EXODUS MINERALS LIMITED

(ACN 007 701 715)

Final Report
Terrier
Exploration Licence 8363
For the Period 08.03.94 to 21.03.01

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SUMMARY

This report describes exploration activities conducted over the "Terrier" tenement (EL8363), during the licence period 8 March 1994 to 21 March 2001. Exploration activities culminated at the Troutbeck prospect, where a total of six angled RC drill holes for 839 metres were completed to test for primary gold mineralisation beneath a supergene blanket.

Drilling intersected siliceous, sericite altered interbedded sandstone and mica schist, with lesser doleritic rocks. Thin white quartz veining and fine disseminated pyrite was common throughout all rock types, with trace arsenopyrite and chalcopyrite sulphide mineralisation near margins of metasedimentary rocks and dolerites.

Results from drilling included eight metres at 9.42g/t gold from thirty-two metres (including one metre at 70.1g/t gold from thirty-three metres). It was concluded that gold mineralisation was sporadic and there was limited potential for economic mineralisation.
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APPENDIX

ELECTRONIC DATA
1. INTRODUCTION

EL8363 (Terrier) is located 230 kilometres northwest of Alice Springs.

EL8363 was applied for on 1st September 1993 and granted to Normandy NFM Limited on 22nd March 1994. As the licence was one of four in a contiguous group and exploration programs were essential by unconstrained by internal boundaries, group reporting status was sought from the Department in min-1995. The group reporting status was granted on 13th December 1995. The three other licences which formed the project group were surrendered early in 1999.

A 50% reduction of the licence area was required on February 1996, however a waiver was applied for to postpone the relinquishment for one year due to a late start to the field season and pending assay results. The waiver was granted on 22nd December 1995.

The Department was notified of ground selected for the first statutory relinquishment on 16th February 1998 and the ground selected for the second relinquishment on 18th February 1999.

With EL8363 due to expire after six years on 21 March 2000, a renewal application for 51 blocks was submitted on 23 January 2000 to the Department.

The tenement is now managed by Exodus Minerals Limited, with Exploration Licence 8363 being amalgamated with the adjoining Reynolds Range Joint Venture (SELA 9500, EL's 7343 and 8420), in which Exodus is managing and may earn a 60% interest by expenditure of $1.5M in total by August 2004. Exodus conducted field and data reviews before deciding to relinquish the tenement.

The tenement was relinquished on 12 April 2001.

**TABLE 1**

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<tr>
<th>Tenement Summary, EL8363 (Terrier)</th>
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<td>Date</td>
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This report summarises exploration activity by year. Maps and details of techniques and methodology are given in the annual reports and relinquishment reports and all data available to Exodus Minerals is contained in the attached CD.

2. LOCATION, ACCESS AND PHYSIOGRAPHY

The tenement is located within the Mount Peake and Napperby 1:250,000 geological topographical sheets and is situated approximately 200 kilometres southeast of the Granites Gold Mine and 230 kilometres northwest of Alice Springs.
Access to the southwest of the tenement from Alice Springs, is via the Stuart Highway to fifteen kilometres north of Aileron, thence west via the unssealed road through Pine Hill station and along the north side of Reynolds Range to the Coniston Homestead. The eastern portion of the licence is reached by following the Stuart Highway to a turn off 155 kilometres from Alice Springs, thence northwest for seventy kilometres to Nintabrinna Bore, which is situated, on the eastern tenement boundary. A network of station tracks provides access within the tenement.

Physiographically the eastern portion of the area is dominated by the Yindjirbi, Yundurbulu and Nanga Ranges (highest point Mount Leichhardt at 1,139 metres). This relief provides significant geological outcrop and widespread drainage development. Major tributaries of the Lander River converge at a gap in the Giles Range near the Coniston homestead, to form a single large river draining north through the tenement block. Most of the area west of the Lander River is dominated by flat sand covered plains with minimum outcrop.

Vegetation consists of spinifex, shrubs (cassia) and low trees (mallee, acacia), with eucalypts and tea tree growing in drainages. Pockets of mulga are locally developed, particularly on areas of red earth.

3. EXPLORATION OBJECTIVES

The main objective for exploration within EL8363 was to investigate the Lander Rock Beds, a unit interpreted to be an equivalent to the Tanami Complex, a known gold mineralised host complex. However, mineral occurrences in other rock types were not discounted.

The following styles of mineralisation were considered possible in the tenement area:

- shear-hosted deposits, particularly on splays and at dilatant jogs and bends;
- "Granites" styles of mineralisation, controlled by anticlinal folding and iron-rich lithologies;
- granite-related mineralisation: greisen, skarn, replacement, and pegmatic settings; and
- unconformity-related mineralisation associated with the Vaughan Springs Quartzite.

4. GEOLOGY

The Arunta Inlier is one of the largest Proterozoic Inliers in Australia. Mapping by the BMR during the 1960's and 1970's resulted in the subdivision of the Arunta Inlier into three major tectonic provinces: northern, central and southern (Shaw et al. 1984). Stratigraphy was also grouped into three major divisions: Division 1, Division 2 and Division 3 based on facies assemblages and lithological correlations (Stewart et al. 1984).

Division 1 rocks are inferred to be the oldest and comprise mafic and felsic granulites. Division 2 rocks comprise mainly turbiditic metasediments. Division 3 rocks comprise platform-style quartzite, shale and carbonate sequences unconformably overlying Division 1 & 2 rocks. All three early-mid Proterozoic divisions are intruded by K-feldspar megacrystic granitoids. The three early-mid Proterozoic divisions, as well as the granitoids, are unconformably overlain by late Proterozoic cover sequences.
The Lander River tenements lie within the Northern Arunta Inlier. This northern province is dominated by Division 2 turbidites (eg: Lander Rock Beds) and K-feldspar megacrystic granitoids. Both are metamorphosed to upper greenschist or lower amphibolite grade, though locally, metamorphic grade may reach granulite facies. Division 3 platform-style metasediments also occur in the northern Arunta Inlier (eg. Reynolds Range Group) and similarly may be metamorphosed as high as granulite facies.

A recent review of the tectonostratigraphic relations of the Arunta Inlier by Collins & Shaw (1995) has suggested that no major tectonic boundary exists between the northern and central tectonic provinces and that the Arunta Inlier should be subdivided into northern (older) and southern (younger) tectonic provinces, separated by the Redbank Zone. Furthermore, they consider that in the northern tectonic province, boundaries between Division 1 and Division 2 rocks are gradational and that both are part of the same tectonostratigraphic unit. They have therefore proposed a revision of the tectonostratigraphic nomenclature, abandoning the Divisions in favour of lithological assemblages.

In the north western Arunta Inlier, Divisions 1 and 2 are replaced by the “Lander Assemblage”. Several deformations are recognised in the Lander Assemblage prior to deposition of the “Reynolds Assemblage” (formerly Division 3). These deformations are collectively termed the “First Tectonic cycle”. Further deformations occurred following deposition of the Reynolds Assemblage which collectively are termed the “Second Tectonic Cycle”. Metamorphism associated with the first tectonic cycle is prograde, whereas metamorphism associated with the second tectonic cycle is retrograde.

