



Northern Territories Resources Pty Limited
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GROUP TECHNICAL REPORT

GROUP REPORT 434/12

1 JANUARY 2016 – 31 DECEMBER 2016

Titleholder	Northern Territories Resources Pty Limited
Project Operator	Northern Territories Resources Pty Limited
Titles/Tenements	MLNs 139, 140, 141, 142, 143, 144, 145, 146, 147, 150, 151 and 152
Tenement Manager/Agent	AMETS Pty Ltd
Mine/Project Name	Browns Project
Personal author(s)	Holly Edgar
Company reference number	N/A
Target Commodity or Commodities	Cu, Pb, Co, Ni, Ag, Zn, Pt, U
Date of report	8 February 2017
Datum/Zone	GDA94/Zone 52
250 000 K Mapsheet	Darwin SD5204
100 000 K Mapsheet	Noonamah 5172 Bynoe 5072
Contact details	Garry Johansen - Northern Territories Resources Pty Limited Garry.Johansen@compassresources.com.au

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1. Abstract

The Browns Project comprises of Mineral Lease (Northern) 139, 140, 141, 142, 143, 144, 145, 146, 147, 150, 151 and 152 (the licences). These licences are located approximately 60km South of Darwin and have a combined area of 176 hectares.

The licences sits within the highly prospective and resource rich Rum Jungle Mineral Field within the Pine Creek Orogen. The area is known to host various commodities, which includes copper, lead, nickel, zinc, cobalt and uranium.

During the reporting period, Northern Territories Resources Pty Limited (Northern Territories Resources) conducted metallurgical test work on the oxide and sulphide mineralisation over the licences.

2. Copyright

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3. Location and Access

The Litchfield Project licences are located approximately 60 kilometres south of Darwin and covers the original mine sites of the Whites and Intermediate (Rum Jungle) Deposits.

Access to the licences from Darwin is via sealed roads to Batchelor and thence via the Batchelor and Rum Jungle Roads.

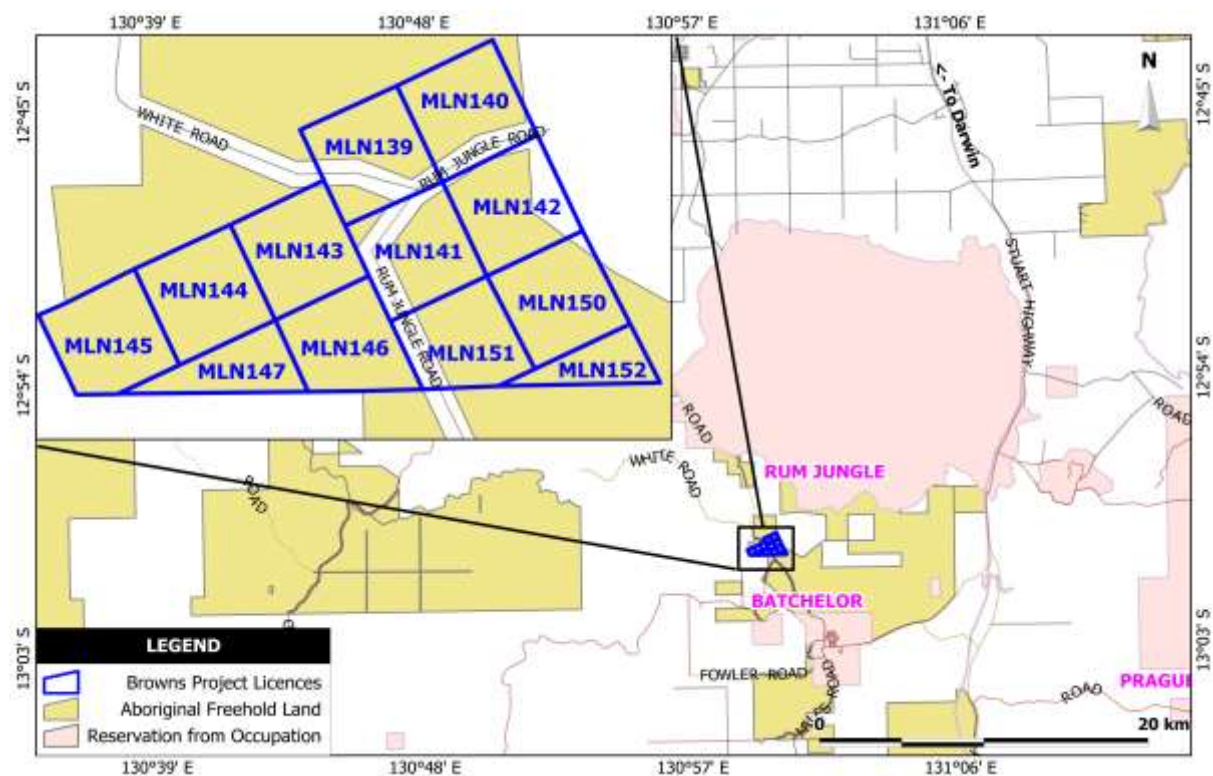


Figure 1- Location Map

4. Tenure and Land Use

The licences cover Vacant Crown Land. The below table shows the details of each licence.

