

## MINERALISED LITHIUM BRINES AND SHALLOW CLAYS DISCOVERED AT BITTERWASSER

### HIGHLIGHTS

- Stratigraphic Drilling leads to **discovery of Brines mineralised with lithium from 28m below surface** over Geophysical Anomaly<sup>1</sup> at Bitterwasser
- Rudimentary test work over samples taken in the **first 50cm of the Brine** confirms:
  - **Brines to be present at Bitterwasser** (up to 60,082 mg/L Total Dissolved Solids)
  - **Lithium present in the Brines** (up to **31ppm** Lithium measured from samples taken without containment protocols)
- **Additional clay formations discovered** at shallow depths below the Eden Pan where a JORC Mineral Resource<sup>2</sup> has been defined – **samples sent for assaying**
- Basalt Basement confirmed to be up to 100m depth in the northern extremities of the Geophysical Anomaly
- Brines are contained in a coarse matrix of sediments, which is expected to be conducive to positive flow rates
- A Hot spring within the deduced catchment area tested to contain Lithium
- **Targeted specialist sonic drilling operations expected to commence as soon as possible or before end of August 2023 to test the average Lithium grade of the brines to depth**

Arcadia Minerals Ltd (ASX:AM7, FRA:8OH) (Arcadia or the Company), the diversified exploration company targeting a suite of projects aimed at Tantalum, Lithium, Nickel, Copper

<sup>1</sup> Refer to ASX Announcement 6 February 2023 “Geophysical Interpretation Defines Drill Targets for Lithium Brines”

<sup>2</sup> Refer to ASX Announcement 24 August 2022 “Over 500% increase in Lithium Resource with 287Kt of LCE declared at Bitterwasser”

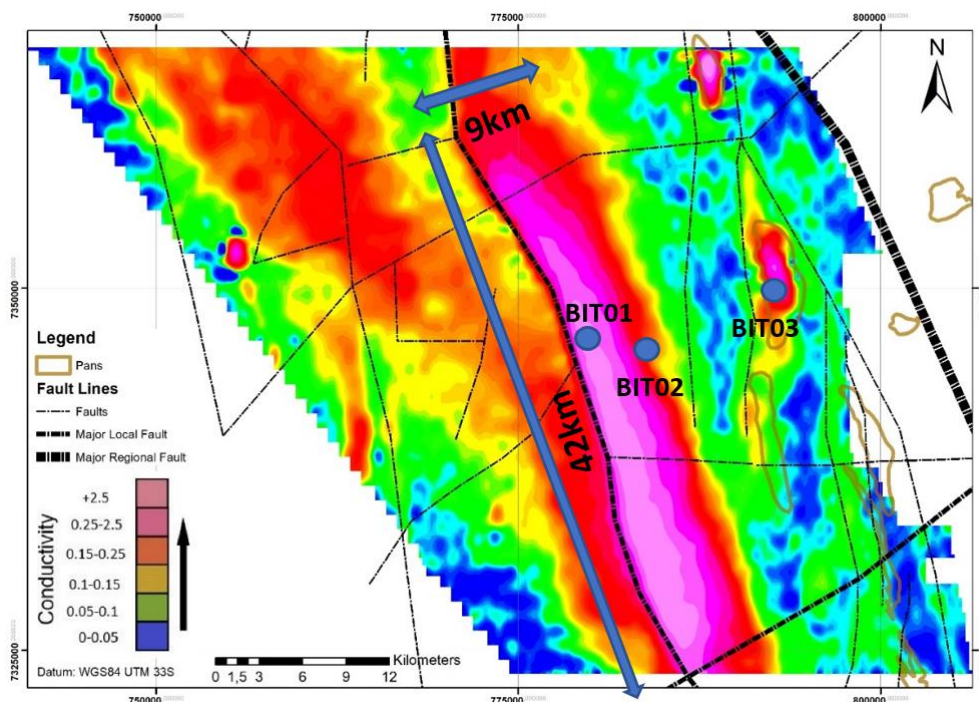
and Gold in Namibia, is pleased to announce the discovery of mineralised brines and shallow clay bodies at the Bitterwasser Lithium Brines and Clay Projects.

**Philip le Roux, the Chief Executive Officer of Arcadia stated:** *“We have set out to confirm the presence of a large aqueous brine body below the geophysical anomaly we identified earlier this year and have now confirmed that such a brine body does exist from an approximate depth of 28 meters. We are also very pleased to have confirmed that the brines contain indicative Lithium mineralisation at the surface of the brine water-table after utilising rudimentary grab sampling methodology. In addition, the likely source of the Lithium mineralisation exhibits elevated Lithium content, which is known to be sufficient to feed a sufficiently mineralised brine basin.*

*It is also useful to note that the brine body is contained within a coarse matrix of sediments, which should be conducive to positive flow rates and that there are clay bodies at shallow depths below the existing clay Eden Mineral Resource, pointing to the potential of further mineralised clays at depth.*

*This work now sets Arcadia up to commence with targeted specialist sonic drilling operations as soon as possible, which is expected to occur before the end of August 2023 to test the average Lithium grades of the brines to depth, to determine the geometry of the Bitterwasser Basin and to drill deeper into the clay pans to explore the clays below the existing Eden Pan Mineral Resource.*

*We are now well advanced to potentially discovering a new lithium province, which would be the first of its kind in Africa.”*



**Figure 1:** Map showing EM survey results overlaid with structural information and the location of the three stratigraphic holes BIT01, BIT02 and BIT03.