5. PREVIOUS EXPLORATION BY OTHER COMPANIES

A search of open file NTGME records indicated that no substantial exploration work had been previously undertaken.

6. SUMMARY OF EXPLORATION BY NORMANDY NFM

The following exploration has been undertaken within EL8363;

- purchasing of technical data including geological maps, aeromagnetic/radiometric data, large format camera photography, LandSat MMS data, LandSat TM data and SPOT data;
- flying of 1:50 000 aerial photography;
- photointerpretation of geology and regolith;
- preparation of 1:100 000 base plans;
- regional field reconnaissance of access and geology;
- appraisal of regolith to determine the suitability of different geochemical sampling techniques;
- review of open file exploration data;
- stream sediment, composite rock chip, and water bore sampling; and
- vacuum, RAB, RC and diamond drilling

Details of annual work programmes follow.
7. WORK UNDERTAKEN IN THE YEAR TO MARCH 1995

The work program for the year included:

- Purchase of technical data including geological maps, aeromagnetic images (processed to 1:500 000 scale), large format camera photography and Landsat MSS. Landsat TM and Spot imagery is currently being investigated.

- Flying of 1:50 000 aerial photography.

- Preparation of 1:100 000 base plans.

- Regional field reconnaissance of access and geology. Four field trips were made to EL 8363 and other recently granted licences in the vicinity, to assess geology, sample viability and access. In addition, a helicopter reconnaissance field trip was undertaken for familiarisation of preliminary air photo interpretation and the collection of rock chip and drainage samples.

- Appraisal of regolith cover to determine the suitability of different geochemical sampling techniques. Where present, exposures of bedrock are relatively fresh, with little evidence of deep weathering apart from isolated remnants of lateritic duricrust.

- Reconnaissance rock chip sampling (seventy-seven samples). A total of ninety-seven rock chip samples were collected using a selective (as opposed to channel) technique from preselected sites determined from air photographs. The samples were submitted to Australian Laboratory Services for low-level gold analysis by fire assay and analysis of a multi-element suite by ICP mass spectrometry.

- Drainage sampling over the southwest side of the Yindjirbi and Yundurbulu Ranges (112 samples). Drainage sampling was conducted over the southwest side of the Yindjirbi and Yundurbulu Ranges. Sample site were predetermined by using the 1:50 000 aerial photographs, totalling fifty-six locations. At each sample site, both a −2mm 5kg BLEG and a −80 mesh (stream sediment) sample were collected. The samples were submitted to ALS for analysis. The drainage BLEG samples were analysed for gold (0.1ppb), copper (0.01ppm) and silver (0.1ppb) by BCL technique 226. The stream sediment samples were analysed for low-level gold and a multi-element suite by various methods. Multi-element analysis of ground water was undertaken in collaboration with the CSIRO, to assess mineral concentrations and attempt to determine source lithologies of non outcropping basement units in areas where they are concealed by Cainozoic sediments. Two water samples were collected at eight water bore sites. Cyanide and an activated charcoal sachet were added to one of the samples. The sixteen samples were then submitted to the CSIRO, North Ryde Laboratory, for low-level gold (by neutron activation at the Bequerel Laboratories) and multi-element analyses (by ICP-AES and ICP-MS). Sampling and laboratory analytical procedures followed the protocols set out in CSIRO – DEM, Restricted Investigation Report, 427R.

- Groundwater sampling (sixteen samples).
• Photo-interpretation of geology and regolith by Australian Photogeological Consultants, including a four day helicopter reconnaissance visit. A photogeological study of the northwest Arunta exploration licences by Australian Photogeological Consultants is presently underway. Interpretation of the priority area targeted as the “Lander Rock Beds Structural Corridor” was completed, however, final maps were not received. An interim photoregolith mud map of the Lander Rock Beds Structural Corridor, which comprises approximately 50% of the tenement, was completed.

• Review of open file exploration data.

• Submission of representative samples of lithological units for petrological description (10 samples). Further to field inspection of outcrop and associated rock chip sampling, 10 samples were sent to Pontifex and Associates for petrological descriptions to aid in the identification of various lithological units observed within the tenement.

• Review of the regional geological literature and liaison with local Department of Mines and Energy staff

• Acquisition of field equipment and the fitting out of field vehicles

• Establishment of relations and liaison with pastoral lease holders

• Digital records derived from the airborne survey used to produce the published magnetic data incorporated in the Alice Springs 1:1 000 000 sheet, were purchased from AGSO. This material was reprocessed by Ore Research and Exploration Pty Ltd to produce first vertical derivative images. Unfortunately, the quality of data for EL 8363 is low.

8. WORK UNDERTAKEN IN THE YEAR TO MARCH 1996

The following reconnaissance samples were collected:

- Composite Rock Chip samples 340
- Lag samples 245
- Stream Sediment samples 269
- Stream Sediment BLEG samples 48

In summary, drilling undertaken was:

- Vertical Vacuum Drilling 626 holes 4551.7 metres
- Vertical RAB Drilling 85 holes 2844.5 metres
- Inclined RAB Drilling 4 holes 395 metres
- RAB Drilling water bores 6 holes 184 metres
8.1 Reconnaissance Exploration

General

Australian Photogeological Consultants completed their study of the tenement block and presented their unpublished report to North Flinders Miners. It was used as an aid to lithological and structural mapping.

Reconnaissance rock ship sampling was carried out as part of general geological investigation over outcropping areas.

Lag sampling was undertaken, much of the sampling was carried out in conjunction with the vacuum drilling programme, utilising the same traverses. A 1km x 200 metre sample spacing was frequently used, with the −7mm/+2mm and −7mm/+1mm size fractions being collected.

Vacuum and RAB Drilling

Wide-spaced vacuum drilling was used to establish regolith profiles, depth to weathered bedrock and geochemical response across the tenement. Where the vacuum rig was unable to penetrate through to bedrock, wide-spaced vertical RAB drilling was substituted.

If possible, a lag sample was collected close to the drillhole collar (see above). An untransported regolith sample was taken from just below surface for BLEG analysis and a bottom of hole sample retained for Multielement assay. Multielement assays were also performed on any other intervals which aroused interest.

More detailed regional pattern vacuum drilling of the Lander Rock Beds Structural Corridor (LRBSC) was undertaken at 200 metre intervals on traverses one kilometre apart. An untransported regolith sample was taken from just below surface for BLEG analysis and a bottom of hole sample retained for Multielement assay. Multielement assays were also performed on any other intervals which aroused interest.

Other Exploration

At Bailey’s Creek (EL8363), eleven orientation samples were collected from drainage channels to determine which size fractions provided the optimal geochemical response. A further four samples were selected for BLEG assays.

258 sites were stream sediment sampled at three locations (Yindjirbi Range, Mt Leichhardt and Anzac Dam Fault Zone) within EL 8363. Sixteen samples collected around Yindjirbi lay just outside the tenement but were attributed to EL 8363. A −80 mesh sample was collected for Multielement assay and at the last two areas a separate −2mm fraction was retained for a BLEG determination (48 samples).