Licence	Titleholder	Area (Ha)	Granted Date	Cadastre
MLN139	Northern Territories Resources Pty Ltd (100%)	16.18	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN140	Northern Territories Resources Pty Ltd (100%)	16.18	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN141	Northern Territories Resources Pty Ltd (100%)	16.18	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN142	Northern Territories Resources Pty Ltd (100%)	16.18	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN143	Northern Territories Resources Pty Ltd (100%)	16.18	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN144	Northern Territories Resources Pty Ltd (100%)	16.18	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN145	Northern Territories Resources Pty Ltd (100%)	16	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN146	Northern Territories Resources Pty Ltd (100%)	15.58	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN147	Northern Territories Resources Pty Ltd (100%)	9.9	10/07/1956	Hundreds of Goyder (315), Parcel 2968
MLN150	Northern Territories Resources Pty Ltd (100%)	16.18	02/09/1957	Hundreds of Goyder (315), Parcel 2968
MLN151	Northern Territories Resources Pty Ltd (100%)	14.5	02/09/1957	Hundreds of Goyder (315), Parcel 2968

MLN152	Northern Territories Resources Pty Ltd (100%)	6.79	02/09/1957	Hundreds of Goyder (315), Parcel 2968
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5. Topography & Hydrology

The topography within the area is dominantly low, with limited outcrops. Roads intersect the licences and small creeks and river branches also flow through the licence after rainfall events.