### Stratigraphic Drilling Results

Following a geophysical interpretation, three drill targets were defined with the aim of drilling into the stratigraphy across the Bitterwasser Basin<sup>3</sup>. The drilling was conducted to aid exploration through stratigraphic data attained from three locations viz. the middle of the geophysical anomaly, the edge of the geophysical anomaly and a hole from within the Bitterwasser Pan District (see Figure 1 above and Figure 4 in Appendix 1).

The goal of the exploration was to confirm the existence of a large aqueous body containing elevated levels of total dissolved solids (TDS) in the centre of the large geophysical anomaly and to test the existence of clays within anomalies located inside the Bitterwasser Pan district.

The results attained provided the Company with confirmation that the EM geophysical anomaly reflected the brines within the basin, and that the basement is made up of impervious basalt, and that the brines are laying within coarse sediments (gravels) which are conducive to pumping brines at high rates. The work also corroborated the existence of deeper lying clay formations underneath the Eden Pan, which have been sampled and sent for assay. The information from the stratigraphic holes has also increased confidence in the geological model and provided a better understanding of the half graben and sub basin structure.

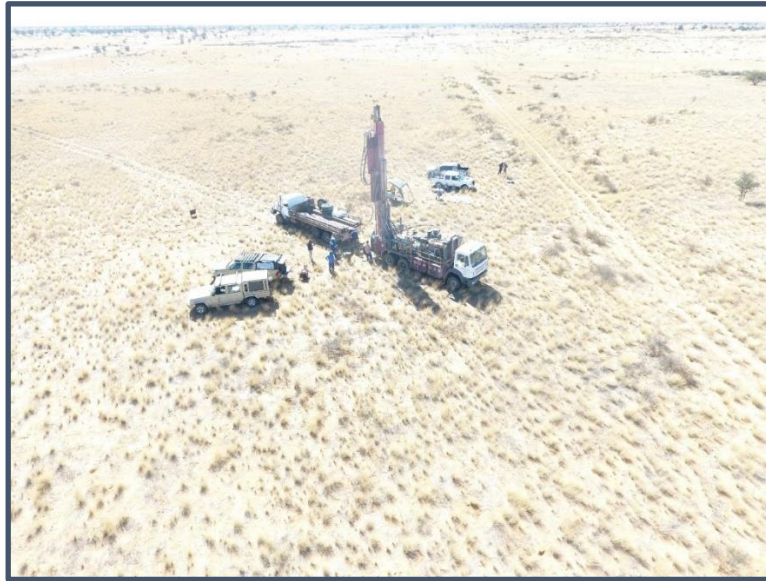
A total of 254 meters was drilled during a period of one week. The following results were observed:

- lithologies observed in the Bitterwasser Basin are comparable to lithologies found in some lithium rich basins such as the Clayton Valley, Nevada<sup>4</sup>,
- in the centre of the geophysical anomaly, the geology consisted mostly of gravels, conglomerates and sand (all unconsolidated material), all of which are sedimentary lithologies commonly observed in a closed basin setting,
- the basement consists of basalts,
- the basement becomes shallower towards the east<sup>5</sup>, which conforms with basalts outcropping 3 kilometres east of the Eden Pan.
- similar lithologies were observed in BIT01 and BIT02.

<sup>3</sup> Refer to ASX Announcement 6 February 2023 “*Geophysical Interpretation Defines Drill Targets for Lithium Brines*”

<sup>4</sup> Munk, L. A., Hynek, S. A., Bradley, D. C., Boutt, D., Labay, K., & Jochens, H. (2016). Lithium Brines: A Global Perspective. *Rare Earth and Critical Elements in Ore Deposits*, 18, 339–365.  
<https://pubs.geoscienceworld.org/books/book/1998/chapter/16276487>

<sup>5</sup> See Table 1: *Borehole co-ordinates and drilling information including water intersections*



*Figure 2: Drilling in the middle section of the Northerly part of the geophysical anomaly at drillhole BIT01.*

The results from the Stratigraphic Drilling will be used to conduct targeted specialist sonic drilling to test the Lithium content of the brines at Bitterwasser, and this sonic drilling program is expected to be conducted in Q3 this year or as soon as possible.

### **Sampling Results**

The intention of the stratigraphic program was not to test the brines for mineralisation, but to use the rudimentary drilling method of Reverse Circulation (RC) to determine the stratigraphic environment to depth within the Bitterwasser basin and to guide the Company and its appointed hydrological consultants, Klohn Crippen Berger, based in Melbourne, in the planning of a specialist-guided brine-borehole drill programme. Despite this, samples were taken from the upper half meter of the brine water table in settled water to determine the degree of total dissolved solids and Lithium mineralisation. Results are described in Table 2 of Appendix 1 below.

It must be stressed that no special or accurate information regarding mineralisation can be attained by taking surficial samples from an aqueous deposit environment, without following the right protocols. **The tenor of the grade in samples is also not indicative of the tenor of grade at greater depths where higher concentrations of total dissolved solids are expected.** It must also be stated that there are several factors that influence the Lithium grade of a water sample: First, a required containment protocol must be followed by using specialist containment equipment and, in some cases, by adding acid to prevent the disappearance of volatile elements such as Lithium. Secondly, sampling must occur at varying depths in a brine aqueous body to determine areas where there is a high concentration of total dissolved solids.