Water samples were collected from four existing water bores in EL 8363. As in earlier sampling of this type, these were analysed for a wide range of elements. Three samples were taken from bores which had not been previously tested and water from a known gold anomalous bore was resampled. Location of these bores and assay results are reported in Appendix 2.
Eleven new water bores were drilled with a RAB rig on behalf of Coniston and Mt Denison stations for a total of 372 metres. These have been sampled and reported in the same manner as other vertical RAB holes in this report.

8.2 Bailey’s Creek Prospect

Work undertaken comprised:

- Extension of rock chip sampling along strike from the previously identified anomalous site. 167 composite samples were collected.
- Mapping of the Bailey’s Creek area at 1:2 500 scale.
- Submission of five samples to Pontifex and Associates for petrological examination.
- Drilling of four inclined RAB holes for a total of 395 metres.

8.3 Tin Bore – Loora Hills Prospect

Work undertaken comprised:

- Reconnaissance mapping at 1:25 000 scale with the objective of using bedding-parallel amphibolite units as marker horizons to define the structural geometry.
- Oriental lag sampling carried out over sub-crop areas on two gold anomalous vacuum drill traverses. Samples were collected at twenty-five metre spacings along the drill lines to compare with the vacuum drill results. 108 samples were collected and assayed.
- Resampling of selected gold-anomalous vacuum holes in areas of deeper cover on drill traverses T2, T3 and T4 to investigate vertical geochemical dispersion within the regolith profile. A total of seventeen holes were resampled.

9. WORK UNDERTAKEN IN THE YEAR TO MARCH 1997

Stream Sediment Sampling

Creeks draining the outcrop of Mt Stafford Beds at the head of Blackfellow Creek were sampled at −80 mesh to provide standard sediment samples and at −2mm to yield material for bulk cyanide leach. Twenty-two sites were visited and forty-four samples collected. Standard stream sediment samples were assayed for gold plus a standard multi-element suit. Bulk cyanide leach samples were analysed for gold and silver/copper.

No significant results were returned.

Creeks draining the greater Yundurbulu Range area were reconnaissance sampled at −80 mesh. 532 samples were sampled for gold plus standard multi-element suite.

Initial work generated some interest when a cluster of sample locations recorded gold values of up to 13ppb gold. Subsequent sampling has indicated six distinct areas of anomalous, including those later named Tim Bore, Hawkeshead and Black Knight. Local rock chip sampling has substantiated a gold mineralised source at the Black Knight prospect.

Composite Rock Chip Sampling

Reconnaissance rock chip sampling was carried out as part of general geological reconnaissance in the Anzac Dam Fault Zone. Forty-seven samples were sampled for gold plus standard Multi-element suite.
A shear zone with over 900 metres of strike extent was identified and found to show strong hematite, sericite and sulphide alteration. Copper values to 860ppm and bismuth to 85ppm were recorded within this alteration assemblage which is similar to an alteration zone observed at Bailey’s Creek. Gold values only reach 4ppb.

A small rock chip sampling programme was carried out in conjunction with drainage sampling in the Yundurbulu Range. Fifty-five samples were collected from available outcrops and sampled for gold plus standard Multi-element suite. The results of follow up rock chip sampling over the Troutbeck prospect are described.

A single sample was collected from the Yundurbulu Range area for petrological investigation known as the Black Knight prospect. Seven samples were collected from this area for petrological investigation.

**Reconnaissance Vacuum Drilling**

A second stage of vertical reconnaissance vacuum drilling was undertaken (nominally at 1km x 200 metre spacing, but spaced to 400 metres in areas of deep cover) in the Access Boor area. Drilling was confined to two traverses (BF1 and BF2). Fifty-three holes were drilled for 203 metres. A regolith sample (53) for bulk cyanide leach (VBCL) was collected from each hole (47), together with a bottom of hole assay sample for gold plus standard multi-element suite.

Drill hole logging identified and defined granitic and metasedimentary terranes over this covered area. No anomalous results were returned from either BLEG or bedrock sampling.

Reconnaissance vacuum drilling was carried out along a corridor following the Anzac Dam Fault Zone on traverses 1km apart and at intervals of 100 – 200 metres. 230 holes for 1,241 metres were drilled. A regolith sample for bulk cyanide leach (VBCL) was collected from each hole (229), together with a bottom of hole assay sample for gold (241) plus standard Multi-element suite.

Only one anomalous gold result (5ppb gold) was returned, though the schist zone showed elevated cobalt and zinc values.

**RAB Drilling**

An inclined RAB drilling programme tested the mineralisation potential beneath the best mineralised segment of the Anzac Dam Fault Zone. Twelve holes were drilled for a total of 542 metres. Composite samples were collected over the first four metres, and every three metres thereafter (177 samples). Each interval was assayed for gold, arsenic, plus bismuth and copper.

The gossanous schistose outcrop tested by the drilling programme was found to lie above a pyritic portion of the Anzac Dam Fault Zone. No gold assays greater than 5ppb gold were encountered, though twenty-four metres at 0.1% copper (NAB256) and a peak value of 244ppm bismuth were returned.
9.1 Bowness Prospect

Four line km of surveyed baseline and 25.6 line km of crosslines (400 metres x 50 metres) were established.

A silicified fault zone in the northern part of the gridded area was composite rock chip sampled. Fourteen samples were collected from available outcrops for gold analysis plus standard Multi-element suite. A single sample was collected from the Bowness area for petrological investigation.

This limited programme conducted north of the Bowness grid returned peak values of 6.14 g/t gold, 1550ppm arsenic and 319ppm bismuth from a highly gossanous fault which also showed evidence of alteration. The fault can be traced intermittently over a length of 900 metres.

Vacuum Drilling

Vacuum drilling was undertaken on a 400 metre x 100 metre grid to follow up previously identified regolith and bedrock anomalism. 208 vertical holes were drilled for 4,732 metres. A regolith sample for bulk cyanide leach (VBCL) was collected from each hole (209 samples), together with a bottom of hole assay sample for gold plus standard multi-element suite (145 samples).

Bedrock was only reached over two thirds of the grid as wet clay and alluvial cobbles presented major drilling difficulties. These areas were later drilled with a RAB rig. Holes which reached bedrock encountered unaltered and unveined metasediments with minor dolerite. The largest of the bulk cyanide leach (BLEG) gold anomalies occurs in the north of the grid. It covers 3km x 0.25km with a peak value of 48ppb gold. Best bedrock gold results range up to 70ppb gold and are coincident with the anomalous BLEG locations.

RAB Drilling

Vertical RAB drilling was carried out at 400 metre x 100 metre centres over the southern area of the grid where vacuum drilling failed to reach bedrock. 124 holes were drilled for 2,633 metres. A regolith sample for bulk cyanides leach (VBCL) was collected from each hole (124 samples), together with a bottom of hole assay sample for gold, plus standard multi-element suite (126 samples).

Rock types in the southern portion of the Bowness grid appear similar to those in the north. A BLEG anomaly with values ranging up to 11ppb gold was identified, but there are no coincident elevate gold bedrock assays.

