



31/01/2022

QUARTERLY ACTIVITY REPORT FOR THE PERIOD ENDED 31 DECEMBER 2021

Duke Exploration Limited (ASX: DEX) ("Duke" or "the Company") is pleased to present the company activity report for the 4th quarter, 2021. The quarter started with the revised strategy implementation in the initial areas of intensive planning, field work and technical development activities completed during the quarter as planned, on the Company's flagship copper project – Bundarra.

After the completion of this process and the identification of the primary targets list, a five hole diamond drill campaign was planned and implemented, for completion in January 2022.

Looking forward to an exciting Q1, 2022 the focus will be on Bundarra primary target identification, test drilling and pattern drilling for scale estimation with the RC rig, starting in February 2022.

Assuming positive outcomes from this process, the RC rig will be following on with ongoing target test drilling for copper mineralisation, pattern drilling for mineralization scale estimation Q2 of 2022, and immediately on to resource drilling the top target/s.

HIGHLIGHTS

- Optimised resource development strategy implemented.
- 2 of the 5 planned exploration diamond holes were completed – both holes intersecting visible copper mineralisation, consistent with our refined targeting technique.
- Reprocessed VTEM data was used to produce a 3D model of conductivity and chargeability to a depth of 300 m below surface covering most of the Bundarra project area.
- The pXRF soil sampling programme was completed and now covers the entire Bundarra Pluton. A total of four new copper anomalies have now been mapped around the Bundarra Pluton ridge line with a footprint larger than 0.25 km² in addition to the six copper anomalies identified in previous soil programmes.
- 2 drilled metallurgical holes have been sent to Perth to undergo further testing.
- Final drill results from Prairie Creek were returned confirming historic gold and silver results. Best gold and silver intersections from all holes include:
 - 7 m at 31.17 g/t Ag from 0.0 m in PCDD002,
 - 4.0 m at 0.59 g/t Au from 0.0 m in PCDD003,
 - 2.4 m at 0.71 g/t Au from 16.0 m in PCDD003, and
 - 2.1 m at 1.64 g/t Au from 52.9 m in PCDD003

Next Quarter Work Programme

- Complete follow up geological target diamond drilling at Rogers to aid planning of first phase RC drilling over targets that have the best chance of adding to the Mt Flora resource.
- Start scout RC drilling in February to determine the highest priority target for resource development drilling.
- Continue regional scale pXRF soil sampling to cover the sediments surrounding the Bundarra Pluton.
- Begin first pass soil sampling over prospective porphyry targets within Waitara and Duania tenements.
- Accelerate and extend collection of electrical geophysical data over the entire Bundarra Pluton to help with further prioritisation of added resource development targets.
- Evaluate the results of the exploration drilling at the Prairie Creek gold target and plan next steps.

This announcement has been authorised for release by the Board.



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Corporate

The Company completed a strategy review during Q3 and the implementation phase of the new strategy was commenced in Q4 of 2021.

The strategy outlined a path forward, building on the Company's initial Maiden Resource Estimate at Mt Flora, towards achieving sufficient total resources to economically justify a mining operation.

Bundarra is a large-scale copper system with multiple mineral occurrences throughout and as such, requires a structured optimised approach, leveraging off the Company's previous work, data set, skills, and local knowledge, to achieve an optimal outcome for resource development.

This optimised approach laid out the Q4 work activity as follows: -

- Soils sampling – conduct and complete Bundarra pluton wide geochemical soils survey - completed with 4 new areas of discovery.
- VTEM Inversion Modelling – reanalyse and model the data from previous airborne VTEM survey to provide a 3D model of geophysical anomalous areas – completed with 39 km of linear conductive trends identified, of which 19km were associated with anomalous copper in soil.
- Generate development targets for scout testing via diamond drilling – completed with a total 74 targets generated consisting of 10 primary and 64 secondary targets as reported on 17th December, 2021.
- Scout Drill priority targets to confirm modelling and targeting technique – a campaign of 5 diamond holes was started, being with one hole each in Quorn and Isens, followed by 3 in the Rogers prospect area. Notwithstanding some delays associated with inclement weather, the Quorn (breccia style) and Isens (vein style) holes intersected copper successfully, as the model predicted, and the core has been sent for assay. The first of the Rogers holes was started before exploration activity ceased on site for the Christmas/New Year break.

The above results to date are extremely encouraging and bode well for the Company strategy developed in Q3,2021 and implemented in Q3/4, 2021.

Moving in to Q1 of 2022, the development strategy will move into target generation for RC pattern drilling and identification of top resource development targets for resource drilling in Q2/3, 2022. The RC rig has been rebuilt and is ready to begin drilling immediately during Feb 2022, after the diamond drilling campaign is completed and priority drill targets and drill sequences and patterns finalised.

Related party payments paid during the quarter comprised Non-Executive Director's fees, salary for the Managing Director, fixed monthly consulting fee paid to the Company Secretary, and consulting fees paid to Kenex Pty Ltd (Kenex) for geological and database management services. Dr. Greg Partington, the Company's Operations Manager (until 31 December 2021) is a director of Kenex. A full explanation of the services provided by Kenex and the contractual relationship was outlined in the Company's prospectus. An announcement was made on 26 November 2021 advising that Dr Greg Partington was moving on from the Company after 5 years of service. The Company thanks him again for his service.

The total funds held by the Company in cash and equivalents at the end of the December 2021 Quarter is \$9.03m, placing the company in a very strong position to carry out its planned and committed exploration and work programs.

The announcements made during the quarter can be found at www.duke-exploration.com.au.

Listing Rule 5.4.4 requires the Company to set out a comparison of funds allocated in the use of funds schedule in the Company's September 2020 prospectus compared to what has actually been spent and an explanation of any material variance. The Company provides the following table in satisfaction of this listing rule requirement:

	Prospectus Year 1	Actuals to 30 September 21 (12months)	Prospectus Year 2	Actuals to 31 December 21 (3 months)
Bundarra				
Mapping and Targeting	\$96,350	\$366,767	\$5,000	\$258,787
Drilling	\$3,094,311	\$4,841,256	\$1,255,188	\$358,601
Geophysics	\$766,040	\$1,158,740	-	\$101,926
Resource Estimation	\$107,000	\$23,875	\$173,000	-
Access/other	\$84,800	\$314,255	\$62,000	\$95,647
Total	\$4,148,501	\$6,704,893	\$1,495,188	\$814,961
Prairie Creek				
Mapping and Targeting	\$5,000	\$352	\$35,000	-
Geochemical Sampling		\$52,570	\$66,220	-
Drilling	\$252,105	\$215,728	-	\$22,611
Geophysics	\$66,250	\$43,981	-	\$1,250
Resource Estimation	-	-	\$21,000	
Equipment/Other	\$50,500	\$23	-	\$1,892
Total	\$373,855	\$312,654	\$122,220	\$25,753
Red Hill				
Mapping and Targeting	\$7,000	-	\$35,000	-
Geochemical Sampling	-	-	\$65,000	-
Drilling	\$295,560	-	-	-
Equipment/Other	\$35,000	\$21,767	-	-
Total	\$337,560	\$21,767	\$100,000	-
Exploration & Corporate Management				
	\$705,680	\$1,442,159	\$616,993	\$469,389
Grand Total	\$5,565,596	\$8,481,473	\$2,334,401	\$1,310,103

The Company advises that since its November 2020 listing, it has raised a further \$10.75m from a Share Placement and Share Purchase Plan undertaken in June/July 2021. This funding was largely to accelerate the Bundarra work program and therefore a comparison of actual expenditure to the original September 2020 prospectus year 2 work program will by definition show much larger numbers of actual spend going forward compared to what was envisaged in the year 2 work program contained in the prospectus. The Company has a larger exploration team to allow regional exploration and drilling to be done concurrently.

Operations

Bundarra Project, (Duke 100%)

The Bundarra Project comprises the Bundarra EPM 26499, Duania EPM 27474 and Waitara EPM 27609. The tenements are located approximately 130 km southwest of Mackay and 50 km east of Moranbah in central Queensland (Figure 1). The Bundarra tenement covers 207 km² over the Bundarra Pluton, the Duania tenement covers 83 km² over the interpreted down plunge extent of the Bundarra Pluton to the southwest and the Waitara tenement covers 19 km² over a geologically related intrusion to Bundarra (Waitara granite), 20 km to the northeast, on a trend of buried intrusions that have been mapped in 3D (Figure 1).

The Mt Flora prospect is a high priority target for development in the Bundarra Project area (see www.duke-exploration.com.au for project details) and has an Inferred resource of 16 Mt at an average grade of 0.5% Cu and 6.9 ppm, Ag, with a 0.2% Cu cut-off grade which equates to 78,000 tonnes of copper and 3.6 million ounces of silver (Table 1). There are currently five other target areas with similar development potential on the Bundarra project as defined by historical mining, geology, and geophysics.