Due to the influence of gravity, water gets more saline with higher total dissolved solids at depth due to the density difference of fresh and salt water. In most cases, there is a positive correlation between depth, an increasing TDS and lithium grade. Thirdly, rainwater inflows, such as is contained from existing ephemeral rivers at the Bitterwasser Basin, drain into the closed basin with the effect that sampling of water from the uppermost half meter of the brine deposit could significantly consist of more “fresher” water than what could be encountered at greater depths.

Although the purpose of the work undertaken was not to confirm the tenor of mineralisation, the results nevertheless indicate the presence of Lithium associated with brines within the Bitterwasser Basin.

Results were also attained from samples taken at a hot spring to the north of the Bitterwasser Basin, which is considered to be a catchment of the Bitterwasser Basin. The results returned the presence of Lithium in the Hot Spring water of up to 20ppm. From academic papers, it has been found that lithium brine deposits were formed from inflow groundwater in the Central Andes of Chile<sup>6</sup>, with lithium concentrations and electrical conductivity respectively ranging from 0.9 to 4.3 mg/L and 243.5 to 1,283 mS/m in shallow groundwater inflows.



**Figure 3:** *Drilling in the middle of the Eden Pan at drillhole BIT03.*

<sup>6</sup> Munk, L. A., Boutt, D. F., Moran, B. J., McKnight, S. V., & Jenckes, J. (2021). Hydrogeologic and Geochemical Distinctions in Freshwater-Brine Systems of an Andean Salar. *Geochemistry, Geophysics, Geosystems*, 22(3). <https://doi.org/10.1029/2020GC009345>

Economic Lithium brines tend to contain a minimum of 50 to 100 mg/L Li (depending on recovery and mineralogical content) and more commonly 500 to 1,000 mg/L Li, whereas the inflow waters may only contain Lithium in the range of 1–10 mg/L or less<sup>7</sup>. The lowest average Lithium concentration is 10 mg/L at Searles Lake, California, and the highest average Lithium concentration is 1,400 mg/L for the brines in the Salar de Atacama, Chile<sup>8</sup>. Similarly, surface inflow samples from Salar de Atacama have lithium concentrations from 0.2 to 3 mg/L and TDS concentrations from 18,000 to 75,700 mg/L<sup>9</sup>. Samples collected from alluvial fan wells hold lithium concentration and TDS values respectively ranging from 0.7 to 14 mg/L and 59,000 to 610,000 mg/L. Water in the Salar de Atacama basin and the adjacent Andean arc varies in Lithium concentration from approximately 0.05 to 5 mg/L in the Andean inflow waters, 5 to 100 mg/L in shallow groundwaters in the southern and eastern flanks of the basin, and up to 5,000 mg/L in brines<sup>10</sup>. Lithium content of the groundwater from a freshwater well in an alluvial fan located near Silver Peak, Nevada, is less than 1 mg/L<sup>11</sup>. Two groundwater locations, one located just north of the town of Silver Peak and the other on the far northeast part of the basin, contained around 40 mg/L Li.

Around Clayton Valley in Nevada, USA, pumping tests and records from continuous production pumping have shown evidence for conductivity between certain aquifer systems. Brine salinity in production wells varies from 40,000 to 170,000 mg/L TDS with corresponding specific gravity varying from 1.025 to 1.21<sup>12</sup>. The Lithium content of the waters in Clayton Valley ranges from less than 1 mg/L in snow up to 407 mg/L in groundwater from one of the aquifers composed of volcanic ash (Munk et al., 2011). The cold springs surrounding Clayton Valley have Lithium concentrations of less than 1 mg/L.

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<sup>7</sup> Munk, L. A., Boutt, D. F., Hynek, S. A., & Moran, B. J. (2018). Hydrogeochemical fluxes and processes contributing to the formation of lithium-enriched brines in a hyper-arid continental basin. *Chemical Geology*, 493(May), 37–57. <https://doi.org/10.1016/j.chemgeo.2018.05.013>

<sup>8</sup> Munk, L. A., Hynek, S. A., Bradley, D. C., Boutt, D., Labay, K., & Jochens, H. (2016). Lithium Brines: A Global Perspective. *Rare Earth and Critical Elements in Ore Deposits*, 18, 339–365. <https://pubs.geoscienceworld.org/books/book/1998/chapter/16276487>

<sup>9</sup> Godfrey, L., & Alvarez-Amado, F. (2020). Volcanic and Saline Lithium Inputs to the Salar de Atacama. *Minerals*, 10(201), 1–5. doi:10.3390/min10020201

<sup>10</sup> Munk, L. A., Boutt, D. F., Hynek, S. A., & Moran, B. J. (2018). Hydrogeochemical fluxes and processes contributing to the formation of lithium-enriched brines in a hyper-arid continental basin. *Chemical Geology*, 493(May), 37–57. <https://doi.org/10.1016/j.chemgeo.2018.05.013>.

<sup>11</sup> Zampirro, D. (2004). Hydrogeology of Clayton Valley Brine Deposits, Esmeralda County, Nevada. Special Publication - Nevada Bureau of Mines and Geology 33, 271–280.

<sup>12</sup> Munk, L. A., Jochens, H., Jennings, M., Bradley, D. C., Hynek, S. A., & Godfrey, L. (2011). Origin and evolution of Li-rich brines at Clayton Valley, Nevada, USA. 11th SGA Biennial Meeting, Let's Talk (December), 217–219.



