ESSENTIALMETALS

for a sustainable future

**ASX Code: ESS**

**Corporate Profile**

Shares on issue: 237,619,974
Cash: $5.5m (30 June 2021)*
Debt: Nil
** $5M placement (04 Aug 2021)*

**KEY PROJECTS**

**LITHIUM** Pioneer Dome
**GOLD** Golden Ridge
**GOLD** Juglah Dome

**Joint Ventures (ESS %)**

1 x lithium project (51%)
2 x nickel projects (20-25%)*
4 x gold projects (25-30%)*
* Free carried to a decision to mine



**Investor Relations**

Nicholas Read
Read Corporate
t: +61 8 9388 1474
e: nicholas@readcorporate.com.au

ABN: 44 103 423 981

t: +61 8 9322 6974
e: info@essmetals.com.au
w: essmetals.com.au

Level 3, 46 Ord St
West Perth, WA 6005
Australia
PO Box 1787,
West Perth, WA 6872
Australia

**25 August 2021**

# Successful lithium drill campaign completed at Dome North

## Pegmatites intersected in all six targeted zones, with assays expected within 4 – 6 weeks

## HIGHLIGHTS

- The expanded 5,934m Reverse Circulation (RC) drill programme targeted six zones within the Dome North area at the Pioneer Dome Project, with pegmatites intersected within each zone.
- Two new prospects (DN6 and DN21) were drilled ~2km south-west of the Heller Deposit with thick pegmatites intersected.
- Four holes were drilled into the upper zone (0-40m) of the Cade Deposit to test the lithium grade and mineral assemblage and to ascertain the degree of weathering and near surface lithium depletion. An air-core hole drilled in June 2020 intersected 21m @ 1.79% $Li_2O$ from 4 metres (Hole PDAC386)[1], indicating minimal lithium depletion in that area.

**It should be noted that assay results are necessary to determine which pegmatites are lithium enriched.** Importantly, multi-element assay results will be used to determine if there were any 'near-misses' and to further understand the geological model of the Dome North area.

Essential Metals Managing Director, Tim Spencer, said: *"This drill programme was designed to test for shallow pegmatites under cover based on a new geological and structural interpretation, and we are very encouraged that we have successfully intersected pegmatites in each of the targeted areas.*

*"We look forward to receiving the assay results, which are expected within four to six weeks, in order to fully assess the outcomes of the drilling and help guide our next steps to expand the lithium resources within the Pioneer Dome Project."*

(1) Refer ASX announcement dated 23 July 2020 – Dome North Lithium Project update.

# PIONEER DOME LITHIUM PROJECT

**The Pioneer Dome Project (ESS: 100%) is located in the core of Western Australia's lithium corridor in the Eastern Goldfields, approximately 130km south of Kalgoorlie and 275km north of the Port of Esperance. A lithium Mineral Resource of 11.2Mt @ 1.21% $Li_2O$ has been defined at Dome North in the northern part of the Project area[2].**

**The southern Yilgarn area is recognised as being well endowed with spodumene deposits, including the Bald Hill Mine, the Mt Marion Mine and the Buldania Project. The world-class Earl Grey deposit and the Mt Cattlin Mine are located further west and south of Pioneer Dome, respectively.**

### Drill programme location

The red ellipses shown in Figure 1 below encapsulate the six zones targeted in the RC drill programme, with the holes that intersected pegmatites shown as orange circles and holes with no pegmatite intersections shown as yellow circles. Previous drill programmes are shown in small red triangles (Reverse Circulation holes "RC"), small green triangles (RC-diamond tail "RCD") and small blue squares (air-core "AC"). The structural interpretations of the Dome North Mineral Resource Deposits are shown as grey lines.

