

31 January 2023

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## Activities Report for the Quarter ended 31 December 2022

NT Minerals Limited (ASX: NTM) ('NT Minerals', 'NTM' or 'the Company') provides the following review of activities for the three months ended 31 December 2022.

### Significant Activities:

- **2022 field season concluded, and personnel demobilised.**
- **Assay results were returned for three targets that were drill tested in the Sept quarter**
  - **VTEM anomaly**
  - **Calvert South**
  - **Prince**
- **A total of 299 regional 500m-spaced soil samples were collected across the Redbank Project in the quarter.**
- **A cumulative total of 2,879 samples were collected across the Redbank Project in the 2022 dry season.**
- **Soil assays are pending at the end of the reporting period.**
- **Exploration will target new reductant units lower in the prospective Tawallah Group stratigraphy.**

### **REDBANK PROJECT, NORTHERN TERRITORY**

The Redbank Project is located in the southeast McArthur Basin and extends from the Northern Territory/Queensland border north-west to Glencore's McArthur Mine. In July 2020, NT Minerals secured a district scale tenement holding, pegging open ground following ground-breaking work by Geoscience Australia. This work highlighted the prospectivity for Tier 1 base metal deposits between the world-class deposits of McArthur River and Century by mapping a first order control for the localization of large sedimentary-hosted base metal deposits. NT Minerals Limited through its 100% subsidiary Redbank Operations Pty Ltd hold the tenements with a 100% interest.

## Exploration Activities

The 2022 field season was concluded, and field personnel were demobilised early in November.

Assay results have been received for 22 reverse circulation (RC) holes completed in the previous quarter <sup>\*1</sup> across 3 target areas (see Table 1 & 2);

- **Calvert South**
  - 10 holes for 2010m over multielement soil anomalism at Calvert South (see Figure 1)
- **VTEM Anomaly**
  - 11 holes for 2782m over discrete conductive/ chargeable targets of the regional VTEM anomaly identified in late 2021 <sup>\*2</sup> (see Figure 3)
- **Prince**
  - 1 hole for 216m at Prince over a chargeable anomaly with no associated conductivity. (see Figure 4)

### Calvert South Drilling

Results of ten (10) exploratory, reverse circulation drillholes have validated soil geochemistry results, successfully identifying anomalous horizons of low-level copper mineralization up to **0.93% Cu** (22CT03).

Encouraging visual copper mineralization was identified in carbonate and dolomitic chip samples during the drilling campaign that have been validated against geochemical analyses. Other near-surface anomalism is present in numerous holes including **5m @ 0.32% Cu from 7-12m** (22CT03), **19m @ 0.16% Cu from 0 -19m** (22CT04) and **5m @ 0.12% Cu from 14-19m** (22CT09) (see Table 1 & Figure 2).

In exploratory drilling conducted at Calvert South, there is evidence of thin, anomalous, stratiform copper mineralization dipping gently east over at least 1.2km. Intervals include **1m 0.33% Cu from 107m** (22CT03), **3m @ 0.38% Cu from 116-119m** (22CT05) and **7m @ 0.26% Cu from 131-138m** (22CT010) remaining open in an easterly direction (see Table 1 & Figure 2).

There has been very little historical investigation or exploration in the Calvert South area to support current work. More work is required to better understand prospect stratigraphy, while seeking to locate mineralising fluid pathways to explain copper anomalism and mineralisation in permissive and reductant horizons.