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**This announcement has been authorised for release by the directors of Arcadia Minerals Limited.**

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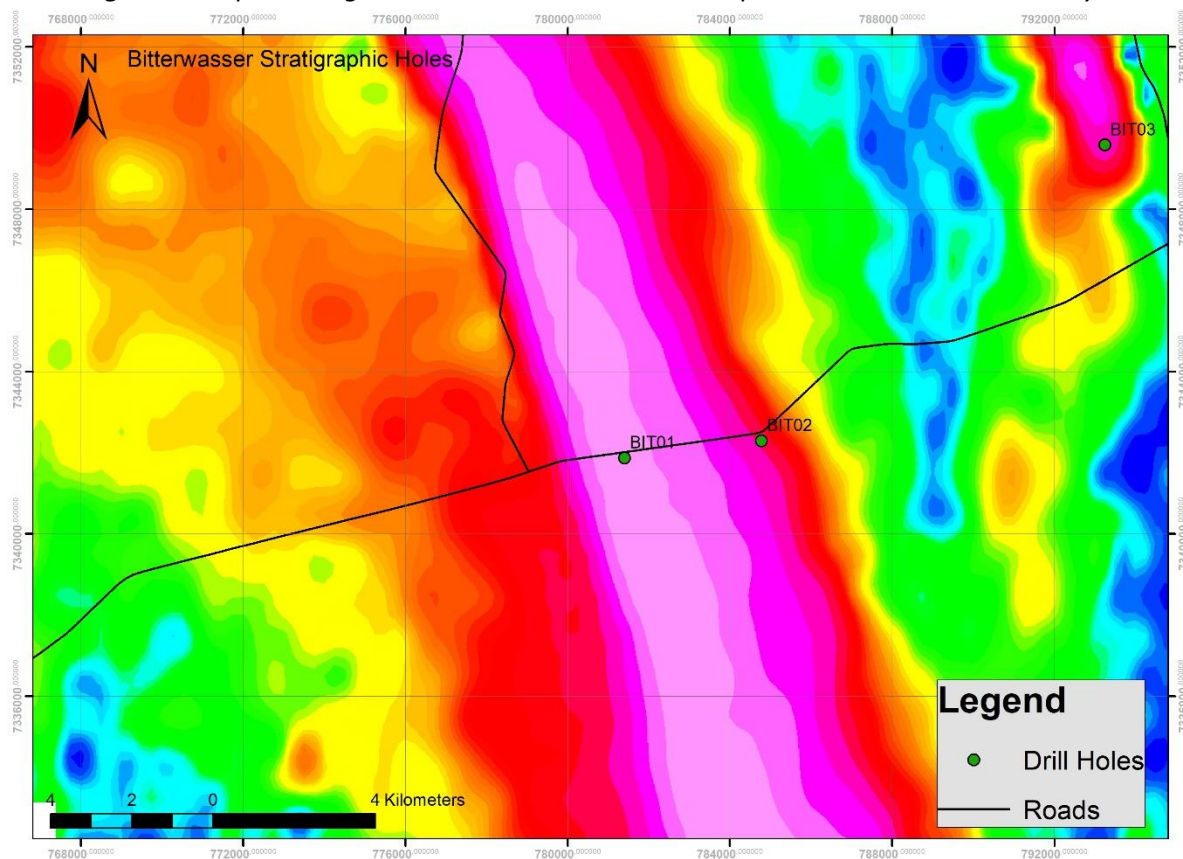
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**APPENDIX 1 – Drillhole Locations and Initial Results**

**Figure 4: Map Showing Borehole Location in relationship to the airborne EM anomaly.**



**Table 1: Borehole co-ordinates and drilling information including water intersections.**

Hole ID	WGS84 UTM33S X	WGS84 UTM33S Y	Elevation	Azimuth	Inclination	EOH	Water depth (m)
BIT01	781400	7341878	1230	N/A	-90	100.00	28
BIT02	788919	7342548	1265	N/A	-90	70.00	42
BIT03	793245	7349592	1265	N/A	-90	50.00	22

**Table 2: Water Samples assay results of water first 50cm of drillhole BIT01 and BIT02 without adherence to Containment and Sampling Protocols using ICP methods**

Hole ID	Depth (m)	Ca mg/L	Cl <sup>-</sup> mg/L	K mg/L	Li mg/L	Mg mg/L	Na mg/L	S mg/L	TDS mg/L Calculation
BIT01	28 – 28.5	320	19.1	370	2.7	470	26,200	10,900	60,082
BIT02	42 – 42.5	190	7.1	96	2.4	270	8,700	3,210	18,898



**Table 3:** Water Samples assay results of water **first 50cm of drillhole BIT01 and BIT02** without adherence to Containment and Sampling Protocols by Mobilab to obtain an understanding of Total Dissolved Solids and Lithium values.