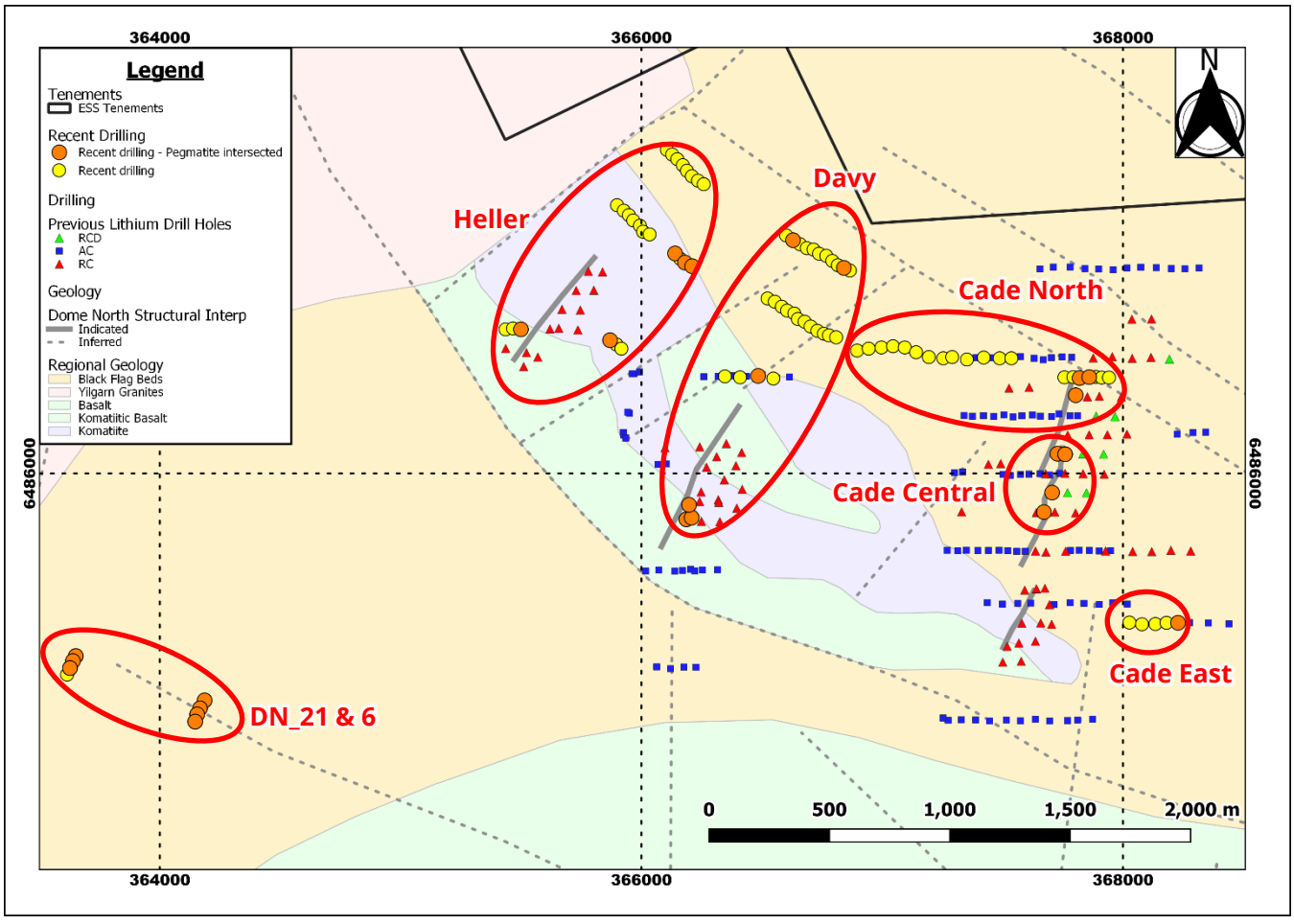


**Figure 1 – A plan view of the Dome North area.**

(2) Refer ASX announcement dated 29 September 2020 – Dome North Lithium Project - Resource upgrade

## Drill programme objectives

The main objectives of the drilling programme were to:

- Explore for further spodumene-bearing pegmatites in areas under cover in the vicinity of the Dome North Mineral Resource;
- Test two partially-exposed pegmatite targets (DN6 and DN21) approximately 2km south-west of the Heller Deposit; and
- Test the upper zones of the Cade and Davy deposits to ascertain the extent of lithium mineralisation and the effects of weathering on the lithium distribution.