Table 1. Mt Flora Mineral Resource Summary.

		Tonnes (Mt)	Cu%	Ag g/t	Cu tonnes	Ag ounces
Inferred	Oxide	1	0.3	4.2	2,000	87,000
	Sulphide	15	0.5	7.0	76,000	3,500,000
	Total	16	0.5	6.9	78,000	3,600,000

Notes:

- Reported at a 0.2% Cu-equivalent cut-off grade (Cu & Ag)
- The Mineral Resource is classified in accordance with JORC, 2012 edition.
- The effective date of the Mineral Resource estimate is 25 June 2021.
- The Mineral Resource is contained within EMP 26499.
- Estimates are rounded to reflect the level of confidence in these resources at the present time. All resources have been rounded to the nearest million tonnes.
- The Mineral Resource is reported as a global resource

In accordance with ASX guidance note 31, the Company advises as follows:

1. The Mt Flora Mineral Resource outlined above was first announced to ASX on 29 June 2021 (Mt Flora Maiden Inferred Mineral Resource);
2. The Company is not aware new information or data that materially affects the Mt Flora Mineral Resource summary as initially announced on 29 June 2021 and confirms that all the material assumptions and technical parameters underpinning the estimates in the Mt Flora Mineral Resource summary continue to apply and have not materially changed.

Regional exploration is being carried out concurrently with the resource development work at Mt Flora, with pluton-scale electrical geophysical and pXRF geochemical soil surveys are being carried out around the contact of the Bundarra intrusion, and exploration has drilling started in the Southwest of the pluton around the historic Quorn and Absolon prospects testing the resource development potential of the new targets being generated by the regional exploration (Figure 1).

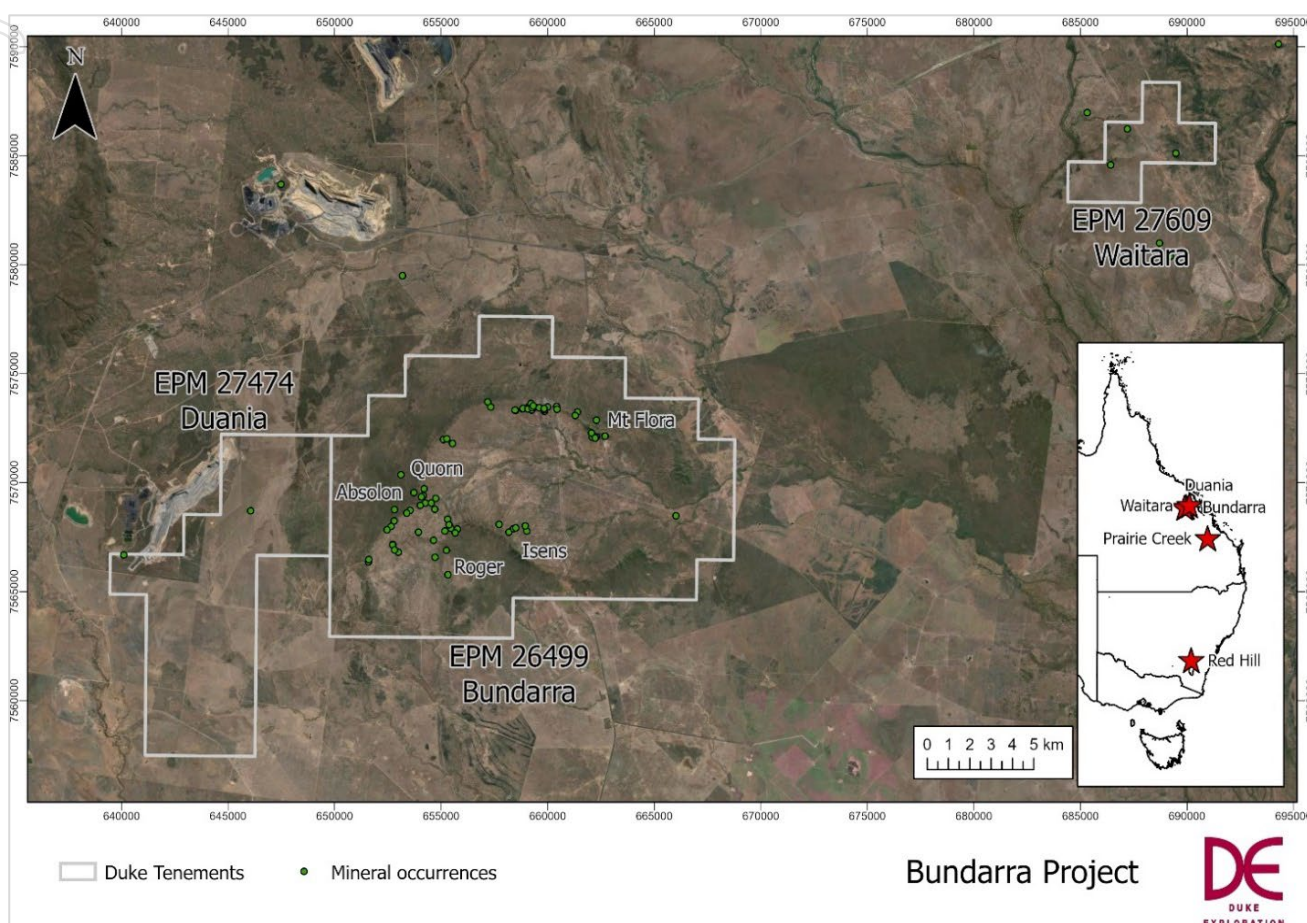


Figure 1. Location of Bundarra Project (EPM 26499, EPM 27474, and EMP 27609) compared to historic prospects and main target areas.

VTEM Data Modelling and Coincidental Geochemical Anomalies

Duke Exploration has interpreted historic Versatile Time-Domain Electromagnetics (VTEM) data that was acquired over the Bundarra area in 2011 by previous owners of the project. VTEM data was reprocessed to produce a 3D model of conductivity and chargeability to a depth of 300 m below surface covering most of the Bundarra project area. When combined with Duke's soil sampling data, the 3D geophysical model highlights numerous coincidental conductivity and copper in soil anomalies around the Bundarra pluton's 50 km long contact.

The ASX announcement on 15 September 2021 outlined Duke's profile targeting system that utilised conductivity derived from processed Gradient Array Induced Polarisation (GAIP) data and pXRF copper in soil results to define the location and likely size of mineralisation targets around the Bundarra pluton. Processing the historic VTEM data and extending soil surveys has allowed the technique to be further modified and applied over an expanded area where there was no GAIP coverage. Figure 2 demonstrates the utility of the processed

VTEM data at Mt Flora, where the modelled higher conductivity response is correlated with mineralisation in fresh rock at a depth of approximately 70 m below surface.

A total of 39 km of linear conductive trends were identified through this targeting analysis from which 19 km were associated with anomalous copper in soil (Figure 3). The majority of conductive trends associated with copper in soil anomalies are untested by drilling. The large scale of the combined geophysical and geochemical anomalism provides excellent exploration potential.