<sup>\*1</sup> Refer ASX Announcement 20 October 2022

<sup>\*2</sup> Refer ASX Announcement 26 October 2021

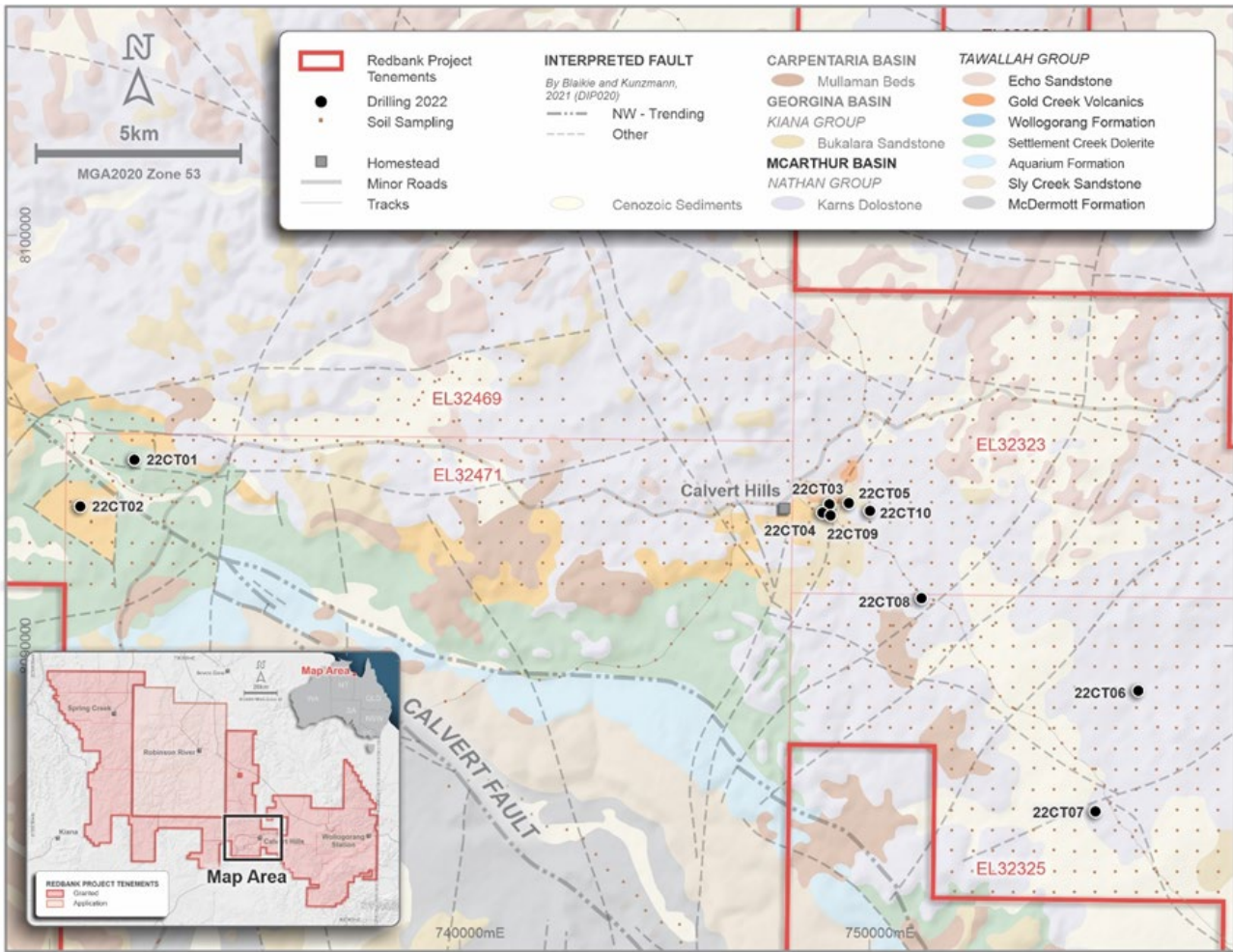


Figure 1: Drilling completed at Calvert South

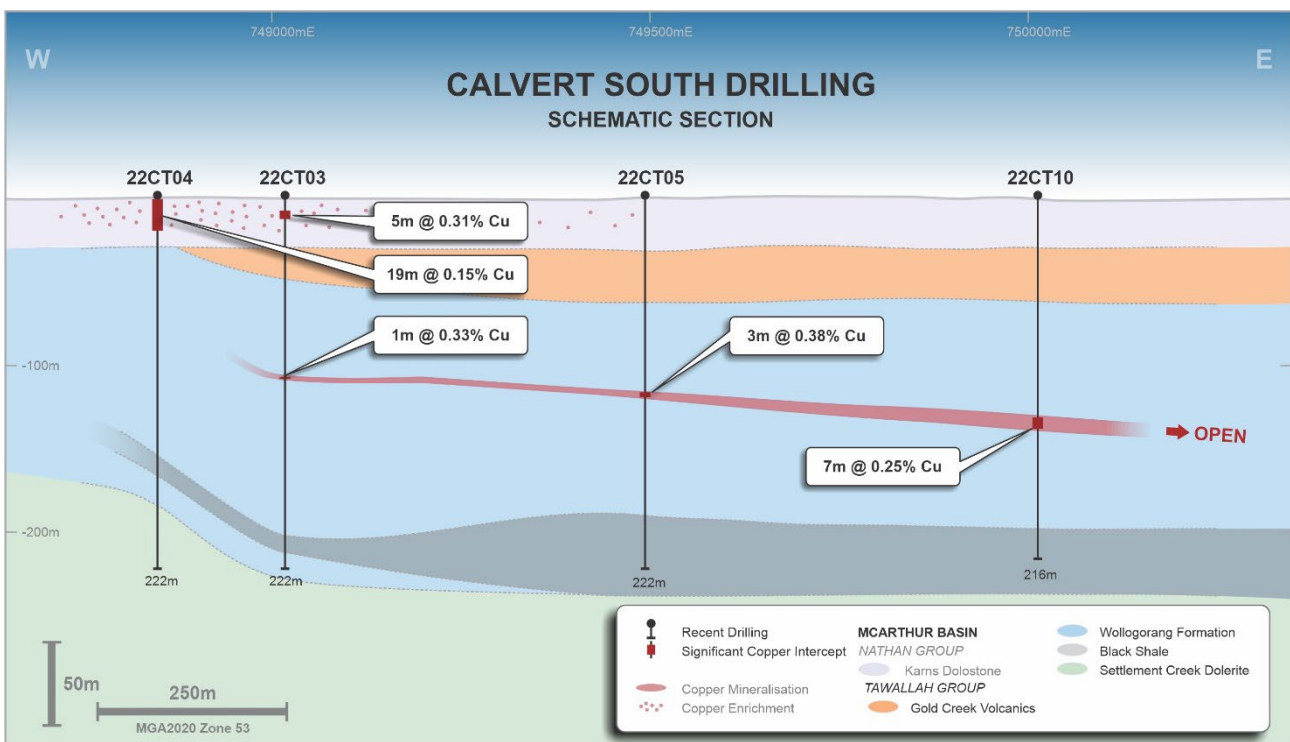


Figure 2 : Calvert South Drilling – Schematic Section

## VTEM Anomaly Drilling

A significant ~5 x 5km regional conductivity target located approximately 7.5km ENE of the Redbank Mining Centre was identified in a VTEM-*max* survey in 2021<sup>\*2</sup> (see Figure 3).

This large, conductivity target was considered a significant feature, being proximal to the linear Redbank Trend of breccia deposits. Historically, only a single drill hole drilled by Gulf Mines in 2008 on the margin of the anomaly has ever attempted to test this target. This hole, although not originally assayed in its entirety, logged minor copper-bearing sulphides. The depth of the identified conductive horizon was coincident with the known target horizon, the Wollogorang Formation/ Settlement Creek Dolerite contact.

As reported in the previous quarter, drilling was completed to test an interpretation that copper-bearing fluids have hydraulically migrated from the linear Redbank structural corridor to precipitate in receptive reductant horizons like the shales of the Wollogorang Formation.

Results from eleven (11) exploratory, reverse circulation drillholes have identified narrow, independently anomalous, single-metre intervals up to **0.35% Cu (22VT04)** and **1.17% Zn (22VT10)** (see Table 1). Weak copper anomalism can be consistently observed near the upper Settlement Creek Dolerite contact. The Settlement Creek Dolerite is known to be a flat-lying intrusive sill capable of providing a potential fluid pathway for metal brines to gain access to the receptive carbonate horizons of the Wollogorang Formation. Zinc anomalism is present in the Lower Wollogorang Formation shale horizons.

Drilling of chargeability and conductivity anomalies has identified both anomalous geological contacts of the Settlement Creek Dolerite and carbonaceous shales of the Wollogorang Formation.