**Figure 2 – A photograph of the RC drill rig in action**

**Drill programme statistics**

A total of 93 slim-line RC holes were drilled over the six areas for a total of 5,934m (refer to Table 1 for summary of drill statistics per area and Table 2 for hole details). The program had originally been planned as 5,000m of air-core drilling, however, was favourably changed to slim-line RC drilling due to rig availability.

**Table 1 – Summary of drilling across targeted areas**

| Area | Holes | Metres | Min Hole Depth (m) | Max Hole Depth (m) | Average Hole Depth (m) |
|---|---|---|---|---|---|
| Cade East | 5 | 430 | 62 | 98 | 86 |
| Cade North | 21 | 1,456 | 42 | 80 | 69 |
| Cade Central | 4 | 256 | 42 | 84 | 64 |
| Davy | 30 | 1,818 | 42 | 78 | 61 |
| Heller | 25 | 1,524 | 60 | 78 | 61 |
| DN6 & DN21 | 8 | 450 | 48 | 60 | 56 |
| | | | | | |
| **All Areas** | **93** | **5,934** | **42** | **98** | **64** |

**Preliminary Observations**

The highlights include:

- **Davy zone**: Hole PDRC519 intersected 39m of pegmatite from 14m. This hole was drilled up-dip from a previously drilled RC hole within the Inferred domain of the Davy Deposit.
- **Cade Central Zone**: Four holes drilled into the upper 40m of the Cade Deposit (Inferred domain) demonstrate pegmatite down-hole thicknesses of between 25m and 40m. Understanding the lithium grade and mineral assemblage (via XRD analysis) to ascertain the degree of weathering and lithium depletion nearer to the surface will be an important factor in any future development scenario. An air-core hole drilled in June 2020 intersected 21m @ 1.79% $Li_2O$ from 4 metres (Hole PDAC386)[1], indicating minimal lithium depletion in that area.
- **DN6 & DN21 zone**: Two sub-cropping pegmatites (DN6 and DN21) were drill tested, with pegmatites up to 18m in thickness (down-hole) intersected. DN6 and DN21 are interpreted to be on the same structural feature and are approximately 500m apart.

Several thinner (1 to 4m wide) pegmatites were intersected beneath transported cover.

**NOTE: Assay results are necessary to determine the extent of any lithium enrichment within the pegmatites.**

Multi-element results will assist in identifying any potential 'near-misses' of other potential pegmatite bodies.

Refer to Table 2 in the Appendix for full details of drill holes, including pegmatite intersections.

**NEXT STEPS**

- Receipt of assays and interpretation of the results – expected early October;
- Analysis of the Cade and Davy upper zones, including mineralogy and degree of weathering – expected early October;
- Planning of the next drill programme to increase the size and confidence of the Mineral Resource at Dome North – expected December Quarter;
- Planning of drilling in the Dome South area – expected December Quarter; and
- Ongoing field work (soil sampling and field reconnaissance).

*This ASX release has been approved by the Board of Directors.*

**For further information:**
Tim Spencer, Managing Director
Essential Metals Limited
T: +61 8 9322 6974
E: tims@essmetals.com.au

**Investor Relations**
Nicholas Read
Read Corporate
T: +61 8 9388 1474
E: nicholas@readcorporate.com.au

## ABOUT ESSENTIAL METALS LIMITED

Essential Metals is a well-funded and active explorer focussed on the discovery of key global demand-driven commodities, for the creation of shareholder wealth through exploration and project development. The Company operates **three strategically located lithium and gold projects** in Western Australia.