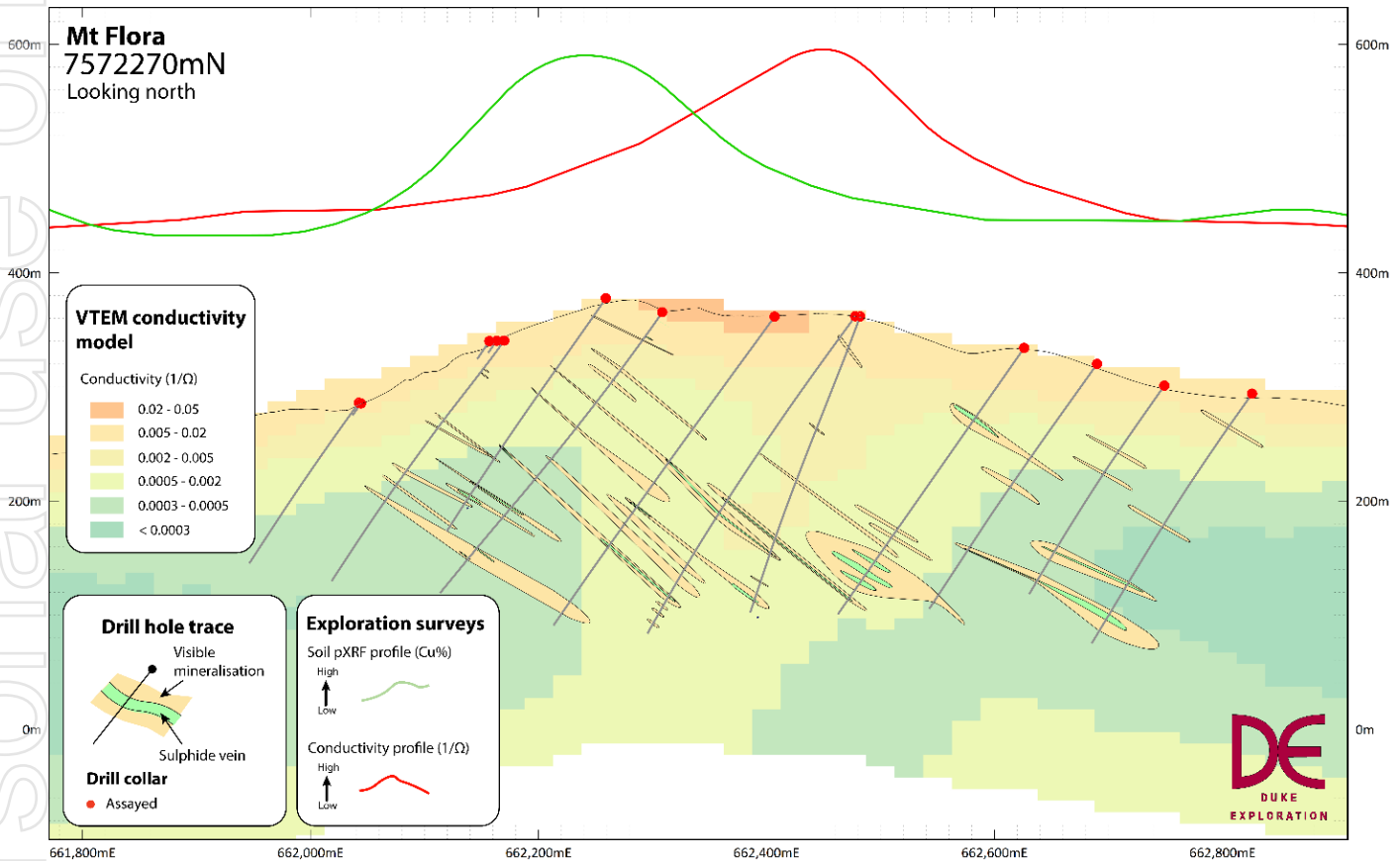


Figure 2. Section 7,572,270 mN of the most northern line of resource drilling relative to pXRF soil and electrical geophysical anomaly profiles.

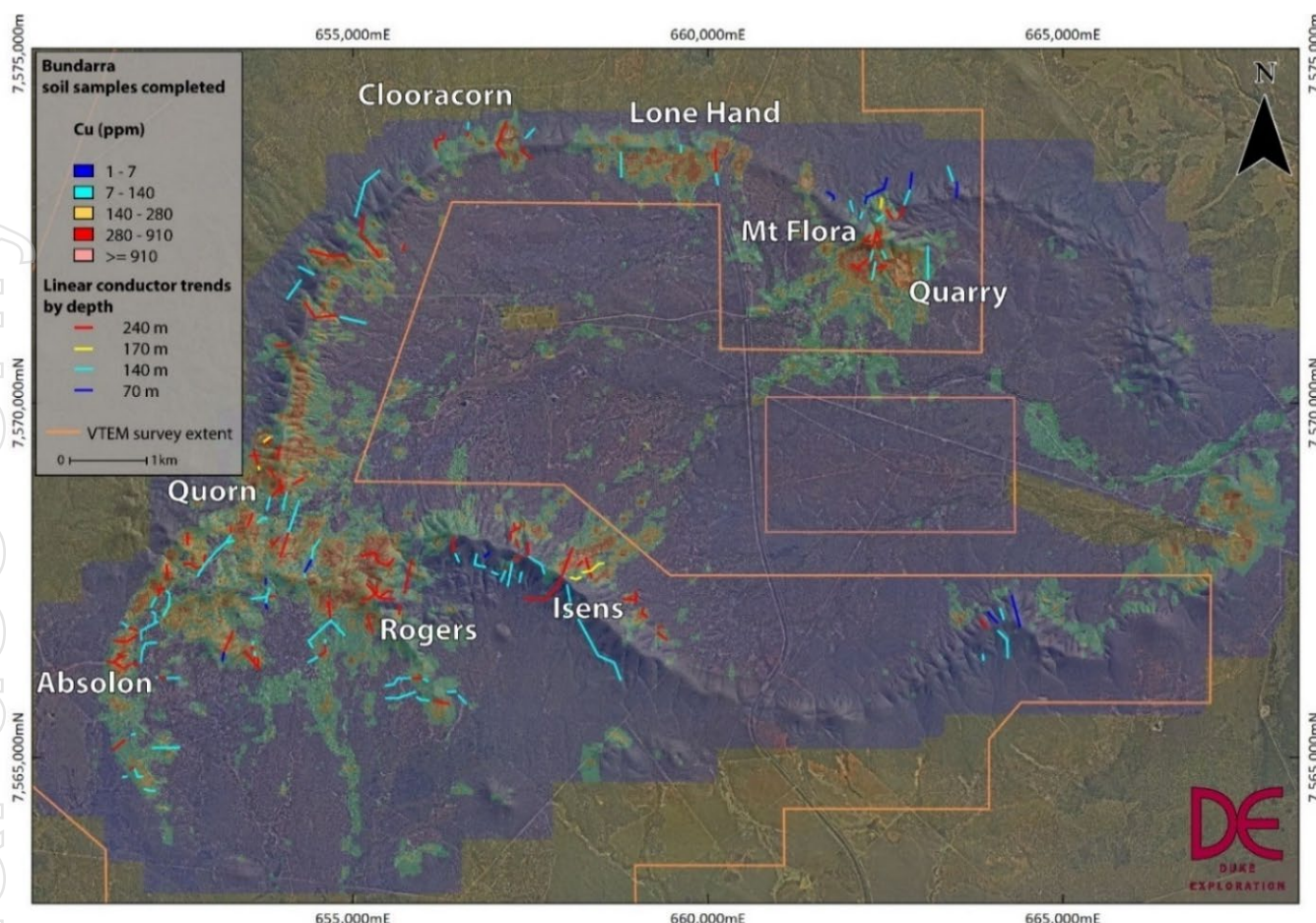


Figure 3. Interpreted linear trends from pXRF copper soil and conductivity profile targets from survey areas.

Geological mapping and assessment of the highest ranked targets has begun to help guide RC drill-testing planned for early 2022. The model is continually evolving as new information from drilling is incorporated.

Quorn and Isens Preliminary Exploration Drilling Results

Five diamond holes for 880 m were planned at Quorn, Isens and Rogers to test the exploration targeting technique outlined above. These holes were designed to:

- Test selected high priority coincident copper in soil and zones of high GAIP conductivity,
- Review and interpret the geometry and controls on the copper and silver mineralisation intersected to date.

Two holes (one hole at Quorn and one hole at Isens) for 430 m have been completed, with three holes remaining to be drilled at Rogers (Table 2 and Figure 4). Drilling was severely impacted by adverse weather conditions and will continue into January 2022.

Table 2. Bundarra exploration diamond drill hole details.

Hole ID	Prospect	Plan ID	NORTH	EAST	RL	DIP	Azimuth	DEPTH
BNDD001	Quorn	PLQN001	7569541	653712	322	-60	180	250
-	Rogers	PLQN002	7567776	655231	337	-55	180	150
-	Rogers	PLQN003	7567757	655416	354	-55	180	150
-	Rogers	PLQN004	7567374	655131	378	-55	180	150
BNDD002	Isens	PLQN005	7567626	658272	366	-55	325	180