Although anomalous copper values are evident, initial drilling over this large regional target has not located evidence for a large-scale structural fluid conduit for mineralizing brines. The hypothesis for copper mineralization at the VTEM anomaly however, remains valid. Early-stage exploratory drilling has downgraded this target as being a **large** mineralizing system.

## Prince Drilling

A single hole (22VT12) was drilled approximately 500m southwest of the historic Prince Resource adjacent to the Redbank Mining Centre (see Figure 4).

The VTEM-*max* survey completed in 2021<sup>\*2</sup> identified an anomaly, confirmed with ground IP to be a shallow chargeability anomaly with no corresponding conductivity. Drilling confirmed this to be a narrow sulphidic zone with visible pyrite containing weakly anomalous copper up to **0.27% Cu from 35-36m (22VT12)** in the Gold Creek Volcanics. This reconnaissance drillhole is the only test of the target for more than 400m.



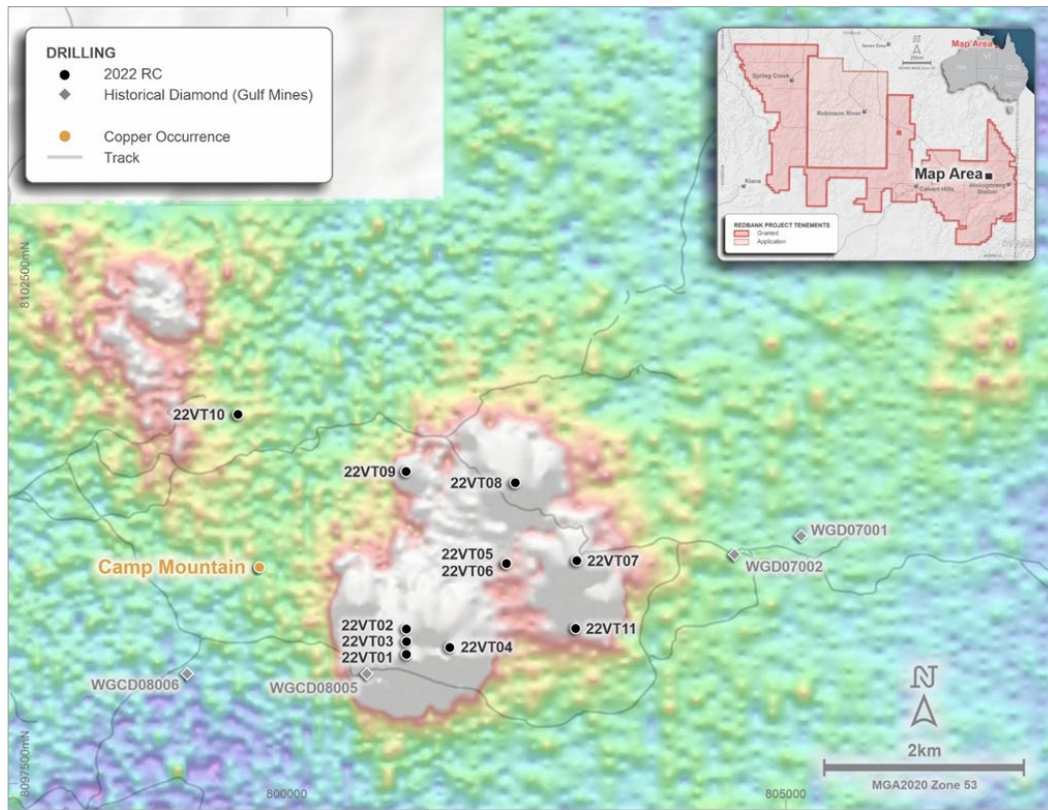


Figure 3: Drilling completed at the VTEM Anomaly

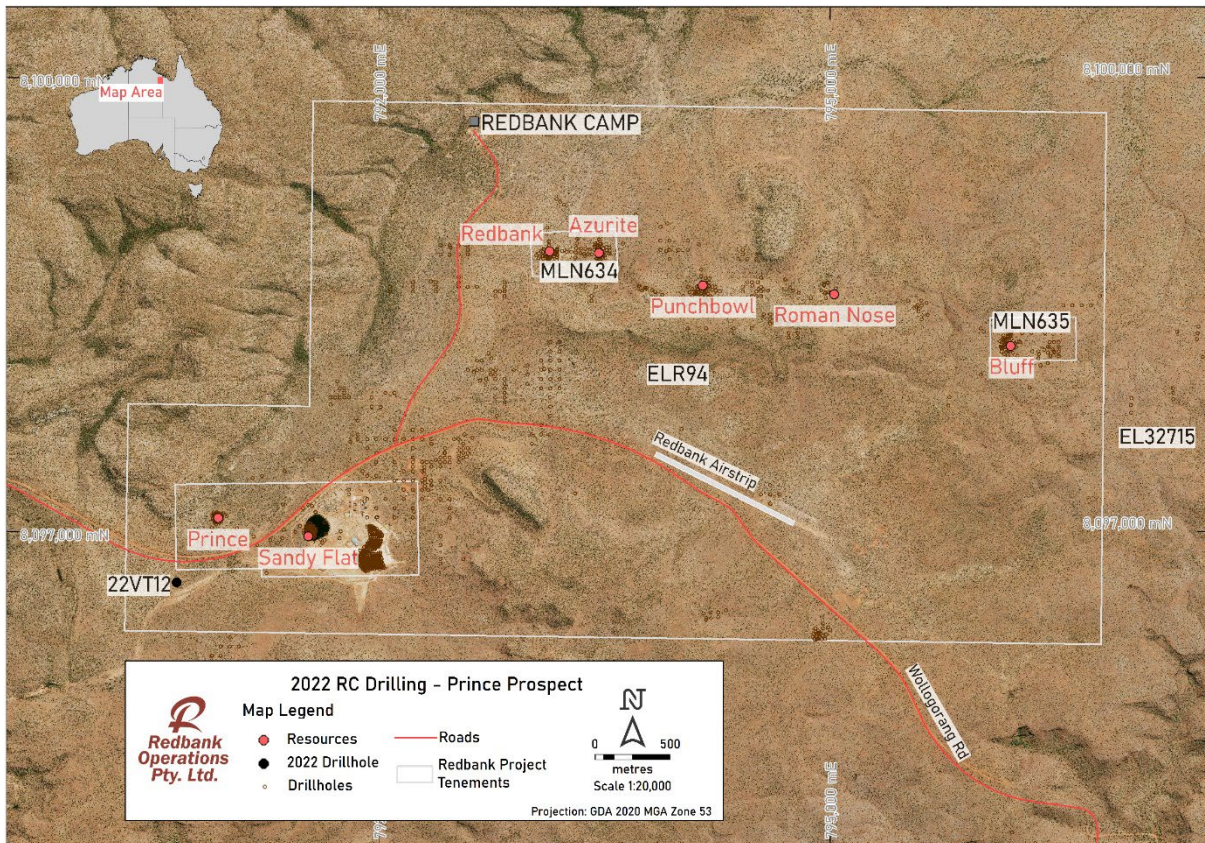


Figure 4: Drilling completed near Prince.

### **Soil Sampling**

Regional soil sampling has been concluded for the dry season in late October.

A total of **299**, 500m-spaced soils samples have been collected in the reporting period (*see Figure 5*), and a total of **2,879** regional, 500m-spaced and 250m-spaced infill soil samples have been collected in the 2022 field season. Soil results are pending at the end of the reporting period.

Regional soil sampling has been a core seasonal activity, undertaken every dry season since 2020 to build a foundation geochemical dataset spanning 48 elements. To date, approximately 8000 samples have been collected. The Redbank Project has historically suffered from regional exploration inactivity, resulting in a paucity of exploration data over prospective stratigraphy, highlighting the ongoing importance of continuing this work.

Gaining regional prominence as an important stratigraphic target is the McDermott Formation, particularly where anomalous in surface sampling. Although the Wologorang Formation is a key stratigraphic, reductant horizon proximal to known copper mineralization, the McDermott Formation is the first reductant horizon above the basal Westmoreland Conglomerate receptive to ascending basinal brines. The McDermott Formation is exposed at surface locations across the project area.