**100% OWNED AND MANAGED PROJECTS:**

- **LITHIUM**: The **Pioneer Dome Lithium Project** is highly prospective for lithium-caesium-tantalum (LCT) mineral systems and includes the **Dome North Lithium Mineral Resource** of 11.2 million tonnes @ 1.21% lithium ($Li_2O$).
- **GOLD:** The **Juglah Dome Project** is located 60km east-south-east of Kalgoorlie and is considered to be highly prospective for gold and has potential for VHMS style polymetallic deposits.
- **GOLD:** The **Golden Ridge Project** is located ~20km south-east of Kalgoorlie, WA. Our activities are focussed on reappraising known prospects as well as identifying new areas within the large land tenure.

**JOINT VENTURE INTERESTS**:

- **LITHIUM*:*** The Company holds a 51% Project interest in the **Mavis Lake** Project, Ontario, Canada where drilling has intersected spodumene.
- **GOLD:** The **Acra** Project is near Kalgoorlie. Northern Star Resources Limited (ASX:NST) has earned a 75% Project Interest and continues to fully fund exploration programmes until approval of a Mining Proposal by DMIRS is received with Essential Metals holding a 25% interest.
- **GOLD:** The **Kangan** Project is in the West Pilbara and part of a joint venture with Novo Resources Corp (TSXV.NVO) and Sumitomo Corporation (TYO:8053), who will jointly fund 100% of gold exploration programmes until a decision to mine is made, with Essential Metals holding a 30% interest.
- **GOLD:** The **Balagundi** Project is subject to a farmin & JV agreement where Black Cat Syndicate Limited (ASX:BC8) is earning a 75% interest in the Project located at Bulong, near Kalgoorlie. Black Cat will then fully fund gold exploration programmes until a decision to mine is made, with Essential Metals retaining a 25% interest.
- **GOLD:** The Company holds a 25% free-carried interest (20% for nickel rights) in the **Larkinville** Project near Kambalda, WA, with Maximus Resources Ltd (ASX:MXR).
- **NICKEL:** The nickel mineral rights on the **Blair-Golden Ridge** Project, which includes the suspended Blair Nickel Sulphide Mine, are subject to a Farmin/Joint Venture with Crest Investment Group, a nickel exploration specialist which is earning up to a 75% interest. The Company will retain a 25% free-carried interest up to a decision to mine.
- **NICKEL:** The Company holds a 20% free-carried interest (nickel only) in the **Wattle Dam** project near Kambalda, WA, with Maximus Resources Ltd (ASX:MXR).

**Reference to previous market announcements**

Previous ASX releases referred to in this release:

- 29 September 2020 – Dome North Lithium Project - Resource upgrade
- 19 July 2021 – Dome North lithium drilling commences
- 23 July 2020 – Dome North Lithium Project update

The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

**Forward Looking Statement**

This announcement may contain forward-looking statements which involve a number of risks and uncertainties. These forward looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions, and estimates should change or to reflect other future developments.

**Exploration Work - Competent Person Statement**

Mr Andrew Dunn (MAIG), Exploration Manager who is employed full-time by Essential Metals Limited, compiled the technical aspects of this Report. Mr Dunn is eligible to receive equity-based securities in Essential Metals Limited under the Company's employee incentive schemes. Mr Dunn is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to this style of mineralization and type of deposit under consideration and to the activity that is being reported on 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 Dunn consents to the inclusion in the report of the matters in the form and context in which it appears.