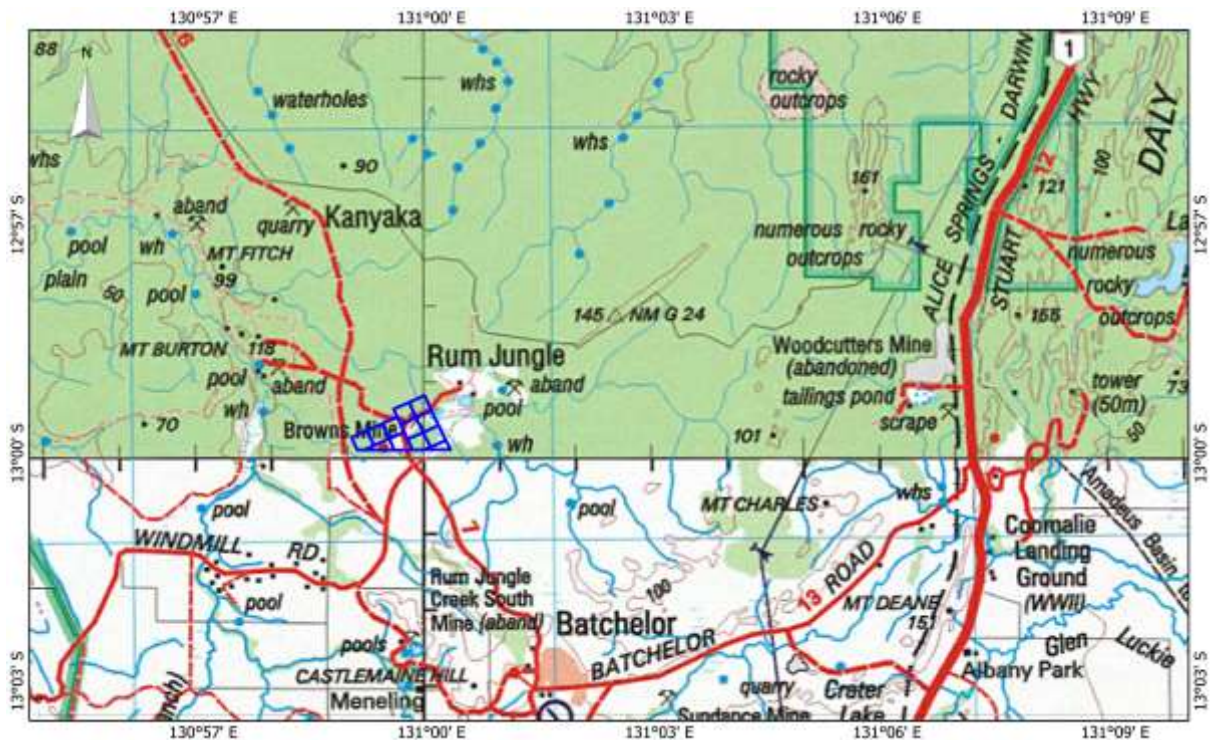


Figure 2 - Topography Map

6. Geology

The project area is situated within the Rum Jungle Mineral Field of the Palaeoproterozoic Pine Creek Orogen. The Pine Creek Orogen largely consists of variably deformed and metamorphosed Palaeoproterozoic metasedimentary and intrusive rocks forming part of the North Australian Craton.

The Pine Creek Orogen is well known for exploration and Northern Territories Resources believe that there is a potential for this region to host significant Copper, Lead, Cobalt, Nickel, Zinc and silver deposits.

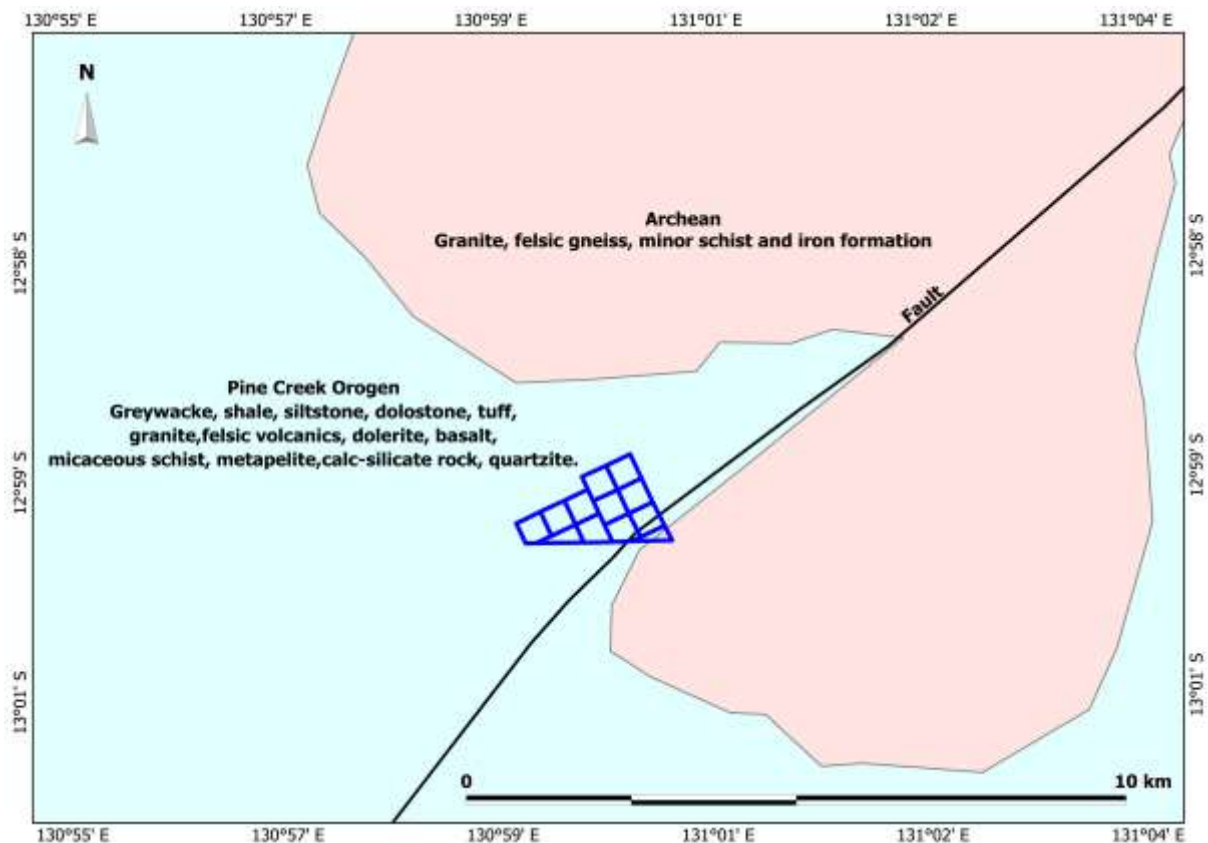


Figure 3- Geology Map

7. Exploration Rationale

The licences sit within the highly prospective and resource rich Pine Creek Orogen. The area is known to host various commodities, which includes copper, lead, nickel, zinc, cobalt and uranium.