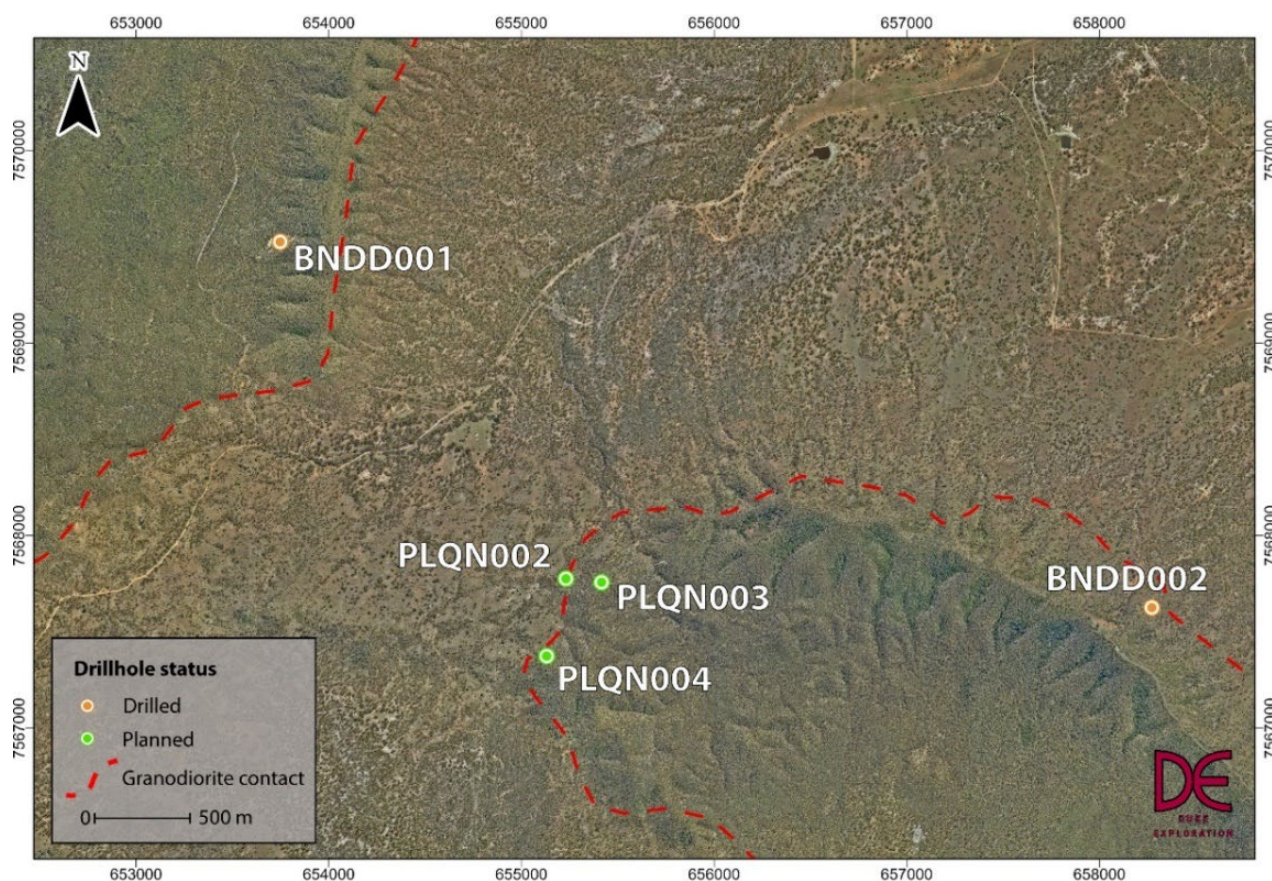


Figure 4. Locations of drilled and planned exploration diamond drill holes, Q4 2021 and Q1 2022.

Quorn

Quorn was tested by the first Bundarra exploration scout drilling program as announced to the ASX on 28 July 2021. A total of four exploration holes and one water bore were drilled - all intersecting copper, silver, and gold mineralisation (Figure 5). Better results from that program included:

- 4.0 m at 2.66 % Cu, 4.51 g/t Ag and 0.54 g/t Au from 199.0 m in QNRC001,
- 11.0 m at 1.04 % Cu, 14.70 g/t Ag and 0.07 g/t Au from 122.0 m in QNRC002,
- 27.0 m at 0.58 % Cu, 14.86 g/t Ag and 0.05 g/t Au from 26.0 m in QNRC002.

The recently drilled diamond hole confirmed two distinct mineralisation styles and orientations at Quorn that can be seen in outcrop. The top 120 m comprises an angular breccia with clasts of foliated metasediment and granodiorite in a matrix of hydrothermal infill minerals. Mineralisation below the breccia zone comprises 1 – 10 cm thick chalcopyrite-pyrite-pyrrhotite veins associated with hematite-magnetite alteration within foliated metasedimentary rock. The approximate boundary of the breccia zone can be mapped at surface and forms a roughly ellipsoidal shape 100 m by 50 m elongated in a northeast-southwest direction (Figure 5). Vein-style copper mineralisation in historic workings in granodiorite on the eastern side of the Quorn prospect strikes east-west and dips to the north.

Mineralised zones within the breccia matrix hosting up to 5% secondary copper minerals (predominantly malachite and azurite) were logged in the oxide zone and up to 5% sulphides (chalcopyrite and pyrite) in fresh rock (Figure 6).

BNDD001 was drilled to the south to intersect the north-dipping vein set interpreted to extend from historic workings to the east (Figure 7). Although north-dipping veins are present towards the bottom of the drill hole it is now apparent that the breccia zone represents a new opportunity for the immediate future and that the significant intercepts in Duke drill hole QNRC002 represent breccia style mineralisation rather than vein style as was previously presumed.

Assay results are awaited.

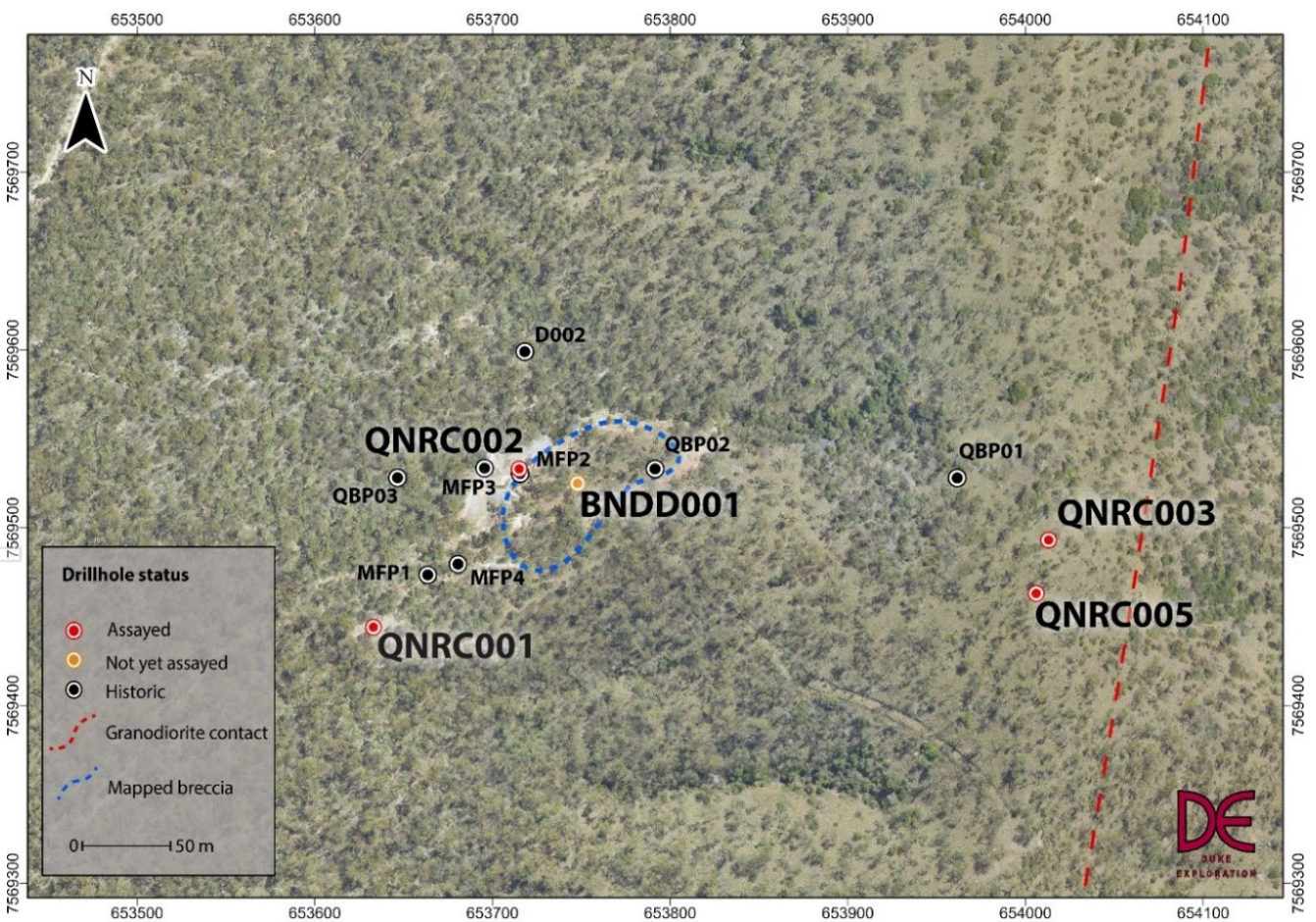


Figure 5. Completed drill hole locations at Quorn including historic drill holes, breccia outcrop and granodiorite contact.



Figure 6. Quorn BNDD001 mineralised zones intersected downhole showing breccia style mineralisation.