9.2 Tin Bore Prospect

Creeks draining the Tin Bore prospect were sampled at close-spaced intervals to define previously identified bulk cyanide leach (BLEG) anomalism identified in earlier reconnaissance drainage sampling. Fifty samples of stream sediment material passing-80 mesh were sampled for gold plus a standard Multi-element suite.

The programme successfully delineated a source for the BLEG anomalism by producing a cluster of elevated gold results west of the man creek, with a peak value of 2.93 g/t gold from stream sediment in a small tributary. A thin quartz vein cropping out in the creek bed near the site was chip sampled and found to be gold bearing. Prospectivity is believed to be limited by the size and density of quartz veins in the area.
Sixteen follow-up rock chip samples were collected from locations within the Tin Bore prospect for gold analysis plus standard Multi-element suite. The peak gold value is 516ppb gold.

9.3 Troutbeck Prospect

A grid with six line km of surveyed baseline and 37.9 line km of crosslines was established. Pegs were placed at 400 metre x 50 metre centres. Outcrop mapping at a scale of 1:10 000 was commenced.

A composite rock chip sampling programme was undertaken over available outcrop at Troutbeck for gold and standard Multi-element suite. Forty-two samples were collected from locations within the prospect.

Much of the sampling was undertaken over a rubbly sub-outcropping exposure of gossanous quartz veins in the Trout 3 area. Values to 5.73 g/t gold, 7300ppm copper and 657ppm arsenic were recorded.

Vacuum Drilling

Vacuum drilling was undertaken on a 400 metre x 100 metre grid to follow up previously identified regolith and bedrock anomalism. 405 vertical holes for 1,374 metres were drilled. Generally, a regolith sample for bulk cyanide leach (VBCL) was collected from each hole (427 samples), together with a bottom of hole assay sample for gold and arsenic.

Encouraging assays from the above programme resulted in further vertical infill vacuum drilling at a spacing of 200m x 25m. 442 vertical holes were drilled for 1,422 metres and 447 bottom of hole samples were collected. These were assayed for gold and arsenic.

Highly anomalous results were received from three areas. The Trout 1 zone recorded a peak value of 7.04 g/t gold and 6160ppm arsenic. Trout 2 lies one kilometre to the east of Trout 1 and gave results up to 521ppb gold and 300ppm arsenic. Trout 3 is midway between the other two anomalous areas, but a kilometre south, and gave a best value of 182ppb gold and 9900ppm arsenic.

Costeanning

Five costeans totalling 572 metres were completed in three areas of the prospect. All costeans were channel sampled at one metre intervals and geologically logged at a scale of 1:250. Two costeans were excavated at Trout 1, another two at Trout 2 and one at Trout 3.

The costean closest to the original anomalous vacuum traverse at Trout 1 confirmed the gold mineralised status of the prospect. A zone of schistose biotite-sericite siltstone with quartz veinlets and hematite spotting gave a peak value of 29.4 g/t gold over one metre within an eight metre interval averaging 5.60 g/t gold (check assay 8 metre at 6.39 g/t gold).

At Trout 2, the best results came from adjacent to the broad gold-arsenic anomalous. The costean assays defined a 35 metre section averaging 0.13g/t gold, containing a peak one metre interval of 0.548 g/t gold.
At Trout 3, the anticipated density of quartz veins was not encountered and although the rock chip sampling had yielded distinctly anomalous gold values, these could not be replicated in the costean.

10. WORK UNDERTAKEN IN THE YEAR TO MARCH 1998

As exploration programs on EL8363 matured, work became centred on individual prospects within the licence area. Descriptions of work undertaken that follow are consequently provided on a prospect by prospect basis.

10.1 Loora Hills

Nine composite rock chip samples were collected from selected sites at Loora Hills. Previous sampling had given assays to 82ppb gold and 549ppm arsenic.

Lithologies tested by the recent sampling included Mount Stafford Beds, white quartz veins containing bands of specular hematite and several small fault/shear zones. Values to 75ppb gold were returned from sheared, sericitic, iron-rich Mount Stafford Beds containing trace smoky quartz veins. Other samples were not anomalous.

Fourteen stream sediment samples sieved to ~80# were collected from channels draining the area of gold anomalous composite rock chips at Loora Hills.

Results showed all gold assays were at or below the detection limit.

10.2 Silver Knight

Eleven composite rock ship samples were collected from the Silver Knight prospect 1km south east of Black Knight. Previous stream sediment sampling had returned elevated arsenic, antimony and gold assays from two adjacent drainage channels at this location (with maximum values of 4.8 and 6.9ppb gold). Material sampled included Mount Stafford Beds, white/orange recrystallised quartz veins and a silicified, quartz veined fault zone.

Although ferruginous, sericitic Mount Stafford Beds yielded up to 28ppb gold, other lithologies failed to show anomalous characteristics. It is considered that the source of the drainage anomaly has not been adequately defined.

10.3 Hawkeshead

Twenty three composite rock chip samples were collected from the Hawkeshead prospect, 6km east of Tin Bore. Previous stream sediment sampling in the area had returned elevated arsenic values, though gold content remained low. A program of regional rock chipping was instigated to locate the source of this anomism.

Lithologies in the vicinity of the stream sediment anomalies were also found to be very high in arsenic, with a peak value of 6570ppm arsenic. Gold assays were generally low, though a late stage gossanous quartz vein returned 470ppb gold.
10.4 Tin Bore

7.7 line kilometres of pegged grid were placed over the prospect to facilitate orientation sampling (discussed below).

Only two CRC samples were collected from altered lithologies within the Tin Bore Shear as almost all rock chip sampling was undertaken in the previous reporting period.

Gold anomalous results with a peak value of 27ppb were returned.

A gold drainage anomaly had previously been defined in the area. This was further tested by two lines of soil orientation sampling in a cruciform pattern. Material was collected from four size fractions (-2mm / +20#, -20# / +80#, -80# / +150# and +150# and -150#) for a total of 284 samples.

Low level gold anomalism was found to coincide with the Tin Bore Shear (peak value 14ppb) rather than individual quartz veins. There was little correlation between samples of different sieve size fractions. Good residual soil cover over the shear zone provided an effective sampling medium.

10.5 North Bore

Eight composite rock chip samples were collected from locations up to 10km south east of North Bore.

Reconnaissance vacuum drilling was carried out to identify the nature of the prominent magnetic aureole around the granitic body at North Bore and test for a suite of geochemical indicators. Thirty-four vertical holes were collared at intervals of 200 – 500 metres on north-south traverses spaced 1km apart. A single sample was collected from the bottom of each hole.

Difficulties were experienced in penetrating the silicified cover rock. The deepest hole reached a depth of 18.6m. Lithologies intersected were granite, sheared pegmatite, sheared dolerite, silicified sandstone and siltstone. None of the sampled material was magnetic or gold anomalous.

10.6 Troutbeck

The prospect lies adjacent to an area of relatively extensive outcrop and marks the most north westerly area of Arunta Complex exposure. AGSO mapping (Mt Peake & Napperby geology sheets) shows these rocks to be high grade granulite facies Mount Stafford Beds which have probably been intruded by the Anmatjira Orthogneiss, an augen textured granitic gneiss.

