apparent, possibly a topographic effect.

RADIOMETRIC DATA:

Instrument Type: GAM-1
Compton stripping applied to uranium channel: No.
Sandstone: 150TC. (300TC).

ASSAY DATA:

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PETROGRAPHIC DESCRIPTION: None.
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.6
TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 229205. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 18.11.77

GENERAL GEOLOGY:
Northern face of a north west trending sandstone ridge.

PROBABLE ANOMALY SOURCE:
Not apparent, possibly a topographic effect.

RADIOMETRIC DATA:
Instrument Type: GAM-1
Compton stripping applied to uranium channel: No.
Sandstone: 150TC. (330TC).

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PETROGRAPHIC DESCRIPTION: None.  Sample Number:
**ANOMALY NUMBER:** CMB.7  
**TENEMENT NUMBER:** 1454  
**1:250,000 MAP SHEET:** Alcoota - SF.53.10  
**ANOMALY LOCATION:** 296231. (Ref. Fig. 1.)  
**INVESTIGATED BY:** C.J. Kojan.  
**DATE:** 18.11.77  
**GENERAL GEOLOGY:**  
Sandstone outcrops.  
**PROBABLE ANOMALY SOURCE:**  
Not apparent.  
**RADIOACTIVE DATA:**  
Instrument Type: GAM-1  
Compton stripping applied to uranium channel: No.  
Sandstone: 150TC: (330TC).  
**ASSAY DATA:** None.  

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**PETROGRAPHIC DESCRIPTION:** None.  
**Sample Number:**
ANOMALY NUMBER: CMB.8

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 213239. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 2.12.77

GENERAL GEOLOGY:
Scattered small hills of quartz feldspar gneiss overlain unconformably by arkose and sandstone (Central Mt. Stuart Beds).

PROBABLE ANOMALY SOURCE:
Quartz feldspar gneiss.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes
Gneiss: 608-976TC

ASSAY DATA:

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<td>24</td>
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PETROGRAPHIC DESCRIPTION: None. Sample Number: 
ANOMALY NUMBER: CMB.9

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 215239. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 3.12.77

GENERAL GEOLOGY:

Small outcrop of quartz-feldspar gneiss, with outcrop of calc-silicate rock (MB3.2) 500m to north west.

PROBABLE ANOMALY SOURCE:

Quartz feldspar gneiss.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3

Compton stripping applied to uranium channel: Yes.

Gneiss: 677-742TC

Calc-silicate: 416-595TC.

ASSAY DATA:

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<td>Calc-silicate</td>
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<td>oc. Gneiss.</td>
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PETROGRAPHIC DESCRIPTION:

Sample Number: MB3.2

Calc-silicate rock with some preferred orientation and thus more likely to be of regional metamorphic than contact metasomatic origin.
ANOMALY NUMBER: DMBA.9

TENEMENT NUMBER: EL 1454 Mollie Bluff.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 5.3 km bearing 55° from Skinner Bore. 222228. (Ref. Fig. 1)

INVESTIGATED BY: D. Lovett

DATE: 16.11.77

GENERAL GEOLOGY:
Sandy wash plain with granitic hill 150m. west of plotted position of anomaly.

PROBABLE ANOMALY SOURCE:
Granitic hill.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes
TC 300-335 Sandy wash plain.
TC 530-1100 Hill of granitic rock. U 4 Th 10.

ASSAY DATA: None.

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PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.10

TENEMENT NUMBER: EL 1454 Mollie Bluff.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 5.9km bearing 71° from Skinner Bore. 224227. (Ref. Fig. 1)

INVESTIGATED BY: D. Lovett

DATE: 16.11.77

GENERAL GEOLOGY:
Sandy scree slopes surrounding small granite outcrop.

PROBABLE ANOMALY SOURCE:
Granite outcrop.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes.
TC 405-560 sandy scree slope with higher readings close to outcrop.
TC 770) K 25 ) Approx. 10m x 10m outcrop of granite.
U 1 } Th 5

ASSAY DATA: None.

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PETROGRAPHIC DESCRIPTION: None.

Sample Number:
ANOMALY NUMBER: DMBA.11

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 7.6 km bearing 87° from Skinner Bore. 226225. (Ref. Fig. 1.)

INVESTIGATED BY: D. Lovett.

DATE: 16.11.77

GENERAL GEOLOGY:
Small outcrop of gneissic granite surrounded by sandy scree slope.