	Li (ppm)	Na (ppm)
Hot Spring	8	585
	2	572
	20	567
	10	575
BIT03	4	313
	26	384
	24	162
	18	286
BIT02	22	8,831
	31	7,569
	9	9,292
	21	8,564
BIT01	27	24,206
	19	24,695
	22	25,502
	23	24,801

**Note:** Analysis was completed over 3 cycles for QAQC purposes. The detection limit of the mobile equipment is <50 ppm. This means that all the values are comprised between 0 and 50 ppm and may not be considered as accurate. From the TDS values the water in the upper 50cm of drillhole BIT01 could be classified as brines and in drillhole BIT02 as saline water. This is based on the aspect water classification of TDS:

Fresh water	>1,000 mg/L
Brackish water	1,000 to 10,000 mg/L
Saline water	10,000 to 35,000 mg/L
Brine water	+35,000 mg/L

The high TDS value (brine water) of drillhole BIT01 drilled in the EM anomaly combined with the fact that the TDS value for drillhole BIT02 drilled on the edge of the anomaly is saline, clearly indicates that the EM geophysical anomaly present at Bitterwasser reflects a brine deposit.



**APPENDIX 2 – Stratigraphic Logs of Reverse Circulation Drillholes**

***RC Hole BIT01***

	Depth	Comments
Aeolian Sand	1	Red sand with coarse grains
	2	
	3	
	4	
Conglomerate	5	Conglomeratic unconsolidated loose sand
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
Sandstone	20	Abundant quartz pebbles , some are rounded and angular ones of calcrete and quartz
	21	
	22	Sandstone with conglomerate pebbles and wet samples
	23	
	24	
	25	
	26	
	27	
	28	Water Table and Sample
	29	
	30	Wet samples, with water table from 31 meters
Conglomerate	31	
	32	
	33	
	34	
	35	
	36	
	37	
	38	Angular sandstone pebbles, calcretic, low sample recovery, quartz grains in between,
Gravel Sand	39	
	40	
	41	
	42	
	43	
	44	
	45	
	46	
	47	Conglomeratic unconsolidated loose sand with heavy minerals, pebbles up to 5 cm in size
	48	
Conglomerate	49	
	50	
	51	
	52	
	53	
	54	Conglomeratic unconsolidated loose sand with abundant quartz grains, water at 62 meters (sample collected), strong water
55		
56		
57		
58		
59		
60		

Conglomerate	61
	62
	63
	64
	65
	66
	67
	68
	69
	70
Sandstone	71
	72 Calcretic unit, with a brownish sandy soil, light brownish creamy color
	73
	74
Mudstone	75 A layer of mud in between
Sandstone	76
	77
	78
	79 Sandstone with conglomerate pebbles
	80
	81
Mudstone	82
Sandstone	83 A layer of mud in between
	84
Sandstone	85 Red sand with coarse grains pebbles of quartz and calcrete
	86
Conglomerate	87
	88 Dry sample of conglomeratic sandstone with quartz and calcrete pebbles
	89
Mudstone	90
Sandstone	91 Muddy clay layer, sample was wet
	92 Conglomeratic wet sample
Mudstone	93
Basalt	94
	95
	96 Weathered basalt unit
	97
	98
	99
	100



**RC HOLE BIT02**

Depth	Comments
Aeolian Sand	1 Brown unconsolidated sand grains/gravel
	2
	3
	4
Sandstone	5 Sandstone/conglomerate with high calcrete content with a greyish colour/some zones are unconsolidated
	6
	7
	8
	9
	10
	11
	12
	13
	14
Conglomerate	15 Big pebbles, unconsolidated zones, angular quartz grains, heavy minerals, red sandstone layers
	16
	17
	18
Sandstone	19
	20
	21
	22 Consolidated sandstone with coarse pebbles of up to 4 cm in size, very hard sandstone
	23
	24
	25
	26
	27
	28
Conglomerate	29
	30
	31 conglomerate with large pebbles (3-10 cm)
	32
	33
	34
	35
	36 Thin mud layer
Sandstone	37
	38 Red coloured sandstone with calcrete, angular pebbles
	39
	40
	41
<b>42 Water Table and Water Sample</b>	
Conglomerate	43
	44
	45 Conglomerate with large pebbles (3-10 cm) with smoky quartz grains
	46
	47
	48
	49
	50
	51
	Sandstone
53	
54	
55	
Siltstone	56
	57
	58
	59 hard consolidated siltstone
	60

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Siltstone	61
	62
	63
Basalt	64
	65
	66
	67
	68
	69
	70





**RC HOLE BIT03**

	Depth	Comments
Brown Clay	1	Wet clay and low recovery
	2	
	3	Oxidised brown grey-white sandy clay unit
	4	
	5	
Green Clay	6	
	7	
	8	Reduced plastic clay unit
	9	
	10	
Green Clay & Calcrete	11	
	12	
Green Clay	13	
	14	Partially lithified olive-green fine plastic clay and calcrete pebbles
Green Clay & Calcrete	15	
	16	
Green Clay	17	
	18	
Green Clay & Calcrete	19	
	20	
Green Clay	21	
	22	
	23	Fine brecciated with possible highly weathered igneous rock, possibly a rhyolite withn green clay unit
	24	
	25	<b>Water Table</b>
Green Clay & Calcrete	26	
	27	
	28	
	29	
	30	
	31	
	32	
	33	
	34	
	35	Calcretic unit, with a brownish sandy soil
Red Sand	36	
	37	
	38	Aeolian Brownish red sandstone, highly oxidised, lenses of greenish chloritic alteration
	39	
	40	
	41	
	42	
Basalt	43	
	44	
	45	
	46	Highly weathered basalt unit, basement rock
	47	
	48	
	49	
	50	



#### COMPETENT PERSONS STATEMENT & PREVIOUSLY REPORTED INFORMATION

The information in this announcement that relates to Exploration Results is based on, and fairly represents, information and supporting documentation prepared by the Competent Person(s) whose name(s) appears below, each of whom is either an independent consultant to the Company and a member of a Recognised Professional Organisation or a director of the Company. The Competent Person(s) named below have sufficient experience relevant to the style of mineralisation and types of deposits under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the JORC Code 2012.