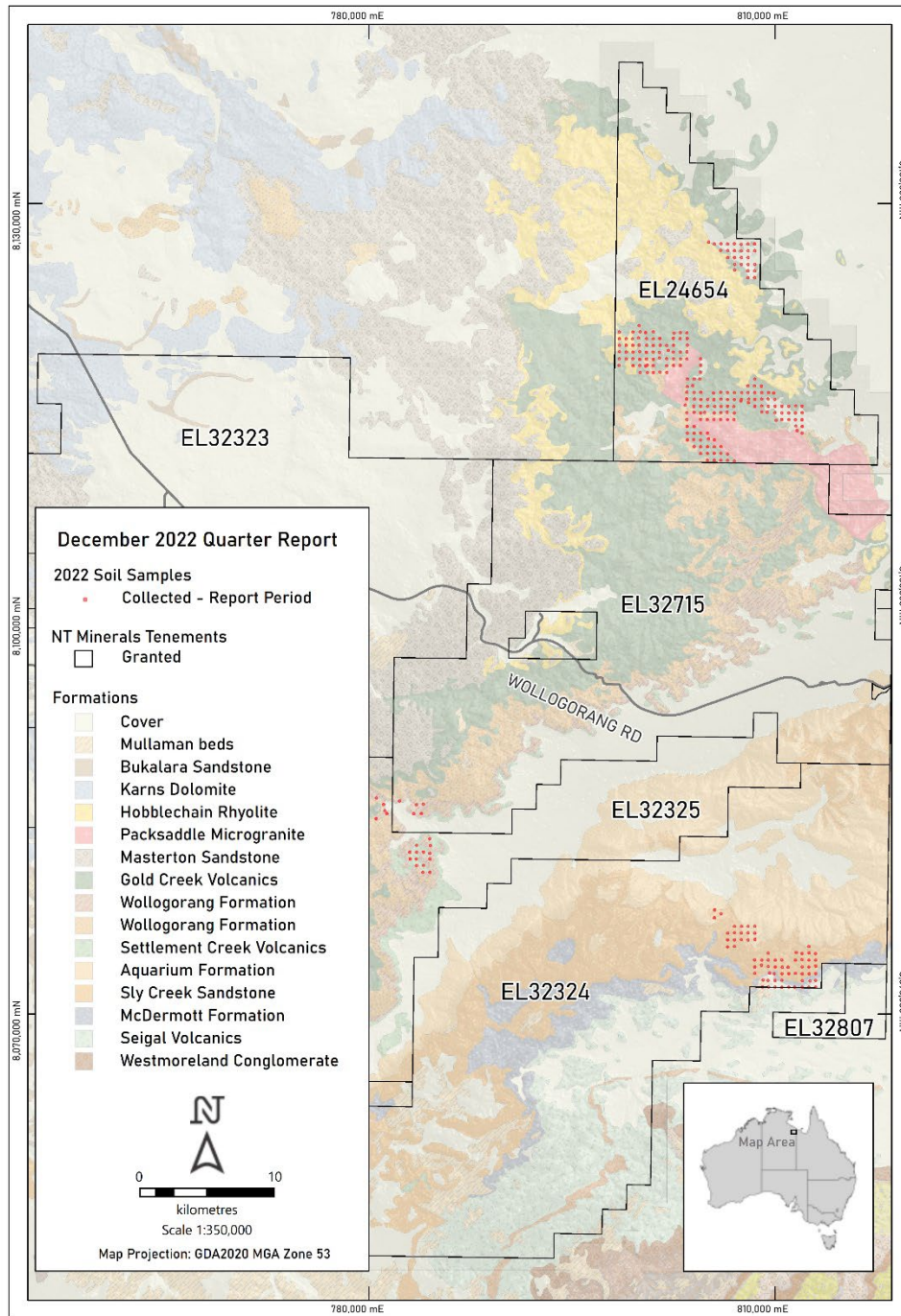
Assimilation of soil data in 2023 in the next quarter will contribute further to regional geochemical dispersion and drive exploration to understand the origins of copper mineralization in the district.