PROBABLE ANOMALY SOURCE:
Gneissic granite outcrop.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: N/A.
TC 600-870 gneissic granite
TC 400-500 sandy scree slope
TC 300-350 adjacent wash plain

ASSAY DATA:
None.

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<th>Sample Location Number</th>
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<tr>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.12

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 1.4 km bearing 317° from Skinner 1 216226. (Ref. Fig. 1).

INVESTIGATED BY: D. Lovett

DATE: 17.11.77

GENERAL GEOLOGY: Wash plain covered with float of Central Mt. Stuart sand:

PROBABLY ANOMALY SOURCE:
Possibly a watercourse within the wash plain.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: N/A.
TC 210-290 wash plain.
TC 290-370 poorly developed watercourse.

ASSAY DATA:

<table>
<thead>
<tr>
<th>Location</th>
<th>None.</th>
<th>Element (ppm)</th>
<th>Radiom Results at 01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>U</td>
<td>Th</td>
<td>W</td>
</tr>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER:    DMB.13
THENEMENT NUMBER:   EL 1454 Mollie Bluff.
1:250,000 MAP SHEET: Alcoota - SF.53.10
ANOMALY LOCATION:   13.5 km bearing 052° from Skinner Bore. 229235. (Ref. Fig. 1)
INVESTIGATED BY:    D. Lovett
DATE:               18.11.77

GENERAL GEOLOGY:
Central Mt. Stuart sandstone hill with surrounding sandy scree slopes.

PROBABLE ANOMALY SOURCE:
Not known.

RADIOMETRIC DATA:
Instrument Type:    GAD-4/GSP-3
Compton stripping applied to uranium channel: N/A.
TC 220-290 sandy scree slope
250-350 float covered scree slope
160-220 sandstone outcrop
240-330 Ironstone bar (lateritic) 200m North of plotted position of anomaly.

ASSAY DATA:

<table>
<thead>
<tr>
<th>Sample Location</th>
<th>Element (ppm)</th>
<th>Radiometric Results at Outcrop (GAD-4/GSP-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ironstone-MBD18.11.1 bar</td>
<td>* None.</td>
<td>240-330</td>
</tr>
</tbody>
</table>

* Analysed for Cu, Pb, Zn and Mn only. Results in ppm:- Cu-42, Pb-85, Zn-490, Mn-360.

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.10

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 213236. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan

DATE: 3.12.77

GENERAL GEOLOGY:

Arkose and sandstone comprising a prominent ridge, and unconformably overlying quartz-feldspar gneiss.

PROBABLE ANOMALY SOURCE:

A zircon rich arkose bed near the base of the sandstone/arkose sequence (MB 3.3)

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3

Compton stripping applied to uranium channel: Yes.

Sandstone/arkose sequence: 714-825TC

Arkose bed: 1601TC

ASSAY DATA:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
<tr>
<td>Arkose bed</td>
<td>MB 3.3</td>
<td>14</td>
<td>165</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION:

Sample Number: MB 3.3

Hematitic, micaceous arkose. Radioactivity thought to be due to detrital heavy minerals which include hematite, zircon, leucoxence and possibly thorite.
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.11

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 212237. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 3.12.77

GENERAL GEOLOGY:

Prominent sandstone/arkose ridge overlying quartz feldspar gneiss.

PROBABLE ANOMALY SOURCE:

Zircon rich arkose bed(s). Outcropping at edge of cliff.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3

Compton stripping applied to uranium channel: Yes.

Sandstone/arkose sequence: 740-1475TC

ASSAY DATA:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
<tr>
<td>Cliff edge</td>
<td>MB34A</td>
<td>10</td>
<td>115</td>
</tr>
<tr>
<td>South of cliff</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None.

Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.12

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 213238. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 3.12.77

GENERAL GEOLOGY:
Outcrop of quartz feldspar gneiss in trees.

PROBABLE ANOMALY SOURCE:
Quartz feldspar gneiss.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes.
Gneiss; 662-826TC

ASSAY DATA:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oc.</td>
<td>MB3.4B</td>
<td>U</td>
<td>Th</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22</td>
<td>24</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.13

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 211238. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 3.12.77

GENERAL GEOLOGY:
North end of sandstone/arkose ridge.

