

# STREAM SEDIMENT SAMPLING CONFIRMS POTENTIAL FOR CRITCAL MINERALS ACROSS TVC PROJECT

## **HIGHLIGHTS**

- 97 stream sediment samples were collected from drainage systems across the TVC Lithium and TVC Nickel/PGE Projects, located within the Tantalite Valley Ultra Mafic Intrusive Complex of EPL 5047 (TVC Complex).
- The objective of the stream sediment sampling program was to identify additional potential source areas of mineralisation within the TVC Complex to guide further exploration and potential drilling.
- Stream sediment results indicated elevated levels of mineralisation draining from source areas where historical drilling returned intercepts of up to 0.65% Ni and 0.16% Cu over 16 meters<sup>1</sup>. Follow-up test work on historical core confirmed grades of up to 0.71% Ni, 0.28% Cu, 0.84 g/t Pd and 0.4 g/t Pt<sup>2</sup>.
- Analysis of the drainage systems not draining from this known area of mineralisation indicates that there are several additional areas of potential source rocks in the TVC Complex which were previously unknown.
- The stream sediment samples returned anomalous values for gold, cobalt, chromium, copper, nickel, palladium and platinum (Critical Minerals).
- As anticipated, anomalous lithium values from the TVC Lithium Project are confined to the north-western margins of the TVC Complex. Three drainage systems in this area returned elevated lithium values, one of which is linked to Mining License 223 (the Swanson Mining Project), where known lithium-bearing pegmatites exist.
- An orientation BLEG sampling program, designed at refining priority exploration areas within the TVC Complex, has been completed, with results currently pending.
- The work forms part of Arcadia's focus to generate value through exploration, and to aide discussions with interested parties for potential project-level joint ventures.

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<sup>&</sup>lt;sup>1</sup> 25 June 2021 Replacement Prospectus, April 2021, Annexure A - Independent Geological Report to the Kum-Kum Project styled "Geological Overview and Sulphide Mineralisation Potential of the Tantalite Valley Complex"

<sup>&</sup>lt;sup>2</sup> Refer to Asx Announcement 9 May 2022 "Kum-Kum Nickel Project Mineral Systems Approach Results"



**Arcadia Minerals Ltd (ASX:AM7, FRA:80H) (Arcadia or the Company)**, the diversified exploration company targeting a suite of projects aimed at Tantalum, Lithium, Nickel, Copper and Gold in Namibia, is pleased to announce positive stream sediment results from its TVC Lithium & Tantalum and TVC Nickel and PGE Projects.

Philip le Roux, the CEO of Arcadia stated: "The stream sediment sampling results over the TVC Complex indicate that nickel, platinum, copper and gold mineralisation are associated with drainage areas located over the entire Tantalite Valley Complex, which has demonstrated to be fertile as it already contains two mining licenses (ML 77 & ML 223). Analysis of the drainage areas of stream sediments for Chrome, which is a good indicator of mafic mineralisation, indicates elevated levels of mineralisation from areas where historical drilling in the 70's has returned compelling results. Analysis of the drainage systems that do not drain from this known area of mineralisation indicates that there are several additional areas of potential source rocks in the TVC Complex which were previously unknown. Similarly, two additional areas of potential lithium mineralisation at the northwestern perimeter of the Tantalite Valley Complex have been identified.

We are very pleased with the results as it confirms that the Tantalite Valley Complex holds significant exploration potential for further discoveries of critical minerals over pegmatitic and intrusive rock types. The results will also serve as a guide for future exploration efforts."

## **TVC stream sediment sampling results**

A total of 97 stream sediment samples were taken within EPL 5047 at the confluence of drainage systems covering the Tantalite Valley Ultra Mafic Intrusive Complex ("TVC Complex"). Drainage systems outside of the complex were also sampled to serve as base line background mineralisation for comparison with results of samples taken from drainage systems within the TVC.

The aim of the stream sediment sampling program was to identify source areas of mineralisation within the TVC Complex for further exploration and drilling, and to investigate if anomalous stream sediment mineralisation associated with historical drilling is limited to ML77 or if it extends over the rest of the TVC Complex.

Three sample bags of around 1kg each were taken at selected sites. Two bags were taken in areas not associated with heavy mineral trap sites and one bag was taken at potential heavy mineral trap site locations. All samples taken were sieved in the field at 2mm.