The information in this announcement that relates to Mineral Resources complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and that has been compiled, assessed, and created under the supervision of Dr Johan Hattingh B.Sc. (Hons.), Ph.D., who is a member of the South African Council for Natural Scientific Professions (membership no. #400112/93) and is a director of Geological and GIS Consulting firm Creo Design (Pty) Ltd, which is a consultant to Arcadia and Bitterwasser Lithium Exploration (Pty) Ltd.

Dr Hattingh has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Persons as defined in the 2012 Edition of the JORC Code. Dr Hattingh is the competent person for the estimation and has relied on provided information and data from the Company, including but not limited to the geological model, database and expertise gained from site visits. Dr Hattingh consents to the inclusion in this announcement of matters based on his information in the form and context in which it appears. The Mineral Resource is based on standard industry practises for drilling, logging, sampling, assay methods including quality assurance and quality control measures as detailed in the annexures.

Competent Person	Membership	Report/Document
Mr Philip le Roux (Director Arcadia Minerals)	South African Council for Natural Scientific Professions #400125/09	This announcement

The Company confirms that the form and context in which a Competent Person's previous findings are presented in the footnotes above and noted in the table below have not been materially modified from the original market announcements and that all material assumptions and technical parameters underpinning the announcement continue to apply. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Release Date	ASX Announcements
24 August 2022	<i>Over 500% increase in Lithium Resource with 287Kt of LCE declared at Bitterwasser</i>
6 February 2023	<i>Geophysical Interpretation Defines Drill Targets for Lithium Brines</i>

**MINERAL RESOURCES ESTIMATE**

The Company confirms that it is not aware of any new information or data that materially affects the information included in the Bitterwasser Mineral Resource estimate (Eden Pan) and the Bitterwasser Mineral Resources estimate (Madube Pan) and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed when referring to its updated resource announcement made on 24 August 2022 (Eden Pan) and the resource announcement made on 2 May 2023 (Madube Pan).

The information in this announcement that relates to Mineral Resources complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code).

**Summary of estimated JORC compliant Mineral Resources for the Bitterwasser Project – Lithium in Clays (Eden Pan)**

CATEGORY	UNIT	TONNAGE ton	GRADE Li ppm	CONTAINED Li ton
<b>Cut-off Grade of 0 ppm Li</b>				
<b>Indicated</b>	Upper	-	-	-
	Middle	-	-	-
	<b>Total Indicated</b>	-	-	-
<b>Inferred</b>	Upper	61 518 571	464.60	28 582
	Middle	92 382 945	568.85	52 552
	<b>Total Inferred</b>	<b>153 901 516</b>	<b>527.18</b>	<b>81 134</b>
<b>Cut-off Grade of 500 ppm Li</b>				
<b>Indicated</b>	Upper	-	-	-
	Middle	-	-	-
	<b>Total Indicated</b>	-	-	-
<b>Inferred</b>	Upper	28 192 877	556.86	15 699
	Middle	56 955 751	670.72	38 201
	<b>Total Inferred</b>	<b>85 148 628</b>	<b>633.03</b>	<b>53 900</b>
<b>Cut-off Grade of 600 ppm Li</b>				
<b>Indicated</b>	Upper	-	-	-
	Middle	-	-	-
	<b>Total Indicated</b>	-	-	-
<b>Inferred</b>	Upper	2 878 041	634.69	3 659
	Middle	21 292 230	729.82	28 282
	<b>Total Inferred</b>	<b>44 516 575</b>	<b>717.50</b>	<b>31 941</b>

**Summary of estimated JORC compliant Mineral Resource for the Madube Pan at the Bitterwasser Lithium in Clays Project**

CATEGORY	UNIT	TONNAGE ton	GRADE Li ppm	LCE (t)	CONTAINED Li ton
<b>Cut-off Grade of 0 ppm Li</b>					
<b>Indicated</b>	Upper	-	-	-	-
	Middle	-	-	-	-
	<b>Total Indicated</b>	-	-	-	-
<b>Inferred</b>	Upper	27 118 188	339	49 003	9 206
	Middle	50 108 942	433	115 536	21 705
	<b>Total Inferred</b>	<b>77 227 130</b>	<b>400</b>	<b>164 539</b>	<b>30 911</b>
<b>Cut-off Grade of 500 ppm Li</b>					
<b>Indicated</b>	Upper	-	-	-	-
	Middle	-	-	-	-
	<b>Total Indicated</b>	-	-	-	-
<b>Inferred</b>	Upper	-	-	-	-
	Middle	13 716 390	553	40 375	7 585

The overall (COMBINED) inferred Mineral Resource for the Eden and Madube pans:

Stratigraphic Unit	Tonnes	Average Value		Material Content	
		Li (ppm)	K%	Li (t)	LCE (t)
<b>Cut-off Grade of 500 ppm Li</b>					
Upper	28 192 877	557	1.54	15 699	83 566
Middle	70 672 141	648	1.78	45 786	243 719
<b>Total</b>	<b>98 865 018</b>	<b>622</b>	<b>1.71</b>	<b>61 485</b>	<b>327 285</b>