Northern Territories Resources has previously conducted mining of a Pb-Zn-Cu-Ni-Co resource within the project area. It is believed that the Pb-Zn-Cu-Ni-Co deposit still has economical potential.

8. Previous Exploration

Several CRA subsidiaries including Territory Enterprises Pty. Limited (TEP) and Australian Mining and Smelting Company Limited (AM&S) have undertaken extensive drill programmes at this Prospect, culminating with the sinking of a 400' shaft, drilling twenty underground drill holes from two levels and underground sampling programmes in 1967-1969. The underground workings were flooded on the 13th May 1969.

A resource figure of 20m tonnes grading approximately 5.6% Pb, 0.19% Cu, 0.11% Co, 0.14% Ni and 0.3% Zn was reported within the tenement by CRA. Metallurgical studies and testing had also been undertaken on the sulphide ores, the aim of which was to produce both copper and lead concentrates by flotation methods. The results indicated that it was not possible to produce saleable copper and/or lead float concentrates due to the fine grained nature of the sulphide minerals, resulting in "dirty" concentrates.

In 1990 Troy Resources Ltd., which had an option on the tenements undertook metallurgical studies on drill core after drilling five diamond drill holes. This test work also failed to find a route to separate copper and lead concentrates, however they did establish that "oil agglomeration" may be a potential flotation method to produce a bulk sulphide concentrate.

In 1994 Compass/Guardian (now Northern Territories Resources) completed a programme of 20 holes of reverse circulation drilling, and in 1995 completed 19 diamond drill holes. In 1996 a 117 R/C drill hole programme was undertaken. This work was all done to further determine the tenor and limits of the mineralisation in the top 100 metres of the deposit. During 1997, twenty four diamond drill holes including 17 deeper holes were completed, and in 1998 an additional 61 RC drill holes were completed at Browns. Eight holes were also completed along strike at Browns East, within EL 4880. In September 1999, a bulk sample pit was started and metallurgical test work commenced later that year on sulphide ores removed from that pit. In 2000 a series of 6 diamond drill holes were completed for geotechnical studies and 3 percussion holes were twinned with diamond holes. A series of percussion holes were drilled for magnesite evaluation.

In 2001 two deep diamond drill holes were completed, together with ore resource studies.

In 2002, seven diamond drill holes and two reverse circulation percussion drill holes were completed.

In late 2003-early 2004 Phelps Dodge/Red Metal alliance completed three dill holes (two abandoned due to excessive deviation) in the tenements. These holes did not intersect mineralisation and they have withdrawn from the joint venture without retaining any equity,

In the last quarter of 2004, independent contractors Hellman and Schofield Pty Ltd completed a new resource estimate of the Browns Deposit. This resulted in a significant increase in the copper and lead grades together with a good definition and separation of lead and copper rich lenses. Also during 2004, a series of eight percussion drill holes was completed to obtain oxide ore samples for metallurgical test work.

During 2005, 62 RC holes (2041m) were completed, these were planned to more fully define the oxide resource. A further 19 RC holes were drilled in 2006 to gain information on the extent and grade of zinc mineralisation. There were also 4 diamond drill holes completed in 2006 – two to define mineralisation and two shallower holes for metallurgical test work.

A grade control program of RC drilling totalled 2478m over 56 holes to estimate ore grades in the location of the preliminary mining phase. A further 4654m of RC drilling helped constrain the Browns oxide resource and 4597.1m of diamond drilling was completed for the Browns sulphide feasibility study.

In 2008, the RC drillings were conducted by the Adelaide-based drill contractors Underdale Drillers Pty Ltd using an Investigator Mk10 drilling rig. Diamond drilling was also carried out by Underdale using a Hydrill rig. 5 diamond drill holes (08BD01 to 08BD05) were completed at a total of 1356m to penetrate the Browns sulphide deposit, and 15 RC holes (08BD06 to 08BD20) were completed at a total of 589m, to confine the northern extent and depth of the Browns oxide deposit. Another 2 further RC drill holes, 08EX01 and 08EX02, were completed at the end of the drilling season for grade control. 3 RC holes were drilled to sterilise for mining infrastructure and gain extra geological knowledge; 08WB03, 08WB05 and 08BS12. No ore grade mineralisation was found in these holes.

In 2008, Compass Resources begun extensive geological mapping on its tenements at Rum Jungle that included the Browns mining leases. This has improved the understanding of the surface geology in the area and has contributed to the ongoing review of the geology and controls on mineralisation. Evaluation of historical data has continued throughout the year and is being collated in a central database. This has also helped more accurately define the Browns oxide and sulphide ore bodies.