Further sieving occurred with one bag being sieved into a fraction that represents stream sediments and clays, a second bag being processed to obtain heavy mineral concentrate using a Magic Wheel methodology and the third bag by using flocculant to produce an ultra-fine sample.

The first and second bags were analysed using low detection 4acid, ICPMS/OES and the ultrafine sample using the 2um MAR ICP-MS/OES method. Analyses were conducted by ALS laboratories for 53 elements.



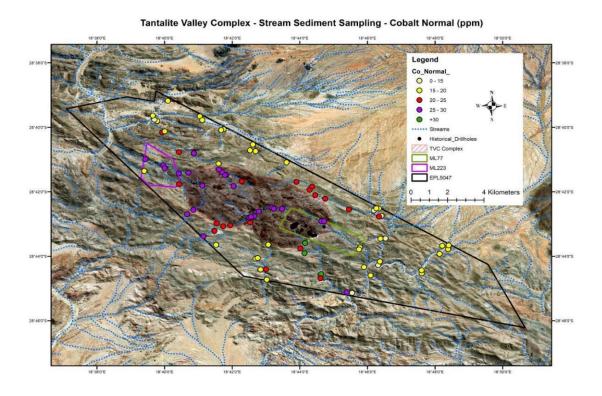
Scrutiny of anomalous results indicated that base metals correlated with heavy mineral concentrate samples whereas precious metals and lithium with the ultra-fine fraction samples.

Refer to Table 1 in Appendix 1 for detailed geochemistry results. The results were plotted to generate stream sediment anomaly maps shown in Figures 1 to 8 below.