PROBABLE ANOMALY SOURCE:
Zircon rich arkose beds.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes.
Sandstone/arkose sequence: 574-1288TC

ASSAY DATA:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
<tr>
<td>North side</td>
<td>MB3.5</td>
<td>8</td>
<td>75</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
ANOMALY NUMBER: CMB.14

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 208240. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 3.12.77

GENERAL GEOLOGY:
Sandstone locally silicified.

PROBABLE ANOMALY SOURCE:
Not apparent.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3.
Compton stripping applied to uranium channel: Yes
Sandstone: 172-214TC

ASSAY DATA: None.

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: CMB.15

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 205242. (Ref. Fig. 1).

INVESTIGATED BY: C.J. Kojan.

DATE: 3.12.77

GENERAL GEOLOGY:
Sandstone on major hill range.

PROBABLE ANOMALY SOURCE:
Not apparent.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: N/A/
Sandstone: Less than 150TC.

ASSAY DATA:

<table>
<thead>
<tr>
<th>Sample Location Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U  Th  W T.C. U  Th</td>
<td></td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
ANOMALY NUMBER: CMB.16

TENEMENT NUMBER: 1454

1:250,000 MAP SHEET: Alcoota - SF.53.16.

ANOMALY LOCATION: 208241. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 3.12.77

GENERAL GEOLOGY:
Nearest outcrop located 500m south of anomaly. Prominent hill of silicified sandstone or quartzite and quartzite breccia. (MB.3.7).

PROBABLE ANOMALY SOURCE:
Possibly topographic.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes.

ASSAY DATA:

<table>
<thead>
<tr>
<th>Sample Location</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
<tr>
<td>Ferruginous Breccia MB.3.7</td>
<td>316</td>
<td>2.1</td>
</tr>
</tbody>
</table>

* Sample assayed for chalcophile elements only, using emission spectroscopy. Results in ppm: Cu-70, Pb-50, Zn-30, Ag-0.2, As-x.

PETROGRAPHIC DESCRIPTION:
Sample Number: MB.3.7
Sedimentary breccia consisting of ferruginous quartzite. Source of the rock was tectonically brecciated quartzite with quartz veins.
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.1

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 10.7km @ 100° from Skinner Bore. 229224. (Ref. Fig. 1).

INVESTIGATED BY: D. Lovett.

DATE: 15.11.77

GENERAL GEOLOGY:

Flat scrubby wash plain with very rare float of biotite granite gneiss.

PROBABLE ANOMALY SOURCE:

Know known.

RADIOMETRIC DATA:

Instrument Type: Scintrex GAD-4/GSP-3

Compton stripping applied to uranium channel: N/A.

TC 305-340 over wash plain.

ASSAY DATA:

<table>
<thead>
<tr>
<th>Sample Location</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>U</td>
<td>Th</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
ANOMALY NUMBER: DMBA.2

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 3.2km @ 135° from Skinner Bore. 220223. (Ref. Fig. 1).

INVESTIGATED BY: D. Lovett.

DATE: 15.11.77

GENERAL GEOLOGY:

Low hill of flaggy quartzites - Central Mt. Stuart Beds.

PROBABLE ANOMALY SOURCE:

Poorly developed watercourse at base of hill (or possibly altitude anomaly caused by the hill).

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3

Compton stripping applied to uranium channel: No.
TC 205-290 over quartzite hill.
TC 310 in very poorly developed watercourse at base of hill.

ASSAY DATA: None.

<table>
<thead>
<tr>
<th>Location Number</th>
<th>Sample</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U</td>
<td>Th</td>
<td>W</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER:     DMBA.3
TENEMENT NUMBER:     EL 1454 Mollie Bluff
1:250,000 MAP SHEET: Alcoota - SF.53.10
ANOMALY LOCATION:   2.2 km @ 107° from Skinner Bore.
                     222224. (Ref. Fig. 1).
INVESTIGATED BY:    D. Lovett.
DATE:               15.11.77

GENERAL GEOLOGY:
Sandy scree slope around hill of Central Mt. Stuart Beds.

PROBABLE ANOMALY SOURCE:
Small part of scree slope.

RADIOMETRIC DATA:
Instrument Type:     GAD-4/GSP-3
Compton stripping applied to uranium channel: N/A.
TC 210-270           sandy scree slope and flaggy quartzites on higher
                      slopes.
TC 290-340           small part (5m x 5 m) of scree slope.
TC 205-270           main creek south of anomaly.
ASSAY DATA:          None.