### **Garawa Aboriginal Land Trust (GALT) Applications**

Six tenements in the Redbank Project remain to be granted within the Garawa Aboriginal Land Trust (GALT) land.

Following postponement of an on-country meeting with the traditional owners in August 2022, no alternate date has been proposed.





**Figure 5: Soil Samples Collected in the Reporting Period**

Hole ID	Depth From (m)	Depth to (m)	Interval(m)	Cu (%)	Zn(%)
22VT03	142	144	2	nsr	0.69
22VT04	244	245	1	0.35	nsr
22VT08	192	193	1	nsr	0.67
22VT08	202	203	1	nsr	0.26
22VT09	211	212	1	nsr	0.20
22VT09	217	219	2	0.18	nsr
22VT10	132	133	1	nsr	0.20
22VT10	137	148	11	nsr	0.53
	incl 139	140	1	nsr	1.17
22VT10	152	156*	4	0.10	nsr
22VT12	35	36	1	0.27	nsr
22VT12	39	40	1	0.12	nsr
22CT01	0	4*	4	0.22	nsr
22CT03	7	12	5	0.32	nsr
	incl 10	11	1	0.93	nsr
22CT04	0	19	19	0.15	nsr
22CT05	113	119	5	0.22	nsr
22CT09	14	19	5	0.13	nsr
22CT10	131	138	7	0.26	nsr

\* = 4m composite / nsr = no significant result

**Table 1: Anomalous Intersections– VTEM Anomaly, Calvert South and Prince.**

MGA2020 Zone 53							
Hole ID	Hole Type	Easting	Northing	RL	Az (Mag)	Dip	Depth (m)
22VT01	RC	801197	8098794	173.602	0	-90	377
22VT02	RC	801196	8099047	169.474	180	-60	108
22VT03	RC	801198	8098922	172.812	0	-90	270
22VT04	RC	801631	8098862	159.207	190	-70	342
22VT05	RC	802199	8099708	149.491	195	-60	78
22VT06	RC	802198	8099705	149.209	195	-60	288
22VT07	RC	802904	8099733	128.655	0	-90	296
22VT08	RC	802287	8100514	155.347	0	-90	252
22VT09	RC	801194	8100627	159.001	0	-90	246
22VT10	RC	799509	8101199	147.031	0	-90	303
22VT11	RC	802893	8099054	189.707	185	-60	222
22VT12	RC	790650	8096664	166	0	-90	216
22CT01	RC	732065	8094534	220.189	0	-90	222
22CT02	RC	730742	8093400	201.574	0	-90	222
22CT03	RC	749019	8093448	173.238	0	-90	222
22CT04	RC	748850	8093246	172.409	0	-90	222
22CT05	RC	749496	8093479	170.208	0	-90	222
22CT06	RC	756560	8088910	170.208	0	-90	109
22CT07	RC	755514	8085972	170.208	0	-90	222
22CT08	RC	751268	8091160	170.208	0	-90	138
22CT09	RC	749049	8093177	170.208	110	-60	216
22CT10	RC	750014	8093290	170.208	0	-90	216

**Table 2: RC Drill Holes Completed– VTEM, Calvert South and Prince**



## MILLERS CREEK PROJECT, SOUTH AUSTRALIA

The Millers Creek Project comprises two exploration licenses over 1,110 km<sup>2</sup> of tenure in the Gawler Craton in South Australia. The tenements, EL6247 (Millers Creek), and EL6321 (Kingoonya) are located in a well-recognised iron-oxide copper gold or IOCG Belt, hosting IOCG deposits including Olympic Dam and Prominent Hill (see Figure 6). Redbank has maintained this Project in good standing however, minimal work has been completed with the Company's focus remaining on the Redbank Project.



Figure 6. Millers Creek Project location in South Australia within the Gawler Craton

## Corporate Update

### Board Changes

Bruce Hooper resigned as a director on 11<sup>th</sup> November 2022.

### Cash Position

NT Minerals' cash at bank at 31 December 2022 was \$203,000.