Figure 1 - TVC Stream Sediment Map - Gold



Figure 2 - TVC Stream Sediment Map - Cobalt



**Figure 3 - TVC Stream Sediment Map - Chrome** 

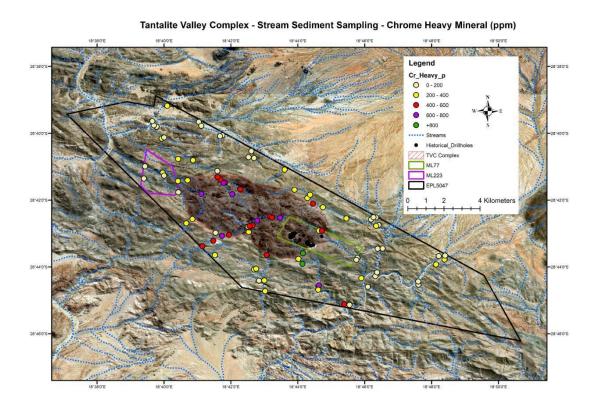




Figure 4 - TVC Stream Sediment Map - Copper

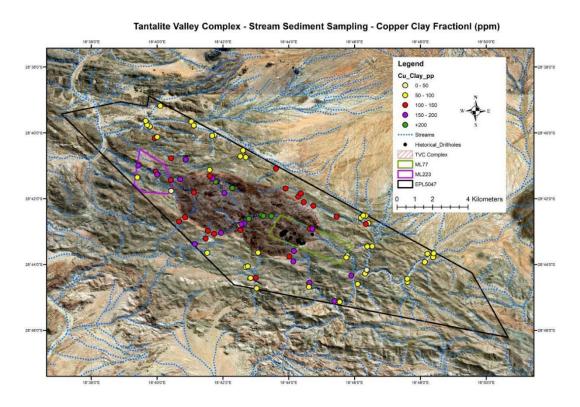


Figure 5 - TVC Stream Sediment Map - Lithium

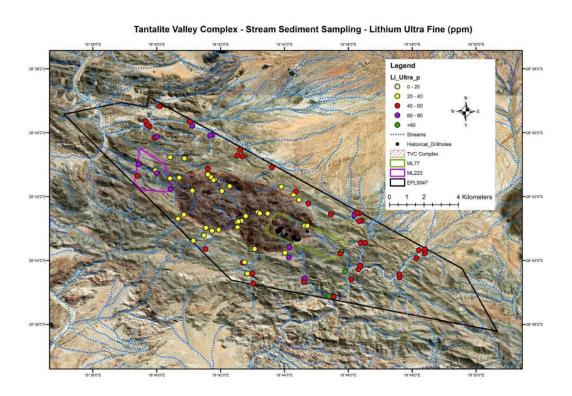




Figure 6 - TVC Stream Sediment Map - Nickel

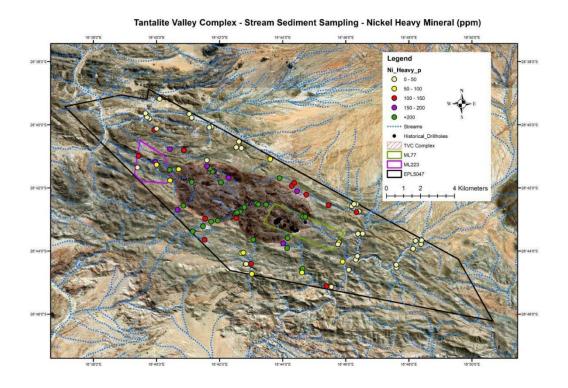


Figure 7 - TVC Stream Sediment Map - Palladium

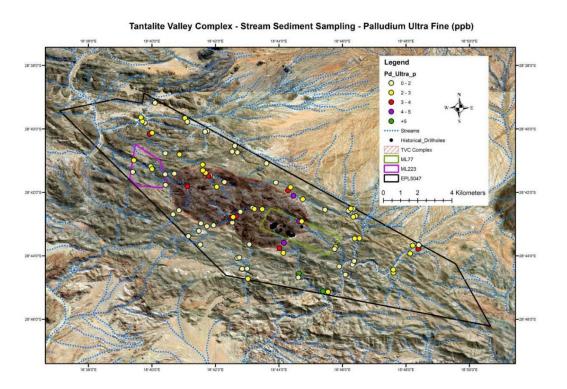
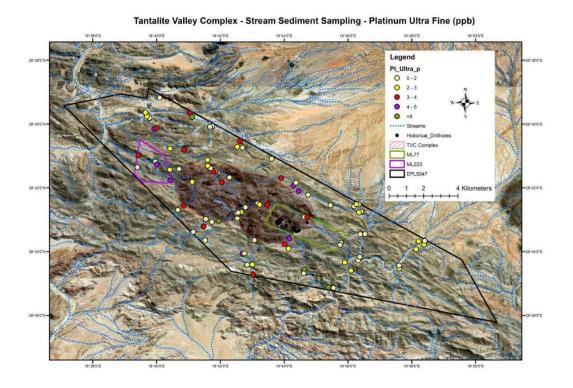




Figure 8 - TVC Stream Sediment Map - Platinum



An interpretation of the results indicates that anomalous base and precious metal values for gold, cobalt, chromium, copper, nickel, palladium and platinum are associated with the entire complex. The results indicate that the entire extent of the TVC Complex is a target for potential critical element mineralisation.

Anomalous Lithium values were obtained outside of the TVC Complex with three drainage systems holding elevated values, of which one is the Swanson area where known lithium pegmatites exist. This points to the potential of additional mineral rich pegmatites existing outside of the known Swanson area.

The results are particularly compelling considering the history of exploration over the TVC by previous explorers and the Company. Historical nickel, copper, platinum mineralisation was intersected on Mining License 77 located within the TVC Complex.



During the Company's initial desktop study several historical records containing exploration results over the TVC Nickel/PGE Project were discovered. Of particular interest were borehole intersections from three boreholes drilled by Rio Tinto Exploration, Tantalite Valley Minerals and Southern Sphere between 1972 and 1976<sup>1 & 2</sup>. Results were as follows:

- o 16.00 m @ 0.65% Ni, 0.16% Cu
- o 6.00 m @ 0.61% Ni, 0.30% Cu
- o 2.44 m @ 0.62% Ni, 0.30% Cu

Historical core samples obtained by the Company were sampled and returned the first known record of PGE and Au mineralisation in the ultramafic units of the Tantalite Valley Complex. Best results indicated mineralisation of:

- o 0.71% Ni, 0.28% Cu, 0.84 g/t Pd and 0.4 g/t Pt in orthopyroxenite
- o 0.58% Ni, 0.30% Cu, 0.69 g/t Pd, 0.31 g/t Pt and 0.26g/t Au in orthopyroxenite.