<table>
<thead>
<tr>
<th>Location Number</th>
<th>Sample</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>U  Th  W</td>
<td>T.C.  U  Th</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
ANOMALY NUMBER: DMBA.4

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 8.6km @ 093° from Skinner Bore. 225227. (Ref. Fig. 1).

INVESTIGATED BY: D. Lovett.

DATE: 15.11.77

GENERAL GEOLOGY:

Area of outcropping interbedded amphibole gneiss and quartzite "intruded" by quartz-feldspar reefs.

PROBABLE ANOMALY SOURCE:

Soil between outcropping bands of amphibole gneiss.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3

Compton stripping applied to uranium channel: Yes.

TC 250-360 Coarse grained qu amphibole gneiss (MBD15.11.2)

Maximum reading over soil TC 1510

between outcropping bands K 8

U 2

ASSAY DATA:

Th 23

<table>
<thead>
<tr>
<th>Sample</th>
<th>Element (ppm)</th>
<th>GAD-4/GSP-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Number</td>
<td>U</td>
<td>Th</td>
</tr>
<tr>
<td>Soil MBD15.11.1</td>
<td>6</td>
<td>50</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION:

Sample Number: MBD15.11.2

RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.5

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 1.8km bearing 133° from Skinner Bore. 223236. (Ref. Fig. 1.)

INVESTIGATED BY: D. Lovett.

DATE: 16.11.77

GENERAL GEOLOGY:

Area of very low relief hills of "Central Mt. Stuart Beds.

PROBABLE ANOMALY SOURCE:

Not certain - possibly nearby watercourse.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3.

Compton stripping applied to uranium channel: N/A.

TC 210-280 with generally lower values over Central Mt. Stuart outcrop and higher values over a nearby watercourse.

ASSAY DATA:

<table>
<thead>
<tr>
<th>Sample Location</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>U</td>
<td>Th</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None.

Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER:  DMBA.6

TENEMENT NUMBER:  EL 1454 Mollie Bluff

1:250,000 MAP SHEET:  Alcoota - SF.53.10

ANOMALY LOCATION:  6.0 km bearing 077° from Skinner Bore. 225226. (Ref. Fig. 1.)

INVESTIGATED BY:  D. Lovett

DATE:  16.11.77

GENERAL GEOLOGY:
Area of granitic outcrop - possibly granitised gneiss or metasediments. Coarse grained porphyritic phase and fine grained phase. Fragments of fine grained granite often enclosed by coarse grained granite.

PROBABLE ANOMALY SOURCE:
Granite pavements.

RADIOMETRIC DATA:
Instrument Type:  GAD-4/GSP-3
Compton stripping applied to uranium channel:  Yes.
TC 400-480 sand covered scree slopes.
TC 920-1050
K 14-19 Fine grained and coarse grained
U 6-10 porphyritic granites
Th 5-8

ASSAY DATA:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Element (ppm)</th>
<th>GAD-4/GSP-3 Radom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
<tr>
<td>Coarse grained</td>
<td>MBD16.11.1</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>porph. granite</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION:  Sample Number: MBD16.11.1
Granite gneiss - coarse grained stressed microcline and quartz with biotite and muscovite flakes. Accessory zircon and apatite with autunite flakes in microfractures.
ANOMALY NUMBER: DMBA.7

TENEMENT NUMBER: EL 1454 Mollie Bluff.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 6.9 km bearing 067° from Skinner Bore. 225228. (Ref. Fig. 1).

INVESTIGATED BY: D. Lovett.

DATE: 16.11.77

GENERAL GEOLOGY:

Area of granitic outcrop with gneissic phase and rare small outcrops of granitised (sevicitised & chloritised) metasediments.

PROBABLE ANOMALY SOURCE:

Massive coarse grained granite.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3.

Compton stripping applied to uranium channel: N/A.
TC 900-930, U Th 8 coarse grained porphyritic granite.
TC 400-450 granitic scree slope.
TC 510-540 gneissic rocks.
TC 550-650 granitised metasediment.
ASSAY DATA: None.

<table>
<thead>
<tr>
<th>Location Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None.