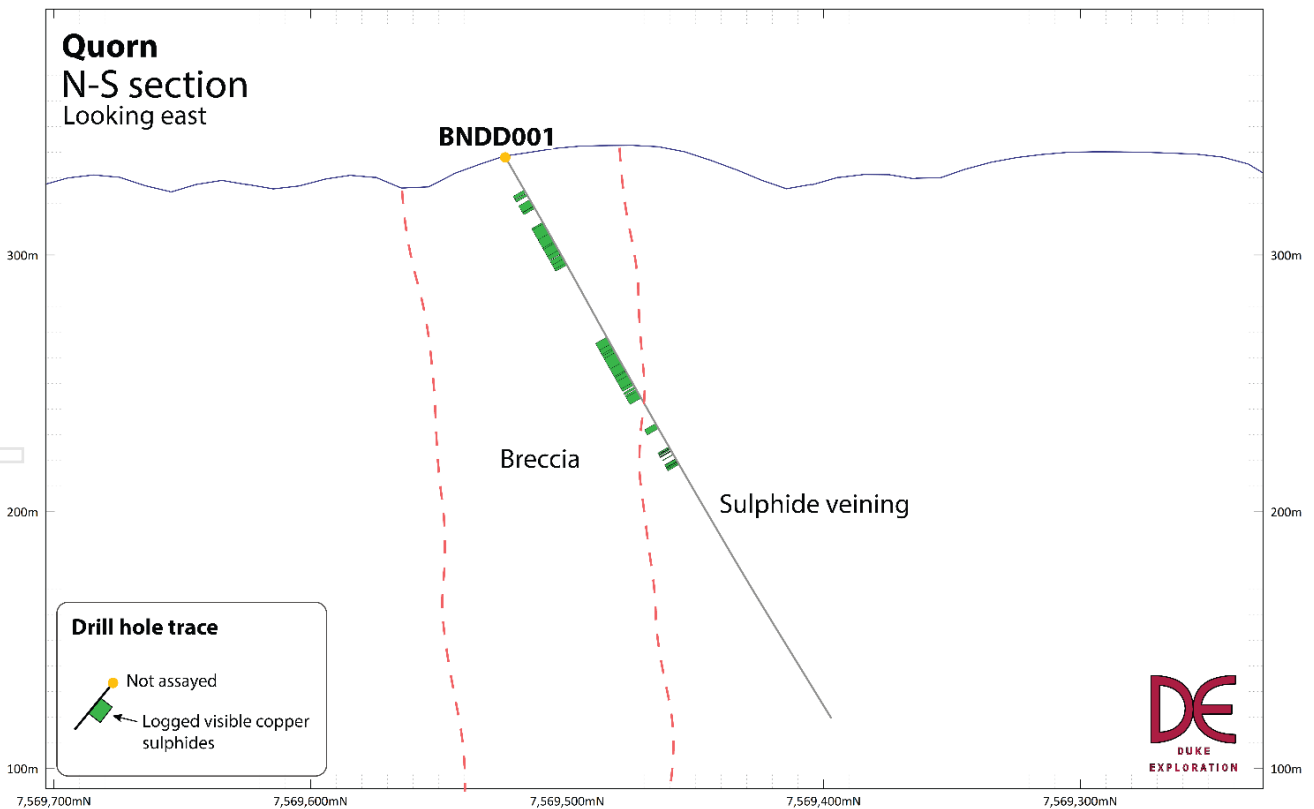


Figure 7. Cross section on 653750m E showing the logged mineralisation relative to the breccia and vein style mineralisation.

Isens

The first hole drilled into the Isens prospect was targeted at the down-dip extension of mineralisation exposed in historic workings to the northwest, with the additional aim of testing for a stacked parallel lode system similar to Mt Flora (Figure 8). A 4 m wide zone of strong to intense sericite-chlorite-albite alteration with pyrite-chalcopyrite veinlets (Figure 9) was intersected from 110.6 m downhole, at the expected position of the down-dip projection of the historic workings. The footwall contact of the mineralised zone is marked by about 15 cm of a more sulphide rich siliceous shear zone cut by a thin (20 cm) feldspar porphyry intrusion. Additional zones of thin sulphide veining / veinlets were intersected above and below the main lode zone, as shown in Figure 10. Drilling issues due to poor ground conditions resulted in the hole being abandoned at 147 m depth despite intersecting several minor 1 cm chalcopyrite-pyrite veins near the bottom of hole.

This drill hole has confirmed that mineralisation strikes NE – SW and that the exploration targeting technique using VTEM and mapping Cu from soil sampling works. The strike and dip of the 3D conductivity model from the VTEM data replicated the mineralised intersections downhole and indicate the lode may extend an additional 500 m along strike.

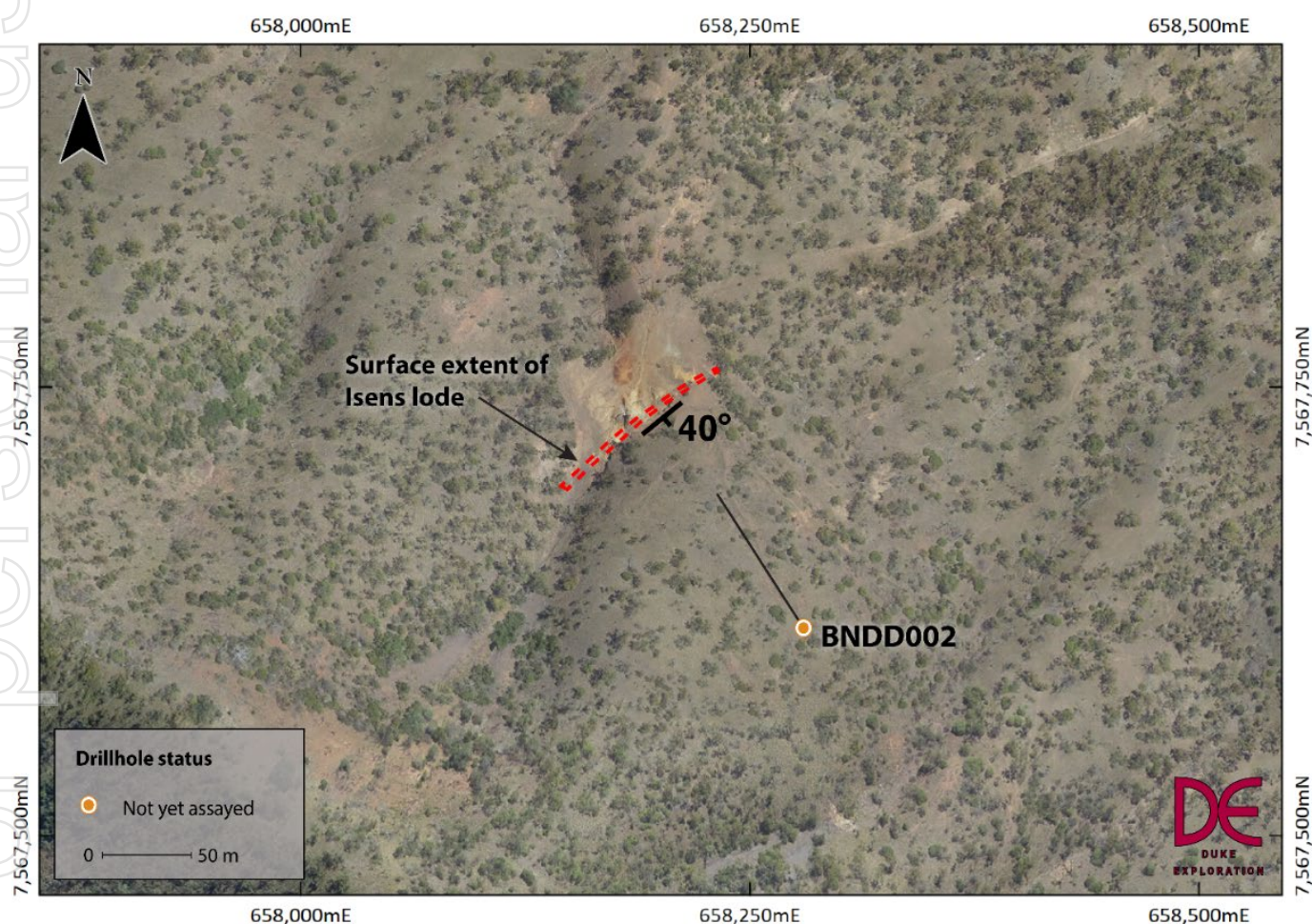


Figure 8. Isens plan highlighting the relative location of BNDD002 to the surface expression of the Isens lode.



Figure 9. Isens drill rig set up on the pad drilling NW with examples of mineralised lodes intersected downhole.