**Table 2 – Drill hole information with pegmatites intersected**

| Area | Hole ID | MGA94_z51 East | MGA94_z51 North | RL | Dip | Azimuth | Hole Depth (m) | Pegmatite intersected | | Pegmatite thickness (m - downhole) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | From (m) | To (m) | |
| Cade East | PDRC501 | 368027 | 6485382 | 342 | -60 | 270 | 62 | | | |
| Cade East | PDRC502 | 368079 | 6485375 | 340 | -60 | 270 | 98 | | | |
| Cade East | PDRC503 | 368135 | 6485376 | 339 | -60 | 270 | 90 | | | |
| Cade East | PDRC504 | 368181 | 6485381 | 337 | -60 | 270 | 90 | | | |
| Cade East | PDRC505 | 368229 | 6485381 | 339 | -60 | 270 | 90 | 24 | 26 | 2 |
| Cade North | PDRC506 | 367757 | 6486399 | 335 | -60 | 270 | 60 | | | |
| Cade North | PDRC507 | 367794 | 6486400 | 337 | -60 | 270 | 60 | | | |
| Cade North | PDRC508 | 367820 | 6486396 | 339 | -60 | 270 | 60 | 7 | 8 | 1 |
| Cade North | PDRC509 | 367860 | 6486400 | 340 | -60 | 270 | 66 | 58 | 60 | 2 |
| Cade North | PDRC510 | 367887 | 6486401 | 340 | -60 | 270 | 60 | | | |
| Cade North | PDRC511 | 367912 | 6486398 | 340 | -60 | 270 | 60 | | | |
| Cade North | PDRC512 | 367942 | 6486398 | 338 | -60 | 270 | 60 | | | |
| Davy | PDRC513 | 366524 | 6486726 | 342 | -60 | 300 | 60 | | | |
| Davy | PDRC514 | 366554 | 6486713 | 341 | -60 | 300 | 60 | | | |
| Davy | PDRC515 | 366583 | 6486692 | 342 | -60 | 300 | 60 | | | |
| Davy | PDRC516 | 366605 | 6486676 | 342 | -60 | 300 | 60 | | | |
| Davy | PDRC517 | 366635 | 6486664 | 343 | -60 | 300 | 60 | | | |
| Davy | PDRC518 | 366187 | 6485810 | 347 | -60 | 250 | 78 | 0<br>24 | 11<br>26 | 11<br>2 |
| Davy | PDRC519 | 366209 | 6485817 | 338 | -60 | 270 | 78 | 14 | 53 | 39 |
| DN_21 & 6 | PDRC520 | 363651 | 6485243 | 377 | -60 | 20 | 60 | 5<br>29 | 23<br>33 | 18<br>4 |
| DN_21 & 6 | PDRC521 | 363639 | 6485222 | 374 | -60 | 15 | 54 | 4<br>29 | 8<br>33 | 4<br>4 |
| DN_21 & 6 | PDRC522 | 363627 | 6485193 | 372 | -60 | 15 | 48 | 0<br>16 | 7<br>18 | 7<br>2 |
| DN_21 & 6 | PDRC523 | 363615 | 6485166 | 372 | -60 | 15 | 48 | | | |
| DN_21 & 6 | PDRC524 | 364186 | 6485059 | 364 | -60 | 20 | 60 | 9<br>19 | 10<br>21 | 1<br>2 |
| DN_21 & 6 | PDRC525 | 364167 | 6485026 | 364 | -60 | 20 | 60 | 21<br>29 | 22<br>30 | 1<br>1 |
| DN_21 & 6 | PDRC526 | 364155 | 6485001 | 365 | -60 | 20 | 60 | 0<br>19 | 10<br>20 | 10<br>1 |
| DN_21 & 6 | PDRC527 | 364147 | 6484971 | 365 | -60 | 20 | 60 | 15<br>54 | 24<br>55 | 9<br>1 |
| Heller | PDRC528 | 365436 | 6486598 | 360 | -60 | 270 | 60 | | | |
| Heller | PDRC529 | 365467 | 6486602 | 360 | -60 | 270 | 60 | | | |
| Heller | PDRC530 | 365500 | 6486598 | 360 | -60 | 270 | 60 | 53 | 55 | 2 |
| Heller | PDRC531 | 365870 | 6486553 | 359 | -60 | 310 | 60 | 12 | 17 | 5 |
| Heller | PDRC532 | 365897 | 6486535 | 360 | -60 | 310 | 60 | | | |
| Heller | PDRC533 | 365917 | 6486518 | 359 | -60 | 310 | 60 | | | |
| Heller | PDRC534 | 365899 | 6487113 | 348 | -60 | 310 | 78 | | | |