Sample Number:
**ANOMALY NUMBER:** DMBA.8

**TENEMENT NUMBER:** EL 1454 Mollie Bluff

**1:250,000 MAP SHEET:** Alcoota - SF.53.10

**ANOMALY LOCATION:** 7.2 km bearing 063° from Skinner Bore. 225229. (Ref. Fig. 1.)

**INVESTIGATED BY:** D. Lovett.

**DATE:** 16.11.77

**GENERAL GEOLOGY:**
Sandy and granitic area with few outcrops.

**PROBABLE ANOMALY SOURCE:**
Granite outcrop.

**RADIOMETRIC DATA:**
Instrument Type: GAD-4/GSP-3.

Compton stripping applied to uranium channel: N/A.
TC 410-470 Sandy scree slope and wash area.
TC 560-820 Outcrop of coarse grained porphyritic granite.

**ASSAY DATA:**

<table>
<thead>
<tr>
<th>Sample Location Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
</tbody>
</table>

**PETROGRAPHIC DESCRIPTION:** None.  

**Sample Number:**
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.14

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 10.5 km bearing 025° from Skinner Bore. 223236. (Ref. Fig. 1)

INVESTIGATED BY: D. Lovett.

DATE: 18.11.77

GENERAL GEOLOGY:
Dip slope of hill of Central Mt. Stuart sediments.

PROBABLE ANOMALY SOURCE:
Not certain.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: N/A.
TC 120-190 red sandstone outcrop
200-275 sandstone float north and south of anomaly position.
250-310 occasional float of chert (possible unit of C.M.S.)

ASSAY DATA:

<table>
<thead>
<tr>
<th>Location</th>
<th>Sample Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ironston MBD18.11.2 bar 300m NE of anomaly.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Analysed for Cu, Pb, Zn and Mn only. Results in ppm: Cu-55, Pb-48, Zn-28, Mn-190.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>U  Th  W  T.C.  U  Th</td>
<td></td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.15

TENEMENT NUMBER: EL 1454 Mollie Bluff.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 11.2 km bearing 029° from Skinner Bore. 223236. (Ref. Fig. 1.)

INVESTIGATED BY: D. Lovett.

DATE: 18.11.77

GENERAL GEOLOGY:

Sandy sloping area covered with Central Mt. Stuart sandstone float.

PROBABLE ANOMALY SOURCE:

Not known.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: N/A.

TC 190-250 with the higher readings over float.

ASSAY DATA:

<table>
<thead>
<tr>
<th>Sample Location Number</th>
<th>Element (ppm)</th>
<th>Radiom Results at Outcrop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U</td>
<td>Th</td>
</tr>
</tbody>
</table>

PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.16

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 11.1 km bearing 042° from Skinner Bore. 226234. (Ref. Fig.1.)

INVESTIGATED BY: D. Lovett.

DATE: 18.11.77

GENERAL GEOLOGY:
Scrubby wash plain (sandy), no float, no outcrop.

PROBABLE ANOMALY SOURCE:
Not known.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3.
Compton stripping applied to uranium channel: N/A.
TC 205-245 over sandy soil.

ASSAY DATA:
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<tbody>
<tr>
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PETROGRAPHIC DESCRIPTION: None.
ANOMALY NUMBER: DMBA.17

TENEMENT NUMBER: EL 1454 Mollie Bluff

1:250,000 MAP SHEET: Alcoota-SF.53.10

ANOMALY LOCATION: 9.1 km bearing 020° from Skinner Bore. 220235. (Ref. Fig. 1.)

INVESTIGATED BY: D. Lovett

DATE: 18.11.77

GENERAL GEOLOGY:
Line of low weathered granite hills. Located east of anomaly.

PROBABLE ANOMALY SOURCE:
Granite hills.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3

Compton stripping applied to uranium channel: Yes.
TC 500-750 Readings over granite outcrop.
K 14-21
U 3-4
Th 3-4

ASSAY DATA:

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PETROGRAPHIC DESCRIPTION: None.

Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: DMBA.18

TENEMENT NUMBER: EL 1454 Mollie Bluff.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 7.9 km bearing 028° from Skinner Bore. 221232. (Ref. Fig. 1).

INVESTIGATED BY: D. Lovett.

DATE: 18.11.77

GENERAL GEOLOGY:
Hill of barren reef quartz with small outcrop of quartz-muscovite feldspar-chlorite gneiss host rock.

PROBABLE ANOMALY SOURCE:
Outcrop of gneiss.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes.
TC 250-330 reef quartz. 310-350 scree slope.
Maximum reading over gneiss outcrop TC 770, K 4, U 4, Th 6.

ASSAY DATA:
None.