During 2009, RC drilling at Browns was conducted by the NT-based drill contractors Johannsen Drilling Pty Ltd using an Edson drilling rig. No diamond drilling was conducted during 2009.

All RC sampling was carried out, put into bags, and then sent for analysis. Wet samples which could not be split were treated by hand. Samples were assayed by Amdel using the following technique:

* Samples were pulverised to 85% passing 75 microns or better.

* A four acid “near-total” digest was used followed by ICP-AES (OG62) analysis for Cu, Pb, Zn, Co, Ni, Ag, Mn, Fe, S, Mg, Ca, and U.

* Samples with higher uranium values (>150ppm U) were re-analysed by XRF for U and Ti.

* Radioactivity was measured for each sample with a GR 110 scintillometer or a SPP2 scintillometer on site.

All of the hole-collars were surveyed using a DGPS instrument.

Extensive geological mapping of the Compass owned tenements at Rum Jungle begun in 2008 that included the Browns mining leases. This has improved the understanding of the surface geology in the area and has contributed to the ongoing review of the geology and controls on mineralisation. Evaluation of historical data has continued throughout the year and was collated in a central database. This has also helped more accurately define the Browns oxide and sulphide ore bodies.

During the 2010 year the mine leases in this report were part of a broader detailed airborne electromagnetic/magnetic survey and an infill ground gravity survey. The airborne survey consisted of 100m flight line spacings and the gravity stations were set to infill the data existing at 500m grid spacing.

A metallurgical drilling program was undertaken during 2011. The purpose of the program was to extract enough lead rich core sample to allow the JV partners to embark on a series of detailed metallurgical tests to characterise the lead ore and examine its extractability in processing.

The program was completed late in the 2011 year and due to the reactive nature of the sulphides within the core, it was immediately packed and stored in refrigerated containers awaiting further direction from the JV partners. As a result of this no logging or assaying has taken place until a processing technique is decided upon. Once this process is completed all assays and drill logs will be submitted accordingly.

The metallurgical drilling program from 2011 was completed during 2012. The purpose of the program was to extract enough additional lead rich core sample, to complete the required tonnage, to allow the JV partners to embark on a series of detailed metallurgical tests to characterise the lead ore and examine its extractability in processing.

This drilling program was completed to add more material to the bulk sample from 2011 (already in storage) and due to the reactive nature of the sulphides within the core, it was

immediately packed and stored in refrigerated containers awaiting further direction from the JV partners.

An airborne gravity survey (FALCON) was underway at the end of December and was not completed in time for this report. Some preliminary costs are recorded this year in regard to mobilisation of the survey.

During 2012-13 these tenements were subjected to a regional airborne FALCON gravity survey. This survey included not only gravity but also acquired magnetics and LIDAR high resolution elevation data.

The line spacing was approximately 200m and was processed and divided into individual tenements. The data for these surveys has been submitted to the department. Approximately 9 line km of data acquisition fell on these tenements.

During this reporting period a large scale scoping study was also undertaken to assess the potential of an underground sulphide mining operation. The study consisted of resource modelling, stope design and underground engineering, flotation studies and existing plant redesign. At time of writing this report the final scoping study document was unavailable due to being incomplete.

All of the geophysical survey data was incorporated into a broad regional data set to model suitable targets for exploration drilling.

Plans had also been made for a geotechnical drilling program to assist in completion of last years' scoping study.

A geotechnical drill program was completed during 2015 to assist with a structural design proposal for the underground sulphide orebody.

Each hole was logged downhole with an acoustic televiewer and each interval collected was sent away to ALS labs in Tasmania for flotation testwork and a portion of each interval was sent to AMDEL laboratories in Adelaide for conventional assay.

In 2015, a sampling program was also undertaken on the current oxide stockpiles of ore at the site in the hope of identifying the chemical composition for proposed remedial works. Bulk samples were taken from the dolomite and black shale stockpiles at site and sent to Adelaide AMDEL laboratories for assay.

(from the former Compass Annual Reports prepared by Rosewall)

9. Exploration During Reporting Period

During the reporting term, Northern Territories Resources conducted metallurgical test work on the oxide and sulphide mineralisation over the licences.

10. Conclusions and Recommendations

During the next reporting period (1 January 2017 to 31 December 2017), Northern Territories Resources intends to carry out a diamond drilling program to obtain additional metallurgical samples and conduct further metallurgical tests.

11. References

Rosewall, D. MLNs 139-147 and 150-152 Browns Mine Leases, Annual Report For the Year Ended 31 December 2015. HNC (Australia) Resources Pty Limited. 2016