A BLEG geochemical orientation sampling program has recently been completed over the TVC complex, and results are pending. If positive BLEG results are obtained, a full scale BLEG sampling program together with detailed geological mapping would be conducted over the TVC complex to identify drill targets.

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

For further information please contact:

Jurie Wessels – Executive Chairman ARCADIA MINERALS LIMITED info@arcadiaminerals.global

Erik Bergseng, CFA®
Investor Relations
ir@arcadiaminerals.global



#### **ABOUT ARCADIA MINERALS**

Arcadia Minerals Limited (ASX: AM7) holds a diversified portfolio of resources projects in Namibia, across the critical, precious, and strategic metals sectors. The Company's exploration strategy focuses on high-potential regions and advanced-stage projects, providing a balanced approach to creating value for shareholders. For more details, please visit <a href="https://www.arcadiaminerals.global">www.arcadiaminerals.global</a>

# **Bitterwasser Lithium Projects (50% effective Interest)**

The Bitterwasser Lithium Projects are highly prospective lithium assets and are comprised of Lithium-in-Clays and Lithium-in-Brine exploration opportunities. The projects have already shown promising lithium concentrations in clay-rich zones and has an established JORC resource (refer to tables below). Covering a vast area, the projects are large, and both are underexplored which may present significant growth prospects.

# **TVC Projects (80% effective interest)**

The TVC Projects focus on the Kum-Kum Intrusive Complex and the Tantalite Valley Complex, both of which shares a geological formation with strong lithium, nickel, copper and platinum group element (PGE) mineralisation. Historical data, combined with recent exploration data, highlights the area's potential for large-scale discoveries of these critical and precious metals.

# **Karibib Copper-Gold Project (68% effective interest)**

The Karibib Copper-Gold Project is located in the Damara Belt, a region known for hosting major copper and gold deposits. Located within a rapidly growing gold district, the project benefits from excellent infrastructure and access to skilled labour. The project has significant potential for a major discovery through the application of modern exploration technology, such as that used by Osino Resources, recently acquired by Yintai Gold for US\$272m in February 2024.

# **Swanson Tantalum Mine (80% effective interest)**

The Swanson Tantalum Mine is focused on tantalum, a critical material in electronics and industrial applications. In addition to the existing JORC resource which confirms the presence of high-grade tantalum, the project also includes multiple follow up pegmatite targets which are prospective for tantalum, lithium and niobium. Significantly, Swanson represents a sustainable and ethical source of tantalum that can be sourced outside of conflict zones, such as Democratic Republic of Congo. A bankable feasibility study has been completed for the Project, which demonstrated robust financial outcomes using relatively conservative inputs.



#### COMPETENT PERSONS STATEMENT & PREVIOUSLY REPORTED INFORMATION

The information in the referenced announcements footnoted in the table below that relates to Exploration Results, including the Mineral Resources or ore reserves has previously been released to the ASX. The Company confirms that it is not aware of any new information or data that materially affects the information provided in this announcement, and that all material assumptions and technical parameters underpinning the historical announcements tabled below continue to apply. The Company also confirms that the form and context in which the Competent Person's findings presented in this announcement have not been materially modified from the findings presented in the original market announcements. To the extent this report contains exploration results, estimates of mineral resource or ore reserves and supporting information, the Company confirms that the prior written consent of the relevant competent person has been obtained.

The information in this announcement that relates to exploration results and objectives in relation to the TVC Nickel/PGE Project 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.

Competent Person	Membership	Report/Document
Mr Philip le Roux	South African Council for Natural	This announcement relating to the
(Director Arcadia	Scientific Professions #400125/09	TVC Lithium & Tantalum Project and
Minerals)		the TVC Nickel & PGE Project

Release Date	ASX Announcements
25 June 2021	Replacement Prospectus, April 2021, Annexure A - Independent Geological Report to the Kum-Kum Project styled "Geological Overview and Sulphide Mineralisation Potential of the Tantalite Valley Complex"
9 May 2022	Kum-Kum Nickel Project Mineral Systems Approach Results

#### Mineral Resources - Swanson

The Company confirms that it is not aware of any new information or data that materially affects the information included in the Swanson Mineral Resource estimate and all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its updated resource announcement made on 6 May 2022. The Company confirms the form and context in which the Competent Person's findings are presented and have not been materially modified from the original market announcement.