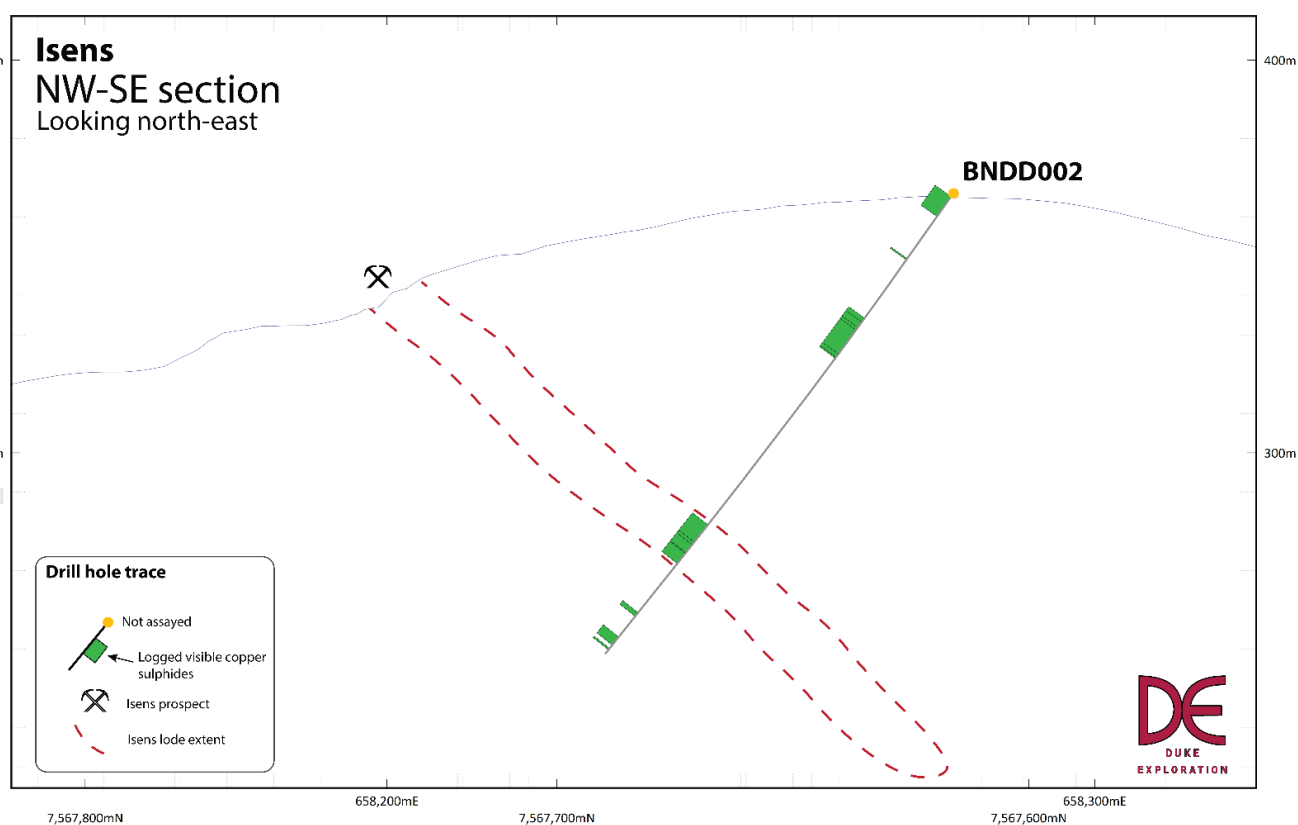


Figure 10. Isens cross section highlighting the relative locations of logged mineralisation and orientation of the Isens lode.

The results from this recent drilling are another significant step forward in the discovery of additional resources of copper and silver at Bundarra to that already found at Mt Flora. The scale of the mineral system at the two recently drilled prospects and the number of new targets around the pluton suggest that a near surface long life mining operation may be present at Bundarra, particularly when the other electrical geophysical targets are included.

Assay results are awaited.

Mt Flora and Quarry Lode Metallurgy

The metallurgical program that was initiated in the September 2021 quarter continued through the December quarter. Final results are not expected until early March 2022 quarter.

The samples were sent to the Arnofio laboratory in Perth where a series of comminution tests, sighter float tests, Jameson simulation tests and definitive Locked Cycle floatation test work on a master composite representative of the likely copper, silver and gold ore grades is being conducted. This work will also provide samples of the potential concentrate from the ore at Mt Flora that will be used for future marketing and discussions with smelters and metal traders.

Bundarra Project pXRF Soil Sampling

The accelerated regional soil sampling program utilising a field-portable XRF (pXRF) reached a significant milestone, covering the entire Bundarra Pluton contact zone ridge line (Figure 11). A total of 22,250 soil samples have now been collected to date across the entire Bundarra Pluton, of which 6,793 samples were completed in the December quarter. The area with pXRF soil data now covers the entire Bundarra Pluton. The soil sampling is planned to extend the anomalous areas identified on the boundaries of previously surveyed areas and to extend the sample coverage into the Back Creek Group sediments surrounding the sediments. One soils team is operating, with the aim of completing sampling over the entire prospective area of the Bundarra Pluton by mid-February, depending on weather and land access.

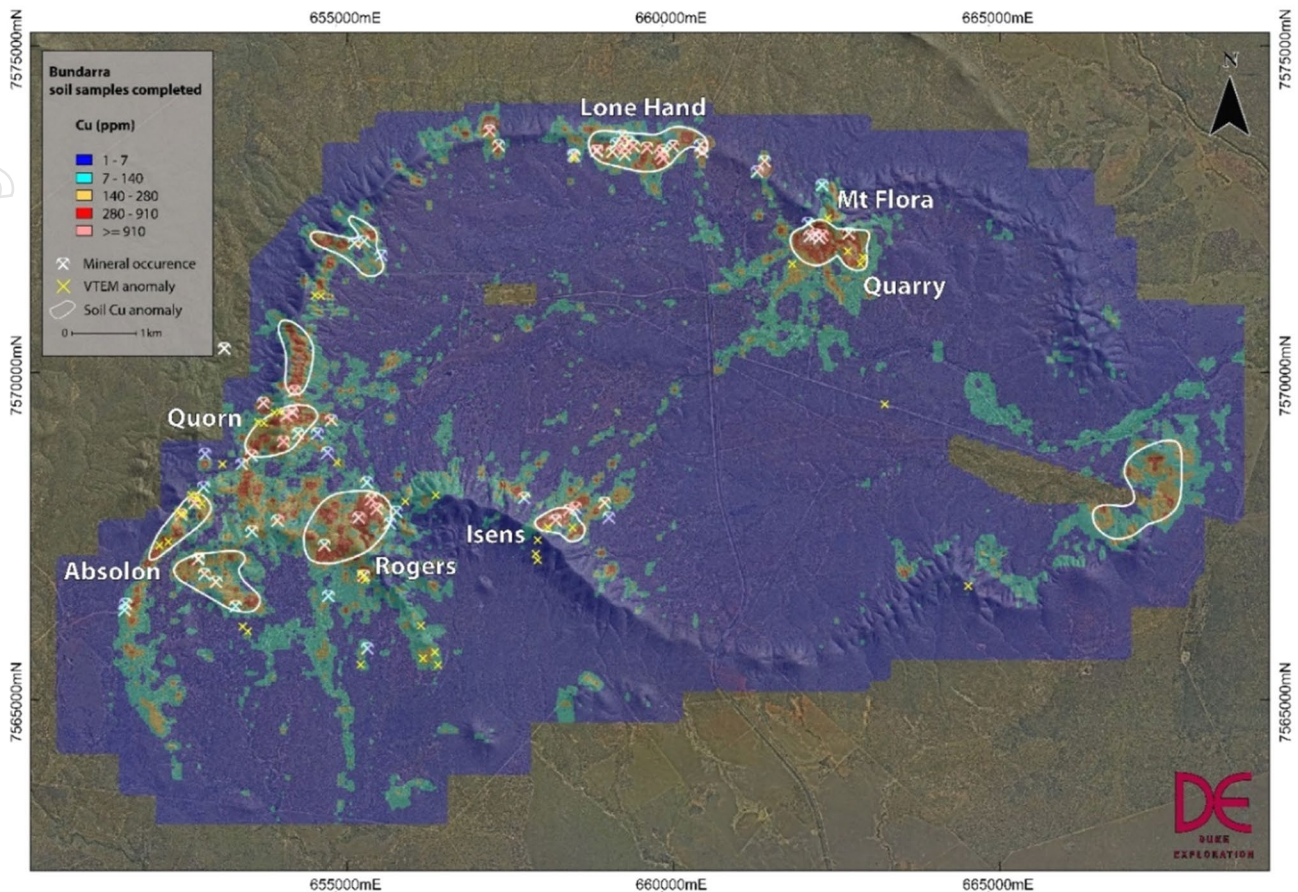


Figure 11. Grid map of pXRF copper soil values highlighting mapped copper anomalies greater than 0.25 km².

Copper is the main element used to map potential near surface copper bearing massive sulphide veins like those that define the resource at Mt Flora. Certain areas around the steeper parts of the hills proved difficult to sample due to significant scree slopes. The scree resulted in a sample being taken that may not accurately represent the true soil profile at the given location and areas with low copper soil values may host bedrock mineralised veins that are covered by barren scree.