| Area | Hole ID | MGA94_z51 East | MGA94_z51 North | RL | Dip | Azimuth | Hole Depth (m) | Pegmatite intersected | | Pegmatite thickness (m - downhole) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | From (m) | To (m) | |
| Heller | PDRC535 | 365927 | 6487090 | 348 | -60 | 310 | 60 | | | |
| Heller | PDRC536 | 365948 | 6487072 | 348 | -60 | 310 | 60 | | | |
| Heller | PDRC537 | 365966 | 6487050 | 349 | -60 | 310 | 60 | | | |
| Heller | PDRC538 | 365994 | 6487028 | 349 | -60 | 310 | 60 | | | |
| Heller | PDRC539 | 366007 | 6487003 | 348 | -60 | 310 | 60 | | | |
| Heller | PDRC540 | 366034 | 6486992 | 347 | -60 | 310 | 60 | | | |
| Heller | PDRC541 | 366140 | 6486913 | 347 | -60 | 310 | 60 | 10 | 11 | 1 |
| Heller | PDRC542 | 366161 | 6486891 | 347 | -60 | 310 | 60 | | | |
| Heller | PDRC543 | 366181 | 6486875 | 347 | -60 | 310 | 60 | 9 | 11 | 2 |
| Heller | PDRC544 | 366211 | 6486860 | 347 | -60 | 310 | 60 | 35 | 38 | 3 |
| Heller | PDRC545 | 366106 | 6487343 | 341 | -60 | 310 | 60 | | | |
| Heller | PDRC546 | 366128 | 6487323 | 341 | -60 | 310 | 60 | | | |
| Heller | PDRC547 | 366149 | 6487304 | 339 | -60 | 310 | 66 | | | |
| Heller | PDRC548 | 366172 | 6487279 | 341 | -60 | 310 | 60 | | | |
| Heller | PDRC549 | 366189 | 6487256 | 341 | -60 | 310 | 60 | | | |
| Heller | PDRC550 | 366210 | 6487233 | 345 | -60 | 310 | 60 | | | |
| Heller | PDRC551 | 366235 | 6487215 | 344 | -60 | 310 | 60 | | | |
| Heller | PDRC552 | 366259 | 6487200 | 342 | -60 | 310 | 60 | | | |
| Davy | PDRC553 | 366347 | 6486403 | 346 | -60 | 270 | 60 | | | |
| Davy | PDRC554 | 366410 | 6486399 | 348 | -60 | 270 | 60 | | | |
| Davy | PDRC555 | 366485 | 6486405 | 346 | -60 | 270 | 60 | 51 | 53 | 2 |
| Davy | PDRC556 | 366548 | 6486394 | 345 | -60 | 270 | 60 | | | |
| Davy | PDRC557 | 366650 | 6486641 | 341 | -60 | 300 | 60 | | | |
| Davy | PDRC558 | 366678 | 6486630 | 339 | -60 | 300 | 60 | | | |
| Davy | PDRC559 | 366703 | 6486610 | 339 | -60 | 300 | 60 | | | |
| Davy | PDRC560 | 366731 | 6486592 | 341 | -60 | 300 | 60 | | | |
| Davy | PDRC561 | 366758 | 6486580 | 340 | -60 | 300 | 60 | | | |
| Davy | PDRC562 | 366779 | 6486573 | 339 | -60 | 300 | 60 | | | |
| Davy | PDRC563 | 366809 | 6486565 | 339 | -60 | 300 | 60 | | | |
| Cade North | PDRC564 | 366896 | 6486510 | 338 | -60 | 270 | 78 | | | |
| Cade North | PDRC565 | 366944 | 6486518 | 338 | -60 | 270 | 78 | | | |
| Cade North | PDRC566 | 366997 | 6486523 | 338 | -60 | 270 | 78 | | | |
| Cade North | PDRC567 | 367045 | 6486528 | 338 | -60 | 270 | 78 | | | |
| Cade North | PDRC568 | 367094 | 6486523 | 336 | -60 | 270 | 72 | | | |
| Cade North | PDRC569 | 367141 | 6486503 | 335 | -60 | 270 | 72 | | | |
| Cade North | PDRC570 | 367194 | 6486483 | 334 | -60 | 270 | 80 | | | |
| Cade North | PDRC571 | 367254 | 6486478 | 334 | -60 | 270 | 80 | | | |
| Cade North | PDRC572 | 367291 | 6486483 | 334 | -60 | 270 | 78 | | | |
| Cade North | PDRC573 | 367352 | 6486473 | 332 | -60 | 270 | 78 | | | |
| Cade North | PDRC574 | 367422 | 6486481 | 332 | -60 | 270 | 78 | | | |
| Cade North | PDRC575 | 367488 | 6486478 | 333 | -60 | 270 | 78 | | | |
| Cade North | PDRC576 | 367537 | 6486478 | 333 | -60 | 270 | 60 | | | |
| Davy | PDRC577 | 366601 | 6486988 | 338 | -60 | 300 | 60 | | | |