#### Ore Reserve - Swanson

The Company confirms that it is not aware of any new information or data that materially affects the information included in the Swanson Ore Reserve Statement and that all material assumptions and technical parameters underpinning the Ore Reserve Statement continue to apply and have not



materially changed. The information in this announcement has been extracted from the announcement dated 31 May 2023 (Feasibility Study confirms Swanson Project as significant cash generator).

#### APPENDIX 1 – MINERAL RESOURCE ESTIMATES AND ORE RESERVE

## **Swanson Tantalum Project Mineral Resource**

At Swanson a revised JORC Mineral Resource of 2.59Mt at an average grade of 486g/t Ta<sub>2</sub>O<sub>5</sub>, 73g/t Nb<sub>2</sub>O<sub>5</sub> and 0.15% Li<sub>2</sub>O was announced on the 6 May 2022, which was derived from 52 drillholes drilled over 10 pegmatites.

 TABLE 1: SWANSON TANTALUM PROJECT MINERAL RESOURCE (JORC 2021)

D, E and F Classification	Area	Tonnes (kt)	Ta₂O₅ Content (Tonnes)	Ta₂O₅ ppm	Nb <sub>2</sub> O <sub>5</sub> ppm	Li <sub>2</sub> O %
Indicated	Total D	568	207	365	87	0.27
Indicated	Total EF	577	334	578	65	0.07
Subtotal Indicate	Subtotal Indicated		541	472	76	0.17
Inferred	Total D	444	162	365	79	0.34
Inferred	Total EF	995	554	557	69	0.00
Subtotal Inferred		1,439	716	498	72	0.14

#### **Swanson Tantalum Project Ore Reserve**

Swanson Ore Reserve announced on 31 May 2023.

TABLE 2: PROVED AND PROBABLE ORE RESERVES FOR THE SWANSON PEGAMATITIES

D & E F Ore Reserve	Area	Mass (kt)	Ta₂O₅ (ppm)	Li₂O (%)	Ta₂O₅ (tonnes)
	Total D Total EF	0	0	0	0
	Subtotal	0	0	0	0
	Total D	409	347	0.23%	142
Probable	Total EF	457	550	0.07%	251
	Subtotal	866	454	0.15%	393

Note: Ore Resources are reported at 236 ppm  $Ta_2O_5$  cut-off. Only Lithium from D Pegmatites will be recovered.