Subsequent study by Normandy NFM Ltd has indicated that these metasediments are greenschist facies Lander Rock Beds. The true nature of the bedrock was not previously recognised as the outcrop of this sequence is generally poor, especially adjacent to the Lander River where recent alluvial and colluvial cover is common. The Lander Rock Beds are Lower to Mid Proterozoic in age and are comprised of a monotonous sequence of interbedded sandstones, siltstones and shales. Despite the greenschist facies metamorphism, primary bedding structures are often preserved.
In the prospect area (and elsewhere) the Lander Rock Beds are interlayered with a series of concordant medium to coarse-grained intrusive basic sills. The sequence has been deformed into a series of relatively open, north west trending folds with an associated penetrative axial plane cleavage.

Composite rock chip sampling was undertaken to Troutbeck to define the source of mineralisation identified in costeanning. Ten samples were taken.

Additional costeans were excavated at the Trout 1, 2 and 3 zones of mineralisation within the Troutbeck prospect. Costeans were mapped and continuously chip sampled over one metre intervals. All costeans were backfilled on completion.

Costeanning at Trout 1 was designed to follow out extensions of the gold mineralised zone located in the previously excavated costean and further assess the southern anomalous zone in that trench. A total of 1,110 metres of costean was excavated in eight trenches for 666 samples.

The costeanning at Trout 1 successfully located three narrow but laterally extensive zones of weak gold mineralisation. These have an approximate strike length of 100 metres, a width of three metres and grades in excess of 0.2 g/t gold. The interpreted Troutbeck Fault is 300 metres long, four metres wide, with average grades between 0.5 g/t – 1 g/t gold and peak grades up to 104 g/t gold.

The gold mineralisation at Trout 1 has been shown to extend 100 metres to the east of the previously excavated costean, with a one metre interval in BTC007 returning 1.86 g/t gold.

There is a strong correlation between anomalous gold and quartz veined metasediments at the margins of doleritic sills.

Costeanning at Trout 2 was designed to test and define the extent of bedrock gold anomalism identified in vacuum drillholes and the broad, slightly anomalous zone encountered in the previously excavated costean BTC005. A total of 220 metres of costean was excavated in two costeans for 120 samples.

These excavations successfully located a broad, weakly mineralised zone with a length of 200 metres and a width of up to ten metres and carrying gold at greater than 0.15 g/t. The zone previously encountered was found to extend 100 metres laterally east and west. Best intersections from costeanning are seven metres at 0.15 g/t gold.

The gold bearing metasediments are characterised by structural disruption and abundant quartz veining.

Costeanning at Trout 3 was designed to further define the extent of anomalism identified in previous vacuum drill testing of bedrock. A summary of completed work is twelve trenches for 1,050 metres of costean and 561 samples.

Costeanning at Trout 3 defined several narrow but highly anomalous zones first indicated in previous 200 metre x 25 metre spaced vacuum drill coverage. The best gold mineralisation encountered in these trenches is three metres at 1.1 g/t gold.
As with Trout 1 and Trout 2, anomalous zones at Trout 3 are confined to metasediments at the margin of dolerites. Higher grades are associated with the Troutbeck Fault.

**RAB Drilling**

More emphasis was placed on costeasing rather than RAB drilling at the Troutbeck prospect as it was considered that excavated exposures would provide a better understanding of the lithological and structural controls on gold distribution in an area where cover was generally less than two metres thick.

A total of thirty-two inclined RAB holes (BTB125 to 156) for 135 metres and 588 samples were drilled to test the Trout 1 and Trout 2 zones.

Progress was slow due to extreme hardness of ground and it is evident that a RC rig would have provided more acceptable penetration rates. Water was encountered at around a depth of twenty metres and, in some cases, this may have compromised sample quality.

Holes intersected both pelitic/psammitic schists and sandstones of the Lander Rock Beds which often exhibited silicification and phyllic alteration. All drill traverses terminated in fine grained dolerite. Sulphidic, recrystallised and iron stained quartz veining was common. Disseminated sulphides were also logged over extensive widths in some holes.

The RAB drilling assays returned from Troutbeck supported the hypothesis that gold mineralisation was enhanced in the Lander Rock Beds at dolerite margins where strain inhomogeneities and damming effects provided traps facilitating gold precipitation from source fluids. Several anomalous gold zones with greater than 200ppb gold shared similar location criteria to gold bearing zones identified in costeans. These zones are up to 600 metres long and from two to twenty-eight metres wide.

Inclined RAB drilling (twenty-two holes for 760 metres and 385 samples) at Trout 1 was designed to test the depth and lateral continuity of mineralised zones detected by costeasing.

At Trout 1 two zones of low level gold mineralisation at a grade of 0.2 g/t are four metres in width and have a strike length of 600 metres. A later stage fault (Troutbeck Fault) identified in costeasing and RAB drilling has had the effect of enriching these zones to greater than 1 g/t gold.

The RAB drilling at Trout 2 (ten holes for 375 metres and 204 samples) was designed to test the depth and lateral continuity of the broad, weakly mineralised zone detected in costeasing and to test for higher grade shoots within the system.

At Trout 2, a broad zone of 0.25 g/t gold mineralisation has been located with a width of twenty-five metres and a strike length of over 150 metres. The drilling results generally corresponded to the pattern of gold mineralisation identified by the costeasing.

The extensive width and open strike length of gold mineralisation of Trout 2 suggests that this zone may have greater economic potential than Trout 1, which exhibits high grade but poddy gold distribution.
10.7 Bowness

16.6 line kilometres of pegged grid (crosslines) were placed over the prospect to facilitate later exploration.

A total of eleven composite rock chip samples were collected from the Bowness prospect. A single sample was collected as part of a reconnaissance sampling program.

Composite rock chips of white, smoky and orange iron-rich quartz veins developed in Lander Rock Beds along the margins of dolerite intrusives produced the highest gold values. The quartz veins generally have a strike direction of 135° and can carry gold levels in excess of 200 ppb. Similar veining is observed at the Troutbeck prospect.

Faults, together with their associated vein infill and silicic-sericite alteration, were also sampled. These normally had a strike direction of 075° and could sometimes be traced over a length >900 metres. CRC samples from these structures contained less than 5 ppb gold.

Vacuum Drilling

A substantial program of infill and extension vacuum drilling was undertaken. A total of 850 shallow vertical holes for 3,071 metres and 901 samples were drilled to depths which occasionally exceeded twelve metres but were usually less than five metres. Drill holes were collared at intervals of twenty-five metres around pre-existing holes, on traverses 200 metres apart. A single bottom of hole sample was generally collected for bedrock identification and gold/arsenic assy. In the central portion of the grid soil samples were also collected for bulk cyanide leach.

The infill vacuum drilling identified south east trending zones (at 135°) of gold anomalism (4 – 25 ppb gold) in weathered bedrock. Arsenic values were also elevated, giving analysis to 1,830 ppm arsenic. Bulk cyanide leach (VBCL) samples yielded a maximum gold assay of 16.5 ppb.