### Payments to related parties of the entity and their associates

In accordance with ASX Listing Rule 5.3.5, the Company advises that the payments to related parties, as advised in the Appendix 5B for the quarter ended 31 December 2022, pertain to Director fees of \$101,025.

### **Voluntary Suspension from ASX**

As announced to the ASX on 25 October 2022, the Company requested a voluntary suspension from the ASX until an announcement is made to the market regarding a potential legacy liability of NT Minerals relating to mining activities conducted in New South Wales (NSW). Mining ceased in 1996 and processing was completed by January 2000.

The NSW Resources Regulator has notified NT Minerals that the Company, then known as Burdekin Pacific Limited ('Burdekin'), was, in 2005, issued with a S.240 Notice under the *Mining Act, 1992* requiring Burdekin to undertake rehabilitation works in relation to the mining lease previously held by the Company (Burdekin) in respect of the McKinnon's Mine near Cobar, NSW, which lease expired in June 2004.

The current directors of NT Minerals were not previously aware of this matter, which is some 17 years ago, and have engaged with the NSW Resources Regulator to understand the full position in relation to the Notice and to what extent there may be outstanding obligations in relation to the remediation of the mine site. This includes trying to understand of the actions of Burdekin and subsequent successors.

The Company has held constructive discussions with the NSW Resource Regulator.

Until we receive further feedback from the NSW regulator the directors believe the circumstances are still unclear and consider the best course of action is to continue the company's suspension until we either have further clarity or the company's financial position has been strengthened.

**-ENDS-**

**For further information please contact:**

**Hugh Thomas**  
**Managing Director**  
**Ph: +61 8 9362 9888**

This announcement was approved and authorised for issue by the Board of NT Minerals.

### **Competent Person's Statement**

The information that relates to Exploration Results is based on, and fairly represents, information compiled by Mr Michael Cowin, a Competent Person, who is a Member of the Australian Institute of Geoscientists. Mr Cowin is employed as Exploration Manager to NT Minerals Limited. Mr Cowin has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Cowin consents to the inclusion of the matters based on his information in the form and context in which it appears.

### **Disclaimer**

This announcement contains certain forward-looking statements. Forward looking statements include but are not limited to statements concerning NT Minerals Limited's ('NTM's) planned exploration program and other statements that are not historical facts including forecasts, production levels and rates, costs, prices, future performance or potential growth of NTM, industry growth or other trend projections. When used in this announcement, the words such as "could", "plan", "estimate", "expect", "intend", "may", "potential", "should", and similar expressions are forward-looking statements. Such statements are not a guarantee of future performance and involve unknown risks and uncertainties, as well as other factors which are beyond the control of NTM. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors. Nothing in this announcement should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities.

## Appendix 1: Tenement Schedule (ASX Listing Rule 5.3)

*Mining tenements held at the end of the quarter and their location.*

TENEMENT No.	LOCATION	INTEREST %	HOLDER
MLN634	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
MLN635	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
ELR94	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL31316	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32715	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL24654	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32323	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32324	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32325	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL31236	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL31237	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32460	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32461	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32462	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32463	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32464	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32465	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32466	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32467	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32468	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32469	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32470	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32471	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32807	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL32873	Northern Territory	100	Redbank Operations Pty Ltd <sup>1</sup>
EL6247	South Australia	100	NT Minerals Limited
EL6341	South Australia	100	NT Minerals Limited

**Note 1:** Redbank Operations Pty Ltd is a wholly owned subsidiary of NT Minerals Limited.

***Mining tenements acquired during the quarter and their location***

Nil

***Mining tenements disposed of during the quarter and their location***

Nil

***The beneficial percentage interests held in farm-in or farm-out agreements at the end of the quarter***

Nil

***The beneficial percentage interests in farm-in or farm-out agreements acquired or disposed of during the quarter***

Nil

**Summary of Cash Expenditure per Project during the Quarter**

<b>Project</b>	<b>Cash Expenditure \$'000</b>
Sandy Flat Project	-
Redbank Project	682
Millers Creek Project	4
<b>Total</b>	<b>686</b>