#### **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 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.



ANNEXURE 1
Stream Sediment Sampling Results - page 1

Method			Ultra Fine	Conventional	Heavy Mineral	Clay	Ultra Fine	Heavy Mineral	Ultra Fine	Ultra Fine
			ppb	ppm	ppm	ppm	ppm	ppm	ppb	ppb
Sample	X_UTM_WGS84	Y_UTM_WGS84	Au	Co	Cr	Cu	Li	Ni	Pt	Pd
KS000501	278871	6820209	15.1	29.6	1285	172	78.7	313	7	7
KS000502	278876	6820211	13.7	30.6	1130	178.5	73.2	327	5	5
KS000503	282524	6821842	1.1	13.4	36.8	64	59.8	9.69	1	2
KS000504	282152	6822145	1	14.55	30.4	62.2	61.8	12.4	1	2
KS000505	282391	6822258	1.8	15.3	11.6	73.9	53	4.62	2	2
KS000506	280933	6817432	21.2	29.2	416	167.5	84.8	145.5	6	7
KS000507	281192	6817401	1.4	14.55	31.3	74	53.8	10.4	2	3
KS000508	282065	6818418	1.6	16.2	173	100	50.2	39.6	3	2
KS000509	282419	6819014	1.9	13.5	73	68.5	44.3	18.75	2	2
KS000510	282499	6819222	1.3	15.15	61.3		54.3	16.2	2	1
KS000511	281740	6818885	3	19.7	396	158.5	104	96.1	3	2
KS000512	281528	6820010	3.9	19.4	181		89.8	76.8	2	3
KS000513	281478	6819900	1.9	17.2	158.5	58.2	50.6	34.7	2	2
KS000514	279684	6818452	13.4	31	644	167	75.2	243	6	6
KS000516	279655	6818212	1.4	21.1	236	84.3	41.1	65.4	1	1
KS000517	277067	6818080	1.3	19.35	274	92	40.9	81.9	4	3
KS000518	276757	6818658	1.2	17.8	140.5	84.4	37.6	44.8	1	2
KS000519	277021	6818675	1.9	20.6	322	103	45.5	112	3	2
KS000520	276502	6819275	2.2	18.95	212	80.3	54.8	56.5	5	1
KS000521	276606	6819314	2.3	19.95	224	91.4	33.5	78.7	2	2
KS000522	277108	6820078	2.1	18	520	84.9	33	323	1	1
KS000523	277103	6820088	1.1	16.9	471	68.5	29.9	321	1	1
KS000524	274589	6820029	2	18.55	328	91.3	44.3	107	2	2
KS000525	273970	6820507	3.5	25.2	437	153.5	28.4	242	2	2
KS000526	274498	6820831	4.4	23.6	384	155.5	29.7	232	3	2
KS000528	274498	6820826	3.4	24.1	430	141.5	29.6	242	4	2
KS000529	275249	6821164	4.5	24.9	434	178.5	26.3	224	6	2
KS000530	274909	6821097	3.1	24.1	605	137.5	26	271	2	2
KS000531	274596	6821264	2.5	24.1	193.5	123	26.4	132	2	2
KS000532	273173	6824137	2.4	25.2	208	163.5	38.4	77.3	1	1
KS000533	272709	6824081	4.4	27.6	374	145.5	33	238	3	2
KS000533	273161	6821760	2.8	25.7	211	137.5	28.1	188.5	2	2
KS000535	273455	6822003	3	25.9	267	143.5	29.7	218	4	2
KS000535	272741	6823474	2.1	23.7	121.5	1	56.1	91	3	2
KS000537	272740	6823467	2.8	22.3	110	1	62.6	80.5	5	2
KS000537	271958	6824534	5.2	28.5	309	123	37.9	156	2	3
KS000539	272024	6824377	5.2	26.9	112.5	159	74.7	81.5	5	3
KS000533	271047	6824196	2.9	16.5	90.5	73.6	51.7	34.1	2	2
KS000541	271047	6824869	6.1	28	197.5	152.5	77.6	129.5	4	3
KS000542	273863	6823402	6.9	26.2	756	150	24	320	3	4
KS000545	274824	6826658	3.2	16.05	28.2	48.6	72.6	9.79	1	2
KS000546	274707	6826606	2.5	18.9	48.5	66	61.2	18.05	1	2
KS000547	272104	6828237	1.5	16.55	295	69	42.4	46.2	1	2
KS000547	273657	6827376	2.1	17.35	121	71.2	57.1	27.3	4	3
KS000549	273786	6827165	2.1	15.7	36.8	58.2	62.8	11.75	6	2
KS000550	276388	6825434	1.9	17.1	85.9	76.7	44.3	25	2	1