As at other nearby prospects, the best mineralisation is confined to the Lander Rock Beds at the margins of laterally extensive dolerite sills which share the same orientation as the anomalies. A granite pluton was also encountered at the north west of the extended grid.

RAB Drilling

A total of thirty-nine inclined RAB holes for 1155m and 578 samples (BTB157 to 195) were drilled to test gold anomalous structures and shear zones identified by earlier rock chip sampling and vacuum drilling. Four traverses of RAB holes were completed. All holes were inclined to –60° to grid south and collared twenty-five metres apart. Drill cuttings were logged and two metre composite samples assayed for gold, arsenic and lead. All RAB drillholes were capped on completion.

One of the drill hole traverses targeted the Bowness Fault, and the other tested gold anomalous shear zones at three other locations. Lithologies intersected included psammitic pelitic schists, sandstone and layer parallel dolerite intrusions. Silicic-sericite alteration and quartz veining was common in most holes. Trace sulphides (pyrite and arsenopyrite) were logged in quartz veins and host rock disseminations. Sulphide content was most abundant in BTB169, which intersected the Bowness Fault.
Despite surface anomalism to 6.1 g/t gold, none of the RAB drill holes achieved any intersections over 1 g/t gold.

10.8 Black Knight

3.28 line kilometres of pegged grid were placed over the prospect to facilitate later exploration.

A total of ninety-nine composite rock chip samples were collected from the vicinity of the Black Knight prospect.

Twenty-three of the rock chip samples were submitted to Mason Geoscience Pty Ltd for mineralogical identification and description.

Detailed rock chip sampling at Black Knight has defined and extended the mineralised portion of the shear zone. It is now know to have a strike continuity over 400 metres and remain open under soil cover to the south. There is a strong correlation between arsenic and gold anomalism. Gold assays generally show higher grades where samples have been selected from altered lithologies. A maximum value of 4.3 g/t gold was returned. It comprised silicified shear zone material collected from a location fifty metres along strike from RAB drill hole BKRB11.

A limited stream sediment sampling program was undertaken over the northern portion of the Black Knight lineament. Four samples were collected.

The results of the stream sediment sampling extended the area of gold anomalism 350 metres away from the original area of interest defined by the first soil sampling program. Stream sediment sampling yielded a peak gold assay of 5ppb (exploration attention was first focussed on the Black Knight prospect by a 10ppb stream sediment anomaly).

An orientation soil sampling program was completed over the prospect with 153 samples taken from two traverses across the Black Knight shear zone. Material was collected from four size fractions (-2mm / +20#, -20# / +80#, -80# / +150# and -150#). The skeletal soils available for collection in this area of positive relief provided a very effective sampling medium. There was a high degree of assay correlation between different sieve sizes and across variable topography.

The survey successfully delineated two broad anomalous zones of gold and arsenic in the central part of the Black Knight grid. These were coincident with a Spinifex die off zone. A peak value of 760ppb gold was encountered.

A follow up program was conducted in which a further nineteen traverses aligned at right angles to the Black Knight shear zone were sampled. 613 soil samples were collected at ten metre intervals and sieved to -20#.

The results defined and extended the gold/arsenic anomaly which peaked at 4.2 g/t gold. The anomalism was coincident with structural and alteration characteristics of the shear zone.
RAB Drilling

Ten short vertical RAB holes were drilled for a total of 139 metres in the floor of the valley at Black Knight to determine lithologies under alluvial cover. A single soil sample was collected from each hole for analysis by bulk cyanide leach (VBCL) and a bottom of hole sample was assayed for a suite of indicative elements.

Drilling identified intrusive dolerite within silicified and sericitised Mt Stafford Beds of the shear zone. Gold values up to 11ppb were returned in the bulk cyanide leach assays and up to 0.02 g/t in the bottom of hole samples.

Two inclined RAB holes were drilled across a portion of the Black Knight shear zone. They were designed to drill through the margin of the dolerite (which is intruded along the shear zone) and then traverse other lithologies associated with the shear.

Initially, two metre composite samples were collected for assay. When appreciable gold assays were encountered, the drill cuttings were resampled at one metre intervals and assayed for gold, arsenic and antimony.

One drill hole intersected dolerite over the first fifteen metres. Mt Stafford Beds were logged beyond the margin of the dolerite and the remaining fifty-five metres of the hole traversed the mineralised and retrogressed lithologies within the shear. Considerable disseminated sulphide was encountered over the entire length drilled. A distinct mineralogical zonation from pyrite, to pyrite-arsenopyrite, to arsenopyrite exists away from the margin of the dolerite. The arsenopyrite dominant zone returned the best gold results with nine metres at 3.25 g/t from forty-nine metres within a broader zone with a width of forty metres at 1.15 g/t from twenty-five metres.

Another drill hole was sited to test the shear zone beyond the point where BKRB011 was terminated (though offset along strike). Geochemical results from the hole were consistent with assays from the soil samples collected at the western end of line 9700N, yielding low level gold anomalism to 90ppb. An attempt was made to traverses beneath the vegetation/soil anomaly to determine the validity of the high levels of gold detected within this zone. The extreme hardness of the rock, poor ground stability and the low drilling inclination prevented completion of the hole.

RC Drilling

Fourteen inclined RC holes were drilled for a total of 764 metres at Black Knight. A composite sample was generally collected at one metre down hole intervals. 762 samples were logged and assayed for gold, arsenic and antimony.

The RC drilling method was chosen to facilitate penetration as ground conditions were extremely hard. However, it was found that even this technique would not allow holes to be drilled to their planned depth.

RC drilling results supported both mapped lithological features and the pattern of gold anomalism in soil established by previous work. Several broad zones of low level gold mineralisation were evident in sheared, retrogressed and variably silicified Mt Stafford Beds.
Mineralised shear zones were clearly defined by RC drill holes and could be traced between drilling traverses. Two overlapping traverses (9950 N and 9775 N) 175 metres apart provided complete coverage across the width of the shear zone. The flat lying unaltered Mt Stafford Beds define the eastern boundary of the shear complex (at the ridge crest) and the dolerite defined the western boundary (beneath the valley). Other drill holes were designed to test geological targets and gold anomalies in soil.

**Traverse 9950N**

The Western Shear showed two distinct zones delineated in four RC drill holes (BKRC006, 007, 008 and 009). Zone 1, immediately adjacent to the flat dipping dolerite, was ten metres wide with an average grade of 0.6 g/t gold to a depth of 68 metres. An intersection of three metres at 1/8 g/t gold was recorded from within this zone. Zone 2, also lies parallel to the margin of the dolerite, but above Zone 1. It averaged a width of seventeen metres at a grade of 0.6 g/t gold to a depth of fifty metres and contained an intersection of two metres at 1.5 g/t gold.