The copper soil anomaly mapping the Mt Flora resource covers an area of 0.67 km² using a 140 ppm Cu cut off. A total of four new copper anomalies have now been mapped around the Bundarra Pluton ridge line with a footprint larger than 0.25 km² in addition to the six copper anomalies identified in previous soil programmes (Figure 11). The average area of each soil anomaly is 0.66 km², comparable to Mt Flora. **All holes drilled to date around the Bundarra Pluton which have targeted anomalous copper mineralisation of more than 140 ppm Cu in the soil have intersected copper, silver, and gold mineralisation in the bed rock below the soil anomalies.** The largest copper soil anomaly mapped to date is along the eastern contact ridge line of the Bundarra pluton, covering an area of 1.2 km². This is a new discovery with no evidence of historic mining nor exploration activity, which confirms that the eastern contact of the Bundarra pluton is also prospective for new discoveries of copper, silver, and gold mineralisation like Mt Flora. This has the potential to further increase the scale of the mining development opportunity at the Bundarra project. The new copper soil anomaly mapped to the east has not been fully defined and is expected to increase in size when additional extensions samples are collected.

Prairie Creek Project, (Duke 90%)

The Prairie Creek Project is located 120 km southwest of Gladstone and 25 km southwest of Biloela, central Queensland, in EPM 26852 (Figure 12). This part of Central Queensland is prospective for epithermal gold mineralisation like the Cracow epithermal gold deposit 80 km to the south.

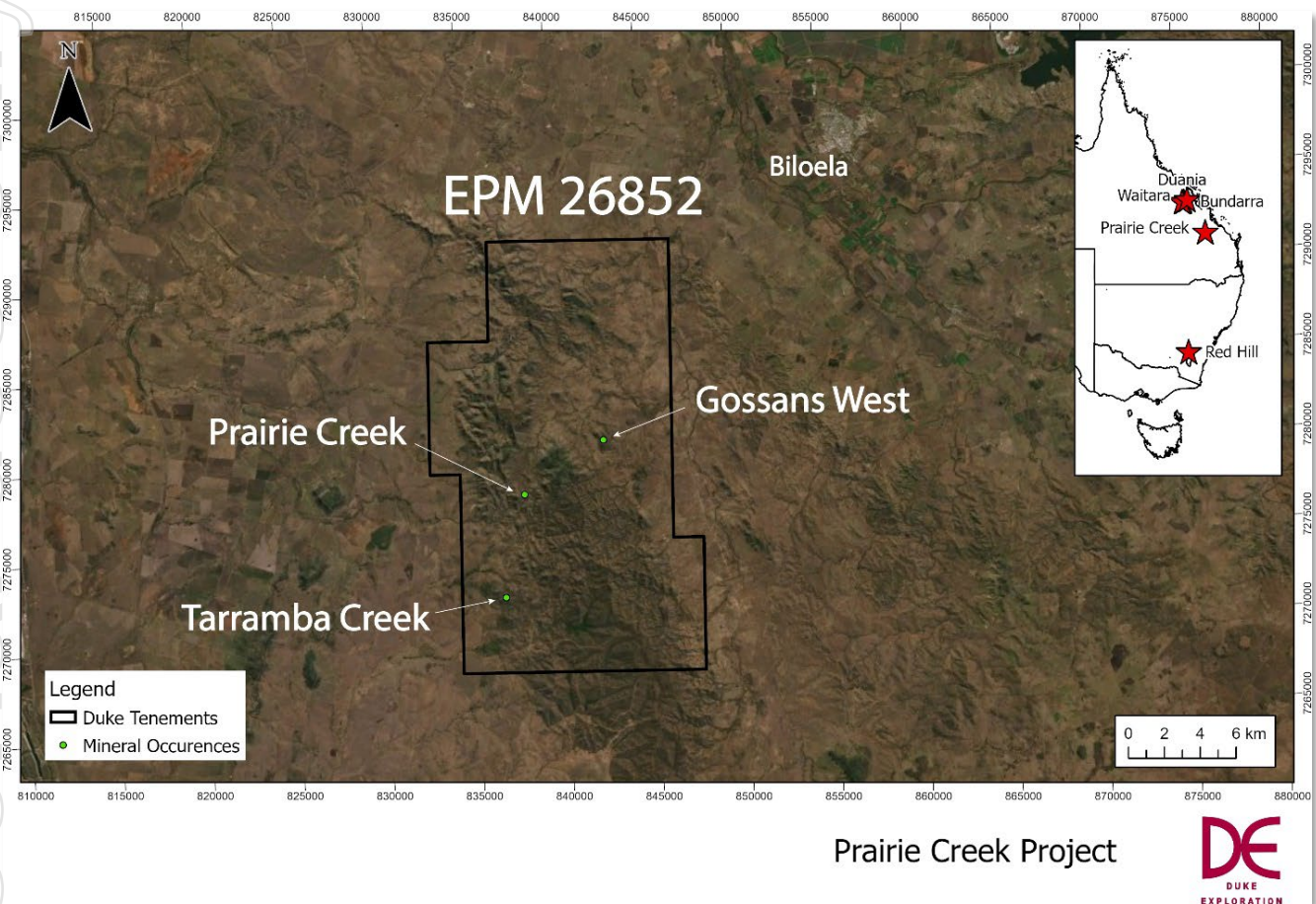


Figure 12. Location of Prairie Creek project (EPM 26852).

The Prairie Creek prospect is the highest priority target within the project area (Figure 12; see www.duke-exploration.com.au for project details). The prospect was historically identified from stream sediment sampling and is defined by a NE trending high grade gold in soil anomaly (0.5 – 5.0 g/t Au), extending over a strike length of 1.6 km and with a width of 200 m. The mineralisation style is interpreted as a gold-rich epithermal system containing minor silver associated with colloform quartz veining and breccia fill within a chlorite-hematite-k-feldspar-sericite altered volcanoclastic. Historic drilling has been carried out on the southern end of the soil anomaly, but the extent and continuity beyond this outcrop has not been tested. Significant intersections in historic drilling included:

- 13.3 m @ 2.81 g/t Au from 55.3 m in DD93GW9
- 20 m @ 1.18 g/t Au from 20 m in RC93GW3
- 8 m @ 2.09 g/t Au from 60 m in RC93GW7
- 52 m @ 2.11 g/t Au from 52 m in RC93GW5, including 10 m @ 3.2 g/t Au and 6 m @ 6.55 g/t Au.

Duke's drilling program comprised three diamond holes for a total of 363.3 m, completed in the September 2021 quarter with results from hole PCDD001 reported in that quarter. Results for PCDD002 and PCDD003 are below (Table 3). Best gold and silver intersections from all holes include (Table 4 and Figure 14):

- 7 m at 31.17 g/t Ag from 0.0 m in PCDD002,
- 4.0 m at 0.59 g/t Au from 0.0 m in PCDD003,
- 2.4 m at 0.71 g/t Au from 16.0 m in PCDD003,
- 1 m at 0.54 g/t Au from 37.4 m in PCDD003, and
- 2.1 m at 1.64 g/t Au from 52.9 m in PCDD003