# Stream Sediment Sampling Results - page 2

Method			Ultra Fine	Conventional	Heavy Mineral	Clay	Ultra Fine	Heavy Mineral	Ultra Fine	Ultra Fine
			ppb	ppm	ppm	ppm	ppm	ppm	ppb	ppb
Sample	X_UTM_WGS84	Y_UTM_WGS84	Au	Co	Cr	Cu	Li	Ni	Pt	Pd
KS000551	278661	6819900	3.2	22.9	303	120	35.5	157.5	2	2
KS000552	278657	6819901	3.3	24.6	336	121	39.7	177	4	4
KS000553	282405	6821794	1.7	20.4	395	101	44.8	103	3	3
KS000554	282268	6822266	1.4	15.15	25.7	65.1	56.1	12.05	3	3
KS000555	284525	6818582	1.8	15.85	120	76.2	52.4	36.8	3	3
KS000556	284512	6818757	2	17.3	39.6	64.4	49.6	13.75	1	3
KS000557	285363	6819718	1.9	19.4	215	79.1	44.7	46.6	3	3
KS000558	285769	6819996	1.3	18.05	206	79.7	41.4	45.1	3	4
KS000559	285794	6820212	2.3	16.65	34.4	59.1	46.1	11.9	2	2
KS000560	285486	6820178	2.2	17.3	40	62	47.7	15.65	3	3
KS000561	282502	6820531	2	17.35	59.2	76.9	56.5	16.65	2	3
KS000562	282745	6820549	1.6	14.9	69.5	71.8	47.9	18.2	1	3
KS000563	280950	6822178	2.2	21.1	387	102	44.9	133.5	1	2
KS000564	279794	6822769	1.9	20.3	366	107	44.9	146	2	3
KS000566	279312	6822967	3.9	20.3	429	116	36.4	152	5	5
KS000567	279031	6823265	3.2	21.1	283	105.5	32.9	119.5	5	4
KS000568	279159	6823453	2.9	21.8	294	113	47.2	131.5	2	3
KS000569	278390	6823715	2.4	22.8	468	127	27.8	215	2	2
KS000570	278396	6823714	2.5	22.8	371	126.5	25.5	217	4	2
KS000570	277893	6824817	1.9	17.35	273	100.5	49.4	53.7	2	2
KS000571	276393	6821704	6.3	26.1	483	198.5	24.5	226	3	4
KS000572	276611	6821980	5.3	25.9	632	206	29	269	2	2
KS000573	277226	6822221	4.7	27.3	457	222	26.8	201	1	2
KS000574	277327	6822153	7.5	27.3	573	217	29.6	225	3	3
KS000575	277723	6822149	10	26.9	647	216	31.4	246	4	3
KS000576	276206	6821334	1.7	23.4	253	124	23.9	147.5	1	1
KS000577	276230	6821594	5.2	27.2	443	191	28.1	258	2	3
			4.1		255	94.2			3	4
KS000580	276165	6821628		26.1			21.6	362		3
KS000581	276241	6821666	4.8	26.4	588	187	24.1	251	4	3
KS000582	275366	6823408		25.4	622	154	24.2	250		
KS000583	275750	6823694	2.7	25.2	511	228	20.9	192.5	2	2
KS000584	275756	6823692	3.3	24.7	455	239	23.4	181.5	2	2
KS000585	275004	6824062	2.4	25.7	589	154.5	22	186.5	2	2
KS000586	274932	6824025	4.9	27.2	691	227	22.4	254	4	4
KS000587	274783	6824216	4.6	27.5	518	197	25.7	206	2	3
KS000588	274628	6824344	3.7	28	573	149	33.4	189	2	2
KS000589	274632	6824348	3.2	26.3	455	140.5	31	183	3	3
KS000591	274618	6824690	1.9	18.55	112	78.3	40.4	33.2	3	3
KS000592	272696	6825307	3.7	24.5	390	147.5	26.4	183	3	2
KS000593	273416	6825252	3.7	24.9	595	161	30.5	207	3	3
KS000594	273421	6825252	3.8	25.6	322	166.5	25.2	137.5	4	3
KS000595	276253	6825811	0.9	16.4	67.9	70.9	53.4	21.7	4	2
KS000596	271870	6826422	4.2	24.1	301	147	40.2	113.5	5	4
KS000598	271987	6826489	1.9	17.75	45.2	72.7	68.8	36.2	4	3
KS000599	271607	6827070	1.8	15.95	16.1	60.8	47.3	9.14	1	1
KS000600	271477	6827145	1.7	14.3	92.8	64.5	44.6	24.1	3	3
KS000602	276123	6825475	1.7	16.6	58.8	70	45.5	18.7	3	2
KS000604	278858	6819627	9.2	30.8	825	163.5	75.6	280	3	3
KS000651	271398	6827375	2.4	15.6	114	67	59.9	24.7	3	3
KS000652	279629	6821482	4.1	25.6	382	139.5	33.1	212	1	5
KS000653	279768	6821476	6	25.9	499	165.5	30	355	4	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 and Mineral Resources at the Stream sediment sampling program related to the Tantalite Valley Complex.