The Eastern Shear (associated with the vegetation anomaly) contained two distinct mineralised zones delineated by two RC drill holes (BKRC006 and 007). Zone 3 beneath the vegetation anomaly was twenty-one metres wide at 0.5 g/t gold from twenty-one metres. Within this interval was an intersection of four metres at 1.5 g/t gold. Zone 4, also beneath the vegetation anomaly and immediately adjacent to the unsheared Mt Stafford Beds, returned an intersection of eight metres at 1.4 g/t gold and three metres at 2.3 g/t gold.

**Traverse 9775N**

Five distinct mineralised zones could be delineated across traverse 9775N. These included the four encountered at traverse 9950N 175 metres to the north, plus an additional cross cutting Central Shear.

The Western Shear could be subdivided into two distinct zones, corresponding to Zones 1 & 2 on Traverse 9950N. These were delineated by three RC drill holes (BKRC003, 004 and 005). Zone 1 returned an intersection of eleven metres at 0.6 g/t gold from 57 metres, including one metres at 5.5 g/t gold. Zone 2 appeared to have thinned significantly and yielded two metres at 0.2 g/t gold from 52 metres.

The Central Shear was only encountered in one RC drill hole (BKRC003). From a depth of 26 metres, eight metres at 0.5 g/t was intersected, including four metres at 0.9 g/t.

The Eastern Shear, beneath a vegetation anomaly, was not fully tested but two distinct zones were indicated (corresponding to Zone 3 and Zone 4) in BKRC002. Zone 3 appears to have thinned significantly on this traverse, returning an intersection of five metres at 0.3 g/t gold from thirty-seven metres. Zone 4 was not fully tested but yielded an intersection of five metres at 0.2 g/t gold from seventy-three metres which was open at depth.

Holes drilled to the south of Traverse 9557N (BKRC0012, 013 & 014) did not show any noteworthy gold mineralisation.
11. **WORK UNDERTAKEN IN THE YEAR TO MARCH 1999**

11.1 **Bowness**

A total of eight ground magnetic traverses were surveyed to determine the magnetic susceptibility of sub-cropping dolerite dykes within the prospect area. Gold mineralisation is localised at the boundaries of these dykes and the Lander Rock Beds and therefore any technique, which could define the margins of these dolerites, would be advantageous.

Results indicated that the dolerites are no more magnetic than the Lander Rock Beds. This technique cannot be used to map out these dykes.

11.2 **Black Knight**

A total of 116 vacuum drill holes (initial reconnaissance and follow-up) were drilled into the northern extension of the Black Knight Lineament at Black Knight North. Typically a BOH sample was collected from each hole. A BLEG sample was only collected from the initial reconnaissance drilling (BKV001-062). Gold anomalism, however is spotted and forms isolated highs. No significant elemental results were returned.

**Diamond Drilling**

A total of 943.56 metres (three holes, three extensions to RC drill holes) of diamond drilling was drilled to complete the RC drill program begun last tenement year. Diamond drilling was chosen due to the hardness of the ground preventing suitable penetration of the RC drilling technique.

**BKRC002E**

Reverse circulation drilling in BKRC002E was completed to a depth of seventy-eight metres during the 1997 RC drilling program at Black Knight. The hole was halted due to hardness of ground and extended with a diamond tail.

The diamond hole BKRC002E was designed to test structurally favourable gold mineralisation sites beneath the vegetation anomaly.

Geology intersected consisted of variably retrogressed (silicified and sericitised) and sheared versions of the interbedded turbiditic (metasandstone and metasiltstone) granulite facies Mt Stafford Beds.

Alteration and structural models proposed from the geological mapping were consistent with diamond drilling. Alteration zones within the Mt Stafford Beds were clearly mappable at surface and in the diamond core.

Gold results returned from BKRC002E were disappointing, with a maximum intersection of one metre at 0.9 g/t gold in retrogressed, sericitised Mt Stafford Beds with disseminated pyrite and arsenopyrite and minor fractures infilled with pyrite and arsenopyrite.
**BKRC011E**
Reverse circulation drilling in BKRC011E was completed to a depth of 47 metres during the 1997 RC drilling program at Black Knight. The hole was halted due to hardness of ground and extended with a diamond tail. The hole was designed to test for gold mineralisation in the eastern shear below +200 ppb gold soil anomalism and a distinct vegetation anomaly.

Geology intersected by BKRC011E consisted of variably retrogressed (silicified and sericitised) and sheared versions of the interbedded turbiditic (metasandstone and metasiltstone) granulate facies Mt Stafford Beds. In addition, variably retrogressed (albitised and calc-silicate altered) meta dolerite was also encountered.

Alteration and structural models proposed from the geological mapping have been bourn out well in the diamond drilling. Alteration zones within the Mt Stafford Beds and the metadolerite being consistently mappable at surface and in the diamond core.

Gold results returned from BKRC011E were disappointing with the best result being one metre at 1.2 g/t gold in retrogressed, silicified Mt Stafford Beds with abundant quartz flooding and finely disseminated arsenopyrite.

**BKRC014E**
Diamond drill hole BKRC014E completed RC drill hole BKRC014E which did not reach its target depth due to hardness of ground testing structurally favourable gold mineralisation sites beneath the vegetation anomaly to the south.

No significant gold anomalism was returned from BKRC014E. It is believed that this part of the shear has only acted as a conduit with no feature present to trap fluids.

**BKD001**
The diamond hole BKD001 twinned BKRB011 at a steeper angle targeting the high grade gold mineralisation encountered in BKRB011.

This hole intersected Mt Stafford Beds with minimal alteration or structural complexity. No anomalous gold results were returned.

**BKD002**
The diamond hole BKD001 was designed to test the northern region of the shear. The hole passed through the eastern shear above forty metres. In this area, an intense zone of sericitic alteration and silicification with 4% arsenopyrite and pyrrhotite were encountered. The last section of the hole was massive Mt Stafford Beds with little alteration and greatly silicified. The best result being 0.5 metres at 1.645 g/t gold in retrogressed, sericitised sheared Mt Stafford Beds with disseminated pyrite and arsenopyrite and minor fractures infilled with pyrite and arsenopyrite.

**BKD003**
The diamond hole BKD003 twinned RC drill hole BKRC006 targeting higher grade gold mineralisation beneath BKRC006.
Geology encountered in the hole consisted of variably retrogressed (silicified and sericitised) and sheared versions of the interbedded turbiditic (metasandstone and metasiltstone) granulite facies Mt Stafford Beds.

Gold results returned from BKD003 were average, with the best intersection being ten metres at 1.0 g/t gold from fifty-nine metres in sheared fine-grained sericite-biotite-quartz Mt Stafford Beds with boudinaged and tightly folded quartz veins and intense quartz flooding with abundant arsenopyrite.

11.3 Hawkeshead

Rock Chip Sampling

A total of seventeen CRC samples were analysed. No significant gold or multi-element assays were returned.

A total of ninety-four soil samples were taken to define the source of the arsenic (+gold) anomalisim previously defined by drainage samples. The soil program was conducted over the intersection of two lineaments and although arsenic peaked at 790 ppm arsenic, no significant gold anomalisim was outlined.