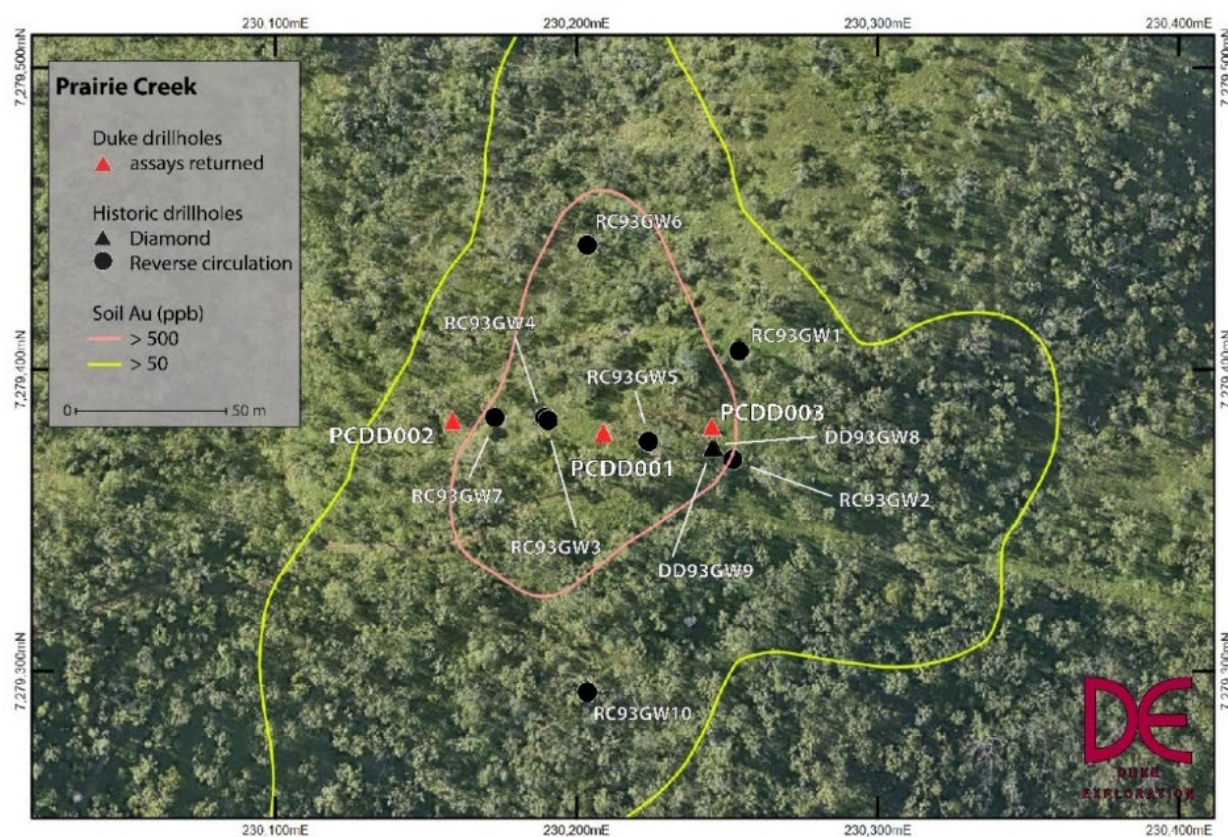


Figure 13. Location of Duke Exploration diamond drill holes relative to historic drill holes and anomalous gold in soil.

Table 3. Duke Exploration diamond drill collar details.

Hole ID	Easting MGA Zone 56	Northing MGA Zone 56	RL (m)	Depth (m)	Az	Dip
PCDD001	230209	7279379	483	155.5	93.0	-59.4
PCDD002	230159	7279383	476	122.1	99.7	-60.3
PCDD003	230245	7279381	479	85.7	92.3	-59.8

The three diamond drill holes from the recent program intersected a succession comprising an upper volcanoclastic conglomerate/breccia dominated unit and a lower more massive unit interpreted as a K-feldspar-hematite altered crystal tuff of the Torsdale Volcanics that are cross-cut by intrusions of mafic and syenitic composition up 10 m thick (Figure 14).

Gold-silver mineralisation is associated with breccia zones that have colloform banded quartz vein infill (Figure 15 and Figure 16). These breccias mostly occur within the upper volcanoclastic unit although PCDD001 did intersect one zone in the lower unit. Breccias overprint earlier chlorite-hematite±sericite±k-feldspar alteration in the host volcanoclastics. No wider veins were intersected and there is no clear structural control on the gold mineralisation other than the spatial relationship to breccia zones. Other colloform quartz infill breccias and veins were also noted in core that did not have associated gold mineralisation. Colloform quartz textures indicate relatively low-temperature conditions of formation and are characteristic features in low-sulphidation epithermal gold deposits such as Cracow.

Six zones of gold mineralisation were intersected in PCDD001 and four zones of gold mineralisation in PCDD003 (Figure 14 and Table 4). PCDD002 only returned low-level gold mineralisation but did return a high-grade silver intersection of 7 m at 31.17 g/t Ag from surface. Late-stage quartz veins are present and cross-cut all volcanoclastic units, syenite and brecciated quartz. These results confirm epithermal style gold mineralisation is present in the top 80 m and remains open to the north, east and south.

Table 4. Drill intersections from the new diamond drilling at the Prairie Creek gold prospect, using a 0.5 g/t Au cut off and a 3g/t Ag cut off, with a minimum width of 1 metre and including 2 metres of internal waste. All intercepts reported are down-hole lengths, true widths are not known.

Hole ID	From	To	Width	Au g/t	Ag g/t
PCDD001	0.0	4.0	4.0	0.66	1.31
PCDD001	7.0	9.3	2.3	4.68	2.1
PCDD001	11.4	31.8	20.4	1.86	0.89
PCDD001	38.1	43.5	5.4	2.95	0.89
PCDD001	61.6	62.6	1.0	0.81	1.1
PCDD001	151.2	152.2	1.0	0.93	0.25
PCDD002	0.0	7.0	7.0	0.17	31.17
PCDD003	0.0	4.0	4.0	0.59	0.25
PCDD003	16.0	18.4	2.4	0.71	0.55
PCDD003	37.4	38.4	1.0	0.54	0.25
PCDD003	52.9	55.0	2.1	1.64	0.51



Figure 16. Close up of colloform quartz infill in PCDD001.

The association of gold mineralisation with colloform quartz cemented breccia at Prairie Creek confirms that an epithermal system was developed. Although drilling did not intersect wider or high-grade veining zones only a small portion of the soil anomaly was tested. The presence of epithermal style mineralisation at the Prairie Creek prospect also indicates the possibility that other vein systems are present elsewhere on the licence.

The volcanoclastic units intersected at Prairie Creek are likely to be less brittle than volcanic rocks but more permeable. This provides potential for more stockwork and disseminated style epithermal mineralisation. In addition to this style of mineralisation, bonanza-style low-sulphidation epithermal gold mineralisation potential has yet to be tested in the Camboon Volcanics that are present on the EPM both to the east and west of Prairie Creek. These units (which are host to the Cracow deposits) are also close to the Glenhaven Granite, the possible heat and fluid source for mineralisation at Prairie Creek.

Understanding the local geology, particularly faults that were active during the time that the epithermal systems developed, is key to predicting the likely location of other structures. Newly acquired LiDAR data will be utilised to assist in fault system interpretation in combination with geological mapping. Multielement soil sampling will also be carried out to determine if other gold rich epithermal systems are present and to provide additional geochemical data to help constrain the geological mapping and potentially map alteration zones.

A first pass 3D geological map will be completed in the first quarter of 2022 to progress the understanding of Prairie Creek. Following this a soil sampling programme in conjunction with detailed ground geological mapping will be planned to target the priority areas of interest, with specific focus on structural features identified in the 3D mapping project. The aim of the work will be to have several priority targets to test for feeder structures that may host bonanza gold grades.

Red Hill, (Duke 100%)

The Red Hill Project is located approximately 70 km north north-west of Canberra, north and east of Yass in New South Wales in EL 8568. EL 8568 covers an area of approximately 180 km² within the prospective Lachlan Fold Belt, with Cu, Pb, Zn, Au, and Ag mineralisation in the project area associated with an interpreted porphyry mineral system. The Lachlan Fold Belt hosts several porphyry Cu-Au deposits such as Cadia, Cowal, and Northparkes and the recently discovered Boda porphyry system, providing the target style and scale for exploration at Red Hill.

The Red Hill Project was identified using mineral prospectivity analysis for porphyry copper-gold style of mineralisation over the entire Lachlan Fold Belt (see www.duke-exploration.com.au for project details). Importantly, several circular and sub-circular magnetic anomalies have been mapped that are spatially associated with the mineralisation discovered to date. These have signatures which may represent buried porphyry intrusions and could be the source of the metals mined in historic local workings.

There was no work during the Quarter.

Emmerson JV tenements NSW (Duke 10%)

Duke has an interest in four exploration licences within the Lachlan Fold Belt (LFB) of New South Wales operated by Lachlan Resources Pty Ltd, a wholly owned subsidiary of ASX listed Emmerson Resources (ASX:ERM). The four tenements that form the joint venture are Wellington (EL 8463 – 390 km²); Fifield (EL8464 – 66 km²); Temora (EL 8652 – 178 km²); and Kiola (EL8590 – 203 km²). This joint venture provides Duke with exposure to porphyry Cu-Au potential over a larger area of the highly mineralised Lachlan Fold Belt, as well as management of these assets by the highly credentialed Emmerson Resources management and exploration team (see www.duke-exploration.com.au for project details).

Emmerson continues to explore the JV tenements with no significant results reported during the quarter.

**Schedule of Mining Tenements and Beneficial Interests
Held as at the end of the December 2021 Quarter**

Project / Location	Country	Tenement	Percentage held / earning
Bundarra – Central Queensland	Australia	EPM 26499, EPM 27474, EPM 27609	100%
Prairie Creek – Central Queensland	Australia	EPM 26852	91%
Red Hill – NSW	Australia	EL 8568	100%
Emmerson JV – NSW	Australia	EL 8463, EL 8652	5%
		EL8590, EL8464	10%

**Schedule of Mining Tenements and Beneficial Interests
Acquired during the December 2021 Quarter**

Project / Location	Country	Tenement	Date Acquired
N/A			

**Schedule of Mining Tenements and Beneficial Interests
Disposed of during the December 2021 Quarter**

Project / Location	Country	Tenement	Withdrawal Date
NA			