# **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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 probles. Unusual commodities or mineralisation types</li> </ul>	<ul> <li>Stream Sediment Sampling was undertaken using industry standard practices.</li> <li>A total of 97 stream sediment samples were taken within EPL 5047 at the confluence of drainage systems covering the Tantalite Valley Ultra Mafic Intrusive Complex. Drainage systems outside of the complex were also sampled to serve as base line background mineralisation for comparison with results of samples taken from drainage systems within the TVC.</li> <li>Three sample bags of around 1kg each were taken at each selected site. Two bags were taken in areas not associated with heavy mineral trap sites and one bag was taken at potential heavy mineral trap site locations. All samples taken were sieved in the field at 2mm.</li> </ul>



Criteria	JORC Code explanation	Commentary
	(eg submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	• 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 type, whether core is oriented and if so, by what method, etc).	No drilling has taken place
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	No drilling has taken place
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>At each sample site the following geological information were recorded: gravel, silt, clay, carbonate %, organic content, slope and float lithology.</li> <li>A photo was also taken from the sample site.</li> </ul>
	If core, whether cut or sawn and whether quarter, half or all core taken.	• Further sieving occurred with one bag being sieved into a fraction that represents >2mm and clay fractions, a second bag



Criteria	JORC Code explanation	Commentary
	<ul> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <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>	being processed to obtain heavy mineral concentrate using Magic Wheel methodology and the third bag by using flocculant to produce an ultra-fine sample.
Quality of assay data and laboratory tests	<ul> <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>	The first and second bags were analysed using low detection 4acid, ICPMS/OES and the ultra-fine sample using the 2um MAR ICP-MS/OES method. Analyses were conducted by ALS laboratories for 53 elements.



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All samples and data were verified by the project geologist.</li> <li>All sample material was bagged and tagged on site as per the specific location, into A, B and C sample.</li> <li>All sample material was stored at a secure storage site.</li> <li>The original assay data has not been adjusted.</li> <li>Recording of field observations and sample information was collected on mobile devices in field and transferred to an electronic data base following the Operational Procedures.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>The locations of all the samples were recorded.</li> <li>The sample locations are GPS captured using WGS84 UTM zone 34S.</li> <li>The quality and accuracy of the GPS is estimated to be 2m accurate.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	Samples were taken over all the confluences in drainage systems over EPL5047
Orientation of data in relation to	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the</li> </ul>	No samples were orientated to any geological feature.



Criteria	JORC Code explanation	Commentary
geological structure	orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	<ul> <li>A strict chain-of-custody procedure was followed during all segments of sample handling, transport from site to the laboratory are bagged and labelled in a manner which prevents tampering.</li> <li>An export permit was obtained from the Namibian Mining Department to transport the samples across the border to ALS SA laboratories for analyses.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Audits and reviews were limited to the Standard Operational Procedures in as far as data capturing was concerned during the sampling.</li> </ul>

# **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and	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	<ul> <li>EPL 5047 (Tantalite Valley Complex) is located in the Karas region, southern Namibia, near the South African border, and approximately 15 km to the north of the Orange River.</li> </ul>



Criteria	JORC Code explanation	Commentary
land tenure status	<ul> <li>settings.</li> <li>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.</li> </ul>	<ul> <li>The EPL covers 10 279 hectares and is current pending renewal.</li> <li>A land-use agreement, including access to the property for exploration has been signed with the owners of the farms Nurcha 130, Kinderzit 132 and Ameis 110</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Three historical drilling campaign were conducted over the TVC complex in the past:         <ul> <li>1972 - Tantalite Valley Minerals</li> <li>1972 - Rio Tinto Exploration</li> <li>1976 - Southern Sphere</li> </ul> </li> <li>Detailed geological report on the Tantalite Valley Complex has been published namely:         <ul> <li>1975 - Moore</li> <li>1976 Van Backstrom</li> <li>1975 - Kartun and 2015 - Macey</li> </ul> </li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	Sulphide mineralisation associated with layered mafic intrusion
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in</li> </ul> </li> </ul>	This announcement does not relate to any drilling results.



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>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> <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>	Similar sample weights was collected at each site.
Relationship between mineralisatio n widths and	<ul> <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,</li> </ul>	No drilling took place and stream sediment samples were taken at random position at the confluence of streams and rivers.



Criteria	JORC Code explanation	Commentary
intercept lengths	there should be a clear statement to this effect (eg 'down hole length, true width not known').	
Diagrams	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.	Refer to figure 1 to 8 in this announcement showing the stream sediment results for various elements.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.	All available results were used in creating the stream sediment maps. Details of all results including location and assay results is attached as Annexure 1 to this announcement.
Other substantive exploration data	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.	Not aware of any other information.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>A geochem sampling program has been conducted over the TVC complex, results pending.</li> <li>If positive results are obtained from the orientation survey a full scale geochem survey would be conducted over the TVC complex.</li> </ul>