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PETROGRAPHIC DESCRIPTION: None.
Sample Number:
ANOMALY NUMBER: DMBA.19

TENEMENT NUMBER: EL 1454 Mollie Bluff.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 6.2 km bearing 022° from Skinner Bore, 220231. (Ref. Fig. 1.)

INVESTIGATED BY: D. Lovett.

DATE: 18.11.77

GENERAL GEOLOGY:

Low hill trending south west of granitic gneiss, granitised metasediments? Sheared granitic gneiss and fine grained massive granite.

PROBABLE ANOMALY SOURCE:

Very weathered sheared granitic gneiss.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3

Compton stripping applied to uranium channel: Yes.
Scree slopes of hill 480-520 TC
Granitised metasediments 500-700 TC
Sheared granitic gneiss 700-950 TC, 10 K, 10 U, 2 Th.

ASSAY DATA:

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PETROGRAPHIC DESCRIPTION: None. Sample Number:
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: BMR WB

TENEMENT NUMBER: Open ground

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 218203. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 5.12.77

GENERAL GEOLOGY:

Prominent outcrops of porphyritic biotie gneissic granite, (Woodgreen Granite Complex).

PROBABLE ANOMALY SOURCE:
Granite.

RADIOMETRIC DATA:

Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes

Granite: 1376TC 6.9U. 13.7Th.

ASSAY DATA:

None.

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PETROGRAPHIC DESCRIPTION: None.

Sample Number:
ANOMALY NUMBER: Sample Reference. WG497 (Not an aerial anomaly).

TENEMENT NUMBER: Open ground.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 223201. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 5.12.77

GENERAL GEOLOGY:
Low ridge of micaceous metaquartzite. Locally sheared and brecciated, (WG497).

PROBABLE ANOMALY SOURCE:
N/A.

RADIOOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes.
Micaceous Quartzite: 406TC. 1.3U. 3.1 Th.

ASSAY DATA:

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PETROGRAPHIC DESCRIPTION:
Sample Number: WG497

Metaquartzite-breccia of tectonic origin.
RADIOMETRIC ANOMALY DETAILS

ANOMALY NUMBER: Sample Reference WG493A, WG493B. (Not an aerial anomaly).

TENEMENT NUMBER: Open ground.

1:250,000 MAP SHEET: Alcoota - SF.53.10

ANOMALY LOCATION: 220202. (Ref. Fig. 1.)

INVESTIGATED BY: C.J. Kojan.

DATE: 5.12.77

GENERAL GEOLOGY:
Prominent outcrops of granite gneiss (WG493A) and quartz-feldspar biotite microgneiss, (WG493B) representing partially granitised sediments.

PROBABLE ANOMALY SOURCE:
N/A.

RADIOMETRIC DATA:
Instrument Type: GAD-4/GSP-3
Compton stripping applied to uranium channel: Yes.
Gneiss: 1042TC 5.0U. 10.2 Th.
Microgneiss: 466TC 2.3U. 4.0 Th.

ASSAY DATA:

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PETROGRAPHIC DESCRIPTION:

WG493A. Granite gneiss. Fabric typical of tectogenic granites which are ultimately of sedimentary origin. Kaolinisation appears to be related to a later dynamic phase.

WG493B. Quartz-biotite-feldspar-microgneiss. Rounded zircon grains are sparingly present through the rock and are...
# ASSAY DATA SUMMARY - 1977/1978

**ELs 1453, 1454, and 1455**

*(Ref. Fig 3)*

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**1I 43** | C 14 | 6 | 28 | <10 |

* * * * *
Details of Expenditure FL.1454
(April 1, '77 - March 31, '79)

Salaries and Wages................................. $2550
Field Travel........................................... 50
Meals and Accom...................................... 50
Field Supplies......................................... 700
Maps and Drafting..................................... 300
Licence Fees........................................... 520
Assays.................................................. 150
Consultant............................................ 850
Vehicle Hire........................................... 300
Head Office and Overheads.......................... 1800

Total 6270
OTHER EXPLORATION

Mollie Bluff and Albert Bore E.L.S.

FLIGHT PLANS AND PRELIMINARY RADIOMETRIC RESULTS.

Sept. '77.

CR79/92

KEY:

\[ \text{Anomaly dipping Total Count in relation to background, Uranium (unwipped) in relation to local background and Uranium/Thorium ratio.} \]

\[ \text{Radial point on flight line from air photo - Scale 1,000,000; and flight line number.} \]