| Area | Hole ID | MGA94_z51 East | MGA94_z51 North | RL | Dip | Azimuth | Hole Depth (m) | Pegmatite intersected | | Pegmatite thickness (m - downhole) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | From (m) | To (m) | |
| Davy | PDRC578 | 366630 | 6486968 | 337 | -60 | 300 | 60 | 56 | 58 | 2 |
| Davy | PDRC579 | 366659 | 6486951 | 337 | -60 | 300 | 60 | | | |
| Davy | PDRC580 | 366687 | 6486935 | 337 | -60 | 300 | 60 | | | |
| Davy | PDRC581 | 366715 | 6486929 | 337 | -60 | 300 | 60 | | | |
| Davy | PDRC582 | 366738 | 6486912 | 335 | -60 | 300 | 60 | | | |
| Davy | PDRC583 | 366768 | 6486903 | 336 | -60 | 300 | 60 | | | |
| Davy | PDRC584 | 366793 | 6486882 | 335 | -60 | 300 | 60 | | | |
| Davy | PDRC585 | 366816 | 6486864 | 336 | -60 | 300 | 60 | | | |
| Davy | PDRC586 | 366841 | 6486853 | 333 | -60 | 300 | 60 | 30 | 34 | 4 |
| Davy | PDRC587 | 366866 | 6486842 | 334 | -60 | 300 | 60 | | | |
| Davy | PDRC588 | 366198 | 6485870 | 352 | -60 | 270 | 42 | 6 | 7 | 1 |
| Cade | PDRC589 | 367672 | 6485840 | 340 | -60 | 270 | 42 | 0 | 23 | 23 |
| Cade | PDRC590 | 367706 | 6485921 | 344 | -60 | 270 | 60 | 0 | 40 | 40 |
| Cade | PDRC591 | 367728 | 6486082 | 338 | -60 | 270 | 70 | 38 | 63 | 25 |
| Cade | PDRC592 | 367760 | 6486080 | 337 | -60 | 270 | 84 | 5<br>50 | 6<br>77 | 1<br>27 |
| Cade North | PDRC593 | 367804 | 6486325 | 340 | -60 | 270 | 42 | 9 | 24 | 15 |

*Depths and thickness are quoted as downhole depths. Assays are pending for all holes.