### BACKGROUND ON ARCADIA

Arcadia is a Namibia-focused diversified metals exploration company, which is domiciled in Guernsey. The Company explores for a suite of new-era metals (Lithium, Tantalum, Platinum-Group-Elements, Nickel and Copper). The Company's strategy is to bring the advanced Swanson Tantalum project into production and then to use the cashflows (which may be generated) to drive exploration and development at the potentially company transforming exploration assets. As such, the first two pillars of Arcadia's development strategy (a potential cash generator and company transforming exploration assets) are established through a third pillar, which consists of utilising the Company's human capital of industry specific experience, tied with a history of project generation and bringing projects to results, and thereby, to create value for the Company and its shareholders.

Most of the Company's projects are located in the neighbourhood of established mining operations and significant discoveries. The mineral exploration projects include-

1. Bitterwasser Lithium in Clay Project – which project contains a potentially expanding JORC Mineral Resource from lithium-in-clays
2. Bitterwasser Lithium in Brines Project – which is prospective for lithium-in-brines within the Bitterwasser Basin area.
3. Kum-Kum Project – prospective for nickel, copper, and platinum group elements.
4. TVC Pegmatite Project – prospective for Lithium, Tantalum and other associated minerals.
5. Karibib Project – prospective for copper and gold.
6. The Swanson Mining Project – advanced tantalum mining project undergoing development to become a mining operation, and which contains a potentially expanding JORC Mineral Resource within the Swanson Project area.

As an exploration company, all the projects of the company are currently receiving focus. However, currently the Swanson project and the Bitterwasser Lithium projects may be considered as Arcadia's primary projects due to their potential to enhance the Company's value.

For more details, please visit [www.arcadiaminerals.global](http://www.arcadiaminerals.global)

### DISCLAIMER

Some of the statements appearing in this announcement may be forward-looking statements. You should be aware that such statements are only predictions and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industries in which Arcadia operates and proposes to operate as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets, among other things. Actual events or results may differ materially from the events or



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results expressed or implied in any forward-looking statement. No forward-looking statement is a guarantee or representation as to future performance or any other future matters, which will be influenced by a number of factors and subject to various uncertainties and contingencies, many of which will be outside Arcadia's control.

The Company does not undertake any obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions or conclusions contained in this announcement. To the maximum extent permitted by law, none of Arcadia, its directors, employees, advisors or agents, nor any other person, accepts any liability for any loss arising from the use of the information contained in this announcement. You are cautioned not to place undue reliance on any forward-looking statement. The forward-looking statements in this announcement reflect views held only as at the date of this announcement.

This announcement is not an offer, invitation, or recommendation to subscribe for, or purchase securities by the Company. Nor does this announcement constitute investment or financial product advice (nor tax, accounting, or legal advice) and is not intended to be used for the basis of making an investment decision. Investors should obtain their own advice before making any investment decision.



### APPENDIX 3 –JORC 2012 Tables

The following Tables are provided to ensure compliance with the JORC Code (2012 Edition) requirements for the reporting of Exploration Results based on the stratigraphic drilling at the Bitterwasser Lithium Project