11.4 Headless Bore

Initial reconnaissance vacuum drilling of fifty drill holes returned gold anomalisim peaking at 8 ppb gold in the southern part of the Headless Bore prospect. Follow-up drilling comprised fifty-three holes spaced at 100 metre intervals. Infill vacuum drilling further delineated weak gold anomalisim (peak 4 ppb gold) as being restricted to small shear zones within the Mt Stafford Beds. These shear zones have retrogress the granulite metasedimentary rocks to gneisses and schists.

11.5 Loora Hills

The samples wee analysed by ALS as detailed below. No significant gold or multi-element assays were returned.

Reconnaissance vacuum drilling of this area, to determine the gold mineralisation potential, intersected orthogneiss and dolerite (limited extent) and a peak of 4 ppb gold was returned. Gold anomalisim has an isolated and spotty occurrence.

11.6 North Bore

A magnetic granite aureole in the north east corner of EL8363 was drilled along AMG line 269500 metres east with four RAB drill holes. Geophysical modelling of this line defined numerous magnetic bodies ranging in depth from approximately 20 to 100 metres to the top of the magnetic response. Four magnetic features were chosen and RAB drilled.

Drilling intersected a dark green-grey, medium-grained gabbro pervasively strained and metamorphosed to lower greenschist facies. Up to 1% pyrrhotite and 2% quartz strings and veinlets were noted as well as small zones of mylonisation which has produced an extremely fine-grained phyllitic rock.

No gold anomalisim is associated with the gabbro. Moderate cobalt and zinc anomalisim peaking at 86.4 ppm and 676 ppm respectively was returned.
Six RAB drill chips were sent to Mason Geoscience for petrographic description, in addition two surface samples were also submitted to determine if the intersected gabbro was related to surface lithologies.

All six RAB chips were recognised as medium to coarse-grained gabbros composed of subequal abundances of the principal minerals plagioclase and augite, with variable accessory assemblages of hornblende, biotite, apatite, ilmenite, quartz and K-feldspar. Pyrrhotite and magnetite occur in similar or lesser abundances compared to ilmenite.

The gabbros formed by crystallisation of quartz tholeitic basaltic magma in a relatively large intrusive body, producing massive to laminated cumulated textures. Some degree of differentiation is therefore inferred for this basic intrusion. Regional metamorphism in the greenschist facies has affected all rocks to a greater or lesser extent. All samples have undergone mild to intense deformation.

It is concluded that the entire magnetic aureole surrounding the North Bore Granite (NFM term) is composed of the magnetic gabbro.

11.7 Tin Bore
A total of fifty-three vacuum drill holes were sunk in a grid pattern to determine the source of gold anomalism in a 1996 drainage sample. The drilling was successful in defining a large area of sericitically altered and silicified Mt Stafford Beds with variable deformation and quartz veining. Gold anomalism (VBCL peak 10ppb gold) is associated with the morphology of a creek which bisects the prospect.

11.8 Troutbeck
The three ground magnetic traverses were surveyed to determine the magnetic susceptibility of sub-cropping dolerite dykes within the prospect area. Gold mineralisation is localised at the boundaries of these dykes and the Lander Rock Beds and therefore any technique which could define the margins of these dolerites would be advantageous.

Results indicate that the dolerites are no more magnetic than the Lander Rock Beds. This technique cannot be used to map out these dykes.

Four water bores were sunk to facilitate the diamond drilling program at the Black Knight prospect, but also as an emergency source of drinking water for the Coniston Project camp. Two bore holes were sent to Australian Environmental Laboratories to test for Potability.

12. WORK UNDERTAKEN IN THE YEAR TO MARCH 2000
During the 1999/2000 reporting period exploration activities conducted consisted of RC drilling of the sub-prospects Trout 1 and Trout 2 of the Troutbeck Prospect (see Table 2).
Six angled (60°) RC drill holes (BTRC001 - BTRC006) were completed for 839 metres and 839 x 1 metre samples collected. The aim of the drilling was to target the margins of dolerites and late-stage remobilising faults within the Lander River Group, in the sub-prospects of Trout 1 and Trout 2, to determine if gold mineralisation was occurring at depth under a supregene blanket.

Geology intersected consisted of interbedded medium to dark grey, grey-green, and black thickly bedded, siliceous, massive sandstone (quartz, mica, feldspar) and medium to dark grey to black mica schist (quartz, mica, biotite). Both are pervasively sericite altered with zones of clay, chlorite, and silica alteration also noted. Quartz veining and disseminated pyrite are also common with rare zones of arsenopyrite and chalcopyrite occurring in quartz veining near the margins of the metasedimentary rocks and dolerites.

The dark grey to black, massive, siliceous dolerite is pervasively chlorite altered and minor sericite alterations occurs in the chilled margins with the metasedimentary rocks. Quartz veining and disseminated pyrite are uncommon with both being restricted to the chill margins.

Structures intersected included a number of fault/shear zones that have a true width of between three to seven metres and zones of intensely fractured metasedimentary rocks. No evidence of folding was observed. Slickensides and tensional quartz infilling were noted around the fault/shear zones.

Low-order gold anomalism/mineralisation with occasional high values were intersected. A summary is outlined in Table 2.

**TABLE 2**

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<th>RC Intersections for Gold – Troutbeek Prospect</th>
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13. CONCLUSION

Exploration culminated in of RC drill testing of the Trout-1 and Trout-2 anomalies at the Troutbeck Prospect in the year to March 2000. No further exploration was undertaken. This drilling aimed to test the margins of dolerites and late stage remobilised faults for primary gold mineralisation beneath a supergene blanket.

A total of six angled RC drill holes were completed for 839 metres, intersecting strongly altered metasediment and dolerite. Extensive quartz veining and disseminated sulphide mineralisation was common throughout the metasediments with trace occurrences of arsenopyrite and chalcopyrite near the contacts between metasediment and dolerite.

Results returned low order gold anomalism with occasional high values associated with quartz veining and sulphide mineralisation. The best results were from BTRC003 which returned eight metres at 9.42g/t gold from 32 metres.

In addition to the significant intersections that were made, the recognition of an association of increased sulphide abundance and the occurrence of chalcopyrite at the contact of metasediments and doleritic rocks has enhanced the understanding of mineralised associations in the area.

Prospectivity remains high although drill testing has returned little encouragement. Future exploration should be directed to area of regolith core.

14. REFERENCE LIST/ANNUAL REPORT BIBLIOGRAPHY


Reports to NT DME


APPENDIX
ELECTRONIC DATA

Reynolds Range Joint Venture
Files contained in CD:

Terrier:

**EI.8363**
- .dhg: DON'T use
- .sct: in Micromine
- .smp: For 3D GIS ONLY

**EI.8363A**
- .as1: Assay
- .as2: (2 files)
- .col: Collar
- .lth: Geology
- .slg: 3 different legends
- .sml: used in life of
- .sur: project

Normandy Contact: Jennette Matthews

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REYNOLDS RANGE JOINT VENTURE
FILES CONTAINED IN CD

TERRIER:

**EI.8363**
- .dhg: DON'T use
- .sct: in micromine
- .smp: For 3D GIS ONLY

**EI.8363A**
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