#### Section1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Water Sampling was undertaken using a bottle fixed to a wireline dropped to the surface of the water table without using containment protocols. No specific specialised equipment was used as the purpose was to determine the presence of Lithium in the water samples.</li> <li>• Drilling at the Bitterwasser Brines project commenced on 15 March 2023, and the 3 hole program was completed on the 21 March 2023.</li> <li>• All drill holes were drilled vertical.</li> <li>• A total of 2 water samples, or around 250ml liter each was collected after the water had settled, three weeks after holes were drilled in the top 50cm of hole BIT01 and BIT02.</li> <li>• One-meter lithological samples were collected in large bags and were washed for logging.</li> <li>• All drill hole and sample locations are mapped in WGS84 UTM zone 33S</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>• <i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other</i></li> </ul>	<ul style="list-style-type: none"> <li>• A total of three (3) RC drillholes were drilled into sand, clay mud and conglomerate and stopped in weathered basalt formation.</li> <li>• The 3-hole program over the Bitterwasser project was drilled as a</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>type, whether core is oriented and if so, by what method, etc).</i>	<p>cross section through the basin.</p> <ul style="list-style-type: none"> <li>• Total meters drilled for the drilling program was 254m</li> <li>• The drill diameter of all the holes drilled was HQ size.</li> <li>• The depth of the holes ranged from 50 m to 100 m.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No core recovery was calculated, as the drilling was to confirm the geological units of the basin and no sampling of lithologies undertaken.</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drill holes were fully logged and are qualitative.</li> <li>• The chips have been logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies and chip for each meter has been stored for reference.</li> <li>• All 3 drillholes drilled were logged.</li> </ul>
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The chip samples received from the RC drilling was bagged and a sub-sample was collected and washed and used for the logging.</li> <li>• Samples were taken every 1m without consideration of lithological units.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>The water sample for the two holes BIT01 and BIT02M were collected from the drill hole casing three weeks after the holes were drilled. The samples were taken within the first 50cm of the water column. No sampling or containment protocol was followed during the sampling process.</li> <li>The amount of water collected was around 250ml per sample.</li> <li>The sample represents the top surface of the water table.</li> <li>The samples were sent to EID laboratory in Trappes, France for analyses. The laboratory is not accredited according to international standards, even though Eramet (who conducted the sampling) uses all the classical QAQC protocols to insure the quality of results. The in-house lab is used by Eramet for R&amp;D development of its Li project in Argentina and other projects.</li> <li>The water samples were first analyzed three times at the mobile laboratory to obtain background values for the samples. The Lithium value was below the instrument detection limit of 50ppm and therefore cannot be considered as accurate. Two samples from BIT01 and one from BIT02 were analysed using analytical method similar to ICP-OES with an Agilent ICP 5800. Grades were determined with an external calibration using an ionization buffer (CsCl at 8g/L Cs).</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All samples and data were verified by the project geologist.</li> <li>• Philip le Roux reviewed all available logging and assay reports and is of the opinion that the electronic database supports the field data in almost all aspects and suggests that the database can be used for resource estimation.</li> <li>• All sample material was bagged and tagged on site and stored as reference.</li> <li>• All hard copy data-capturing was completed at the sampling locality.</li> <li>• All sample material was stored at a secure storage site.</li> <li>• The original assay data has not been adjusted.</li> <li>• No twin holes were drilled.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The locations of all the samples were recorded as the depth at first contact with the water table.</li> <li>• The sample locations are GPS captured using WGS84 UTM zone 33S.</li> <li>• The quality and accuracy of the GPS and its measurements is not known.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The drill holes were intended to provide a stratigraphic section of the Bitterwasser Basin.</li> <li>• The drill spacing is not sufficient to establish a degree of geological and grade continuity.</li> </ul>
<i>Orientation of data in relation to</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the</i></li> </ul>	<ul style="list-style-type: none"> <li>• All holes were all drilled vertical.</li> <li>• The geological units are almost horizontal due to the nature of the deposit.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>geological structure</i>	<i>orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>The company. maintained strict chain-of-custody procedures during all segments of sample handling, transport and samples prepared for transport to the laboratory are plastic containers and labelled in a manner which prevents tampering. Samples also remain in the company control until it was delivered to the laboratory.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Audits and reviews were limited to the Standard Operational Procedures as far as data capturing was concerned during the sampling.</li> <li>Philip le Roux considers that given the general sampling programme, geological investigations and check results, the procedures reflect an appropriate level of confidence.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental</i></li> </ul>	<ul style="list-style-type: none"> <li>The Bitterwasser Project area is east of Kalkrand in south central Namibia, some 190 km south of Windhoek in the Hardap Region.</li> <li>The three RC holes were drilling on EPL8103 (2 holes) and EPL5353 (one hole).</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>settings.</i></p> <ul style="list-style-type: none"> <li>• <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>• EPL8103 covers a total area of 92 744.59 hectares and EPL 5353 covering 20 023.87 hectares.</li> <li>• A land-use agreement, including access to the property for exploration has been obtained from landowners.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A regional reconnaissance investigation in the form of a systematic field survey covering the entire southern Namibia and some parts of the Northern Cape Province of South Africa was done during 2009 and 2010. The reconnaissance investigation was aimed at establishing the prospectiveness of the area that could potentially sustain economic exploitation of soda ash and lithium and a airborne EM geophysical survey was conducted in 2022 that identify the brine target.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Eden and Madube Pans form part of the Cenozoic aged Kalahari Group and comprises a lithium, potassium and boron enriched sulphate-, chlorite- and carbonate- saltpan.</li> <li>• The presence of an active deep-seated connate/hydrothermal water circulation network is suggested, which acts as a transport mechanism for lithium bearing brines into the overlying Gordonia Formation pan sediments.</li> <li>• High evaporation rates (&gt;3200 mm/year) occurring in the area are favourable for brine formation and salt-concentration.</li> <li>• It was established that a closed basin with brine potential exist in the area.</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drill results have been described in section Annexure 1 of this report.</li> <li>• Borehole elevation still need to be accurately surveyed</li> <li>• All relevant data is included in the report.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> <li>● If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul style="list-style-type: none"> <li>● In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>● Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>● The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>● No chip rock samples were collected and only three water samples from the top of the aquifer were collected.</li> </ul>
Relationship between mineralisation widths and	<ul style="list-style-type: none"> <li>● These relationships are particularly important in the reporting of Exploration Results.</li> <li>● If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>● If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true</li> </ul>	<ul style="list-style-type: none"> <li>● The drill holes were all drilled vertical and stop in the basalt basement rocks.</li> <li>● Sand, mud, clay and conglomerate were intersected in the holes.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>intercept lengths</i>	<i>width not known’).</i>	
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The appropriate diagrams and tabulations are supplied in the reports referred to the announcements referenced in the footnotes.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>• This report has been prepared to present the prospectivity of the project and results of historical and recent exploration activities.</li> <li>• All the available reconnaissance work results have been reported previously</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Namibian Government conducted a regional magnetic survey in the area.</li> <li>• The Namibian Government conducted a radiometric survey of potassium in the area.</li> <li>• An airborne electromagnetic (EM) survey was done on EPL8103 and 8102 and EPL5353 and 5354 during October 2022.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drilling of between 5 and 10 water boreholes</li> <li>• Water sample would be collected at various depth and assayed for Li to determine the lithium content of the brines.</